

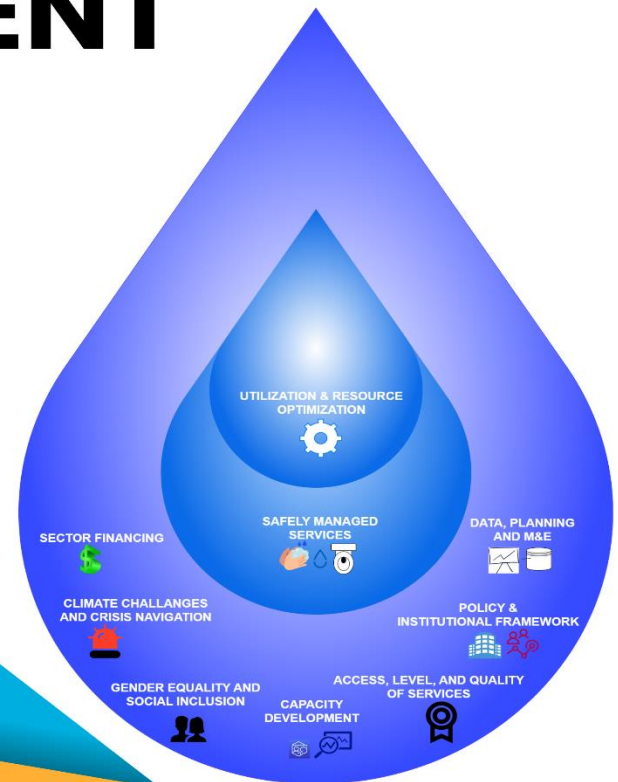


Government of Nepal
Ministry of Water Supply
Singhadurbar, Kathmandu

WATER SUPPLY, SANITATION AND HYGIENE (WASH)

SECTOR DEVELOPMENT PLAN

2024 - 2043



1. ACRONYM

ADB	Asian Development Bank
ATR	Annual Thematic Requirement
BS	Bikram Sambat
CapEx	Capital Expenditure
CapManEx	Capital Maintenance Expenditure
CR	Cumulative Requirement
CSOs	Civil Society Organizations
DEWATS	Decentralized Wastewater Treatment Systems
DS	Direct Support
DWSSM	Department of Water Supply and Sewerage Management
FU	Financial Unit
GLAAS	Global Analysis and Assessment of Sanitation and Drinking-Water
GoN	Government of Nepal
HCF	Health Care Facilities
HH4A	Hand Hygiene for all
IWRM	Integrated Water Resource Management
JSR	Joint Sector Review
KUKL	Kathmandu Upatyaka Khanepani Limited
LG	Local Government
M&E	Monitoring and Evaluation
MHM	Menstrual Hygiene Management
MICS	Multi Indicator Cluster Survey
MIS	Management Information System
MIS-SC	Management Information System Steering Committee
MoWS	Ministry of Water Supply
MWASH-CC	Municipal Water, Sanitation and Hygiene Coordination Committee
MWIS	Municipality Wide Inclusive Sanitation
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
NDWQS	National Drinking Water Quality Standard
NGOs	Non-Governments
NSHSC	National Sanitation and Hygiene Steering Committee
NWASH-CC	National Water, Sanitation and Hygiene Coordination Committee
NWASH-MIS	National Water, Sanitation and Hygiene MIS
NWSC	Nepal Water Supply Cooperation
NWSSTC	National Water Supply and Sanitation Training Center
ODF	Open Defecation Free
OHOT	One House One Tap
OpEx	Operation Expenditure
PG	Provincial Government
PWASH-CC	Provincial Water, Sanitation and Hygiene Coordination Committee
SACOSAN	South Asian Conference on Sanitation
SDG	Sustainable Development Goal

SDP	Sector Development Plan
SEIS	Sector Efficiency and Improvement Section
SFD	Shit Flow Diagram
SH	Sanitation and Hygiene
SWA	Sanitation and Water for all
TNA	Training need assessment
TSA	Three Star Approach
TWG	Thematic Working Group
UNICEF	United Nations International Children's Emergency Fund
VMW	Village Maintenance Worker
WASH	Water, Sanitation and Hygiene
WBG	World Bank Group
WinS	WASH in School
WSMB	Water Supply Management Board
WSP	Water Safety Plan
WSSDO	Water Supply and Sanitation Division Office
WSSTs	Water Supply and Sanitation Technicians
WSUC	Water Supply and Sanitation User Committee
WUSC	Water Users and Sanitation Committee
WWTP	Wastewater Treatment Plant

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2. EXECUTIVE SUMMARY

Nepal's constitution recognizes clean water supply and sanitation as fundamental human rights, ensuring citizen well-being. The UN has also declared Water Supply, Sanitation, and Hygiene (WASH) a global human right, highlighting its role in promoting health, dignity, and sustainable development worldwide. Recognizing clean water supply, sanitation, and hygiene as fundamental human rights positively impacts multiple sectors, including health, education, gender equality, and economic development. It leads to improved public health, better educational outcomes, increased gender equality, a more productive workforce, environmental benefits, and overall social well-being and hence it needs to drive investments in infrastructure and contribute to a better quality of life for citizens.

Nepal has established a comprehensive legal and policy framework for the Water, Sanitation, and Hygiene (WASH) sector. This includes constitutional recognition of clean water, sanitation, and a fresh environment as fundamental rights, as well as the introduction of the Water Supply and Sanitation Act, 2022 and National Water Supply, Sanitation and Hygiene Policy, 2023. These policies are expected to promote integrated planning, community participation, regulatory oversight and private sector involvement. Local Governance Operation Act, 2017 empowers local governments in managing WASH programs, while the Nepal Water Supply Corporation (NWSC) Act, 1989 and the Water Supply Management Board (WSMB) Act, 2006 outline responsibilities for the NWSC and WSMB. The predominant service model in the water sector is community-based, with exceptions like five WSMBs, 23 NWSC branches, KUKL, and few boards in rural municipalities. However, sanitation services are in growing stage and still require due attention in categorizing the service models. The country has introduced National Drinking Water Quality Standards, 2022 and Domestic Wastewater Effluent Standards, 2023 to protect public health and environment. The National Determined Contributions (NDC) and National Adaptation Plan (NAP) have integrated WASH goals, marking the inception of a climate-oriented approach in WASH program interventions.

To build the capacity building there is a provision of lead institution National Water Supply and sanitation training center. The majority of capacity-building activities primarily target asset creators and service providers, leaving a notable gap in addressing the needs of various other sector stakeholders, such as the private sector, civil society organizations, academia, and advocacy groups. While achieving a 33% representation of females in Water User and Sanitation Committees (WUSCs) is a start, there remains a substantial journey ahead to ensure comprehensive access, empowerment, and representation in decision-making processes, especially in the context of GESI.

M&E framework has been approved by the Ministry of Water Supply to track the sector outputs which has resulted in the operationalization of N-WASH-MIS. It is designed to facilitate the tracking and planning of SDG 6.1 and 6.2 progress, incorporating features like life cycle cost assessment, institutional capacity assessment, financial expenditure tracking by adopting JMP and GLAAS indicators to inform data-driven decision-making in Nepal's WASH sector. The sector's overall

expenditure currently stands at approximately 2.8% of GDP, underscoring the urgency to address the 2% GDP gap in funding.

Nepal has shown promising improvements achieving 19%¹ coverage of safely managed water supply services, providing basic water supply services to 58%² of the population with an 88%³ system coverage. Additionally, 5%⁴ of wastewater is being safely treated, and 61% of toilets meet the criteria for safely managed services as per the JMP indicators. Over 80% of the population now has access to both water and soap, along with a designated handwashing area to promote hygienic behavior. Despite these achievements, the journey towards universal access and improved service quality remains extensive, particularly in addressing the existing gaps in institutional WASH, the need to expand service benchmarking beyond pilot initiatives in water supply, and the formalization of sanitation service providers.

The SDP for Nepal in the WASH sector needs to provide a solution to address multifaceted challenges and harness opportunities for transformative change. Nepal has made commendable progress in expanding access to WASH services, yet significant gaps persist, and emerging complexities necessitate a comprehensive strategic framework. The SDP responds to the urgent need for a unified roadmap that aligns with national and global development goals. It serves as a guide to channel resources effectively, enhance coordination, and ensure that no one is left behind.

The SDP is a critical instrument to consolidate gains, optimize investments, and bridge financial and governance deficits, as evidenced by the sector's expenditure falling short of the required GDP allocation. Furthermore, it addresses emerging issues, such as climate change adaptation, gender equity and social inclusion, and strengthens institutional capacities, partnerships, and data-driven decision-making. Through its holistic approach and strategic interventions, the SDP aims to propel Nepal towards universal access to safe and sustainable WASH services, fostering resilient communities, protecting public health, and contributing to the broader aspirations of social justice and sustainable development.

The SDP outlines seven key process themes that form the foundation for achieving the "safely managed" status in the WASH sector. These themes have been strategically selected based on insights from the Joint Sector Review (JSR) and are designed to ensure accessibility and inclusivity, particularly for vulnerable and marginalized communities.

Access, Level and Quality of Service: Focusing on enhancing access to WASH services, elevating service levels, and maintaining high service quality.

¹ MICS (2021)

² NAWASH MIS (2023)

³ NSO (2021)

⁴ JSR (2023)

Data, Planning, and Monitoring & Evaluation (M&E): Highlighting the importance of data-driven decision-making, robust planning, and effective monitoring and evaluation systems for tracking progress.

Capacity Development: Recognizing the need to build skills and capabilities within the WASH sector to ensure effective service delivery.

Policy and Institutional Framework: Emphasizing the critical role of policy and institutional frameworks in effective WASH service management and delivery.

GESI (Gender Equality and Social Inclusion): Integrating principles of gender equality, diversity, and social inclusion to promote equitable access to WASH services for all members of society.

Climate Change and Disaster Risk Management: Addressing the impacts of climate change and crises by integrating resilience and adaptability strategies into the WASH system.

Sector Financing: Exploring innovative financing mechanisms and optimization strategies to secure the necessary resources for the sustainability of WASH initiatives. These themes collectively guide the SDP towards its goal of delivering safe and inclusive WASH services.

The development of the SDP involved a consultative approach and was aligned with the existing policies, acts, and regulatory frameworks following the federalization process. The Ministry of Water Supply established a task group to facilitate this process, with the task group continuously providing guidance during the plan preparation. The costing methodologies adopted in the SDP are in line with the local-level WASH plan costs formulated by N-WASH-MIS. Each activity within the plan has been strategically designed to address weaknesses and threats, maintain and enhance strengths, and capitalize on available opportunities. The Joint Sector Review (JSR) report served as a key input for conducting the thematic SWOT analysis.

The total cost required to achieve the Sector Development Goals by 2043 is estimated at **4272227.76 million** Nepalese Rupees (2023 price).

The thematic summaries have been presented below:

I. Access, Level, and Quality of Service:

Access to clean water, improved sanitation, and hygiene practices is crucial for health, development, and sustainability. In Nepal, the state of Water, Sanitation, and Hygiene (WASH) services reflects progress but also persistent challenges. While access to safe water has improved, a portion of the population still relies on unimproved sources such as *kuwa*, *khola*, *hiti* etc. Open defecation remains problematic in some areas and climbing up the sanitation ladder has become challenging. Addressing these challenges and promoting proper hygiene practices is essential for public health, environmental sustainability, and gender equality. Disparities in WASH services among marginalized groups underscore the need for equitable access. The integration of solid waste management with WASH is

recognized as vital for environmental and public health improvement, emphasizing coordinated planning, waste segregation, and community education.

Improving equitable access to WASH services in Nepal involves addressing geographical, socio-economic, cultural, and environmental disparities. Infrastructure gaps, institutional challenges, climate change impacts, and financial constraints pose significant hurdles. Despite challenges, Nepal has strengths in awareness, global commitment, and policy support. Opportunities for improvement include behavior change campaigns and capacity building. However, disparities, climate change impacts, regulatory issues, resource constraints, and political instability remain threats. This strategic plan outlines a comprehensive roadmap to address these disparities and challenges, with a focus on achieving universal access, improving sanitation and hygiene, enhancing service levels, and elevating service quality by 2043. It employs strategic approaches, data-driven planning, and emphasizes robust data collection and evidence-based decision-making.

This theme outlines four ambitious outcomes to be achieved by 2043. The first outcome focuses on ensuring universal access to safe and clean water sources, targeting communities, households, schools, healthcare facilities, and public spaces. The second outcome emphasizes improved sanitation facilities and hygiene practices, aiming to eliminate open defecation, promote menstrual hygiene management, and instill proper hygiene behaviors. The third outcome strives to enhance the quality and accessibility of WASH services, with a strong focus on water quality, resilient sanitation infrastructure, and behavioral change. Finally, the fourth outcome seeks continual quality improvement of WASH service delivery to international standards, emphasizing service reliability, sanitation excellence, and timely emergency responses. These outcomes reflect Nepal's commitment to public health, environmental sustainability, and equitable access to essential WASH services, while addressing challenges and disparities within the sector.

Cost of theme (2023 price): **3538924.47 million**

II. Data, Planning, and M&E:

The monitoring theme of the strategic plan for Nepal's WASH sector emphasizes the importance of robust data collection, integrated planning, and rigorous monitoring and evaluation (M&E) for achieving sectoral objectives. Despite commendable progress, the WASH sector faces challenges stemming from the lack of reliable, comprehensive, and disaggregated data, hindering evidence-based planning, decision-making, and accountability. The federalization process has introduced new roles and responsibilities across government tiers, necessitating effective coordination and harmonization of data systems.

To address these challenges, the plan emphasizes the evolution of qualitative (perception-based) indicators into quantitative ones through technology adoption. While progress has been made, the sector is yet to fully internalize the importance of data, planning, and M&E, with annual planning decisions deviating from evidence. However, there is a positive trend at the municipal level, where

evidence-based planning is taking root. The plan's guiding principles include evidence-based decision-making, harmonization, a holistic approach, gender and social inclusion, stakeholder engagement, capacity development, and innovation.

Two key outcomes are highlighted: enhanced data-driven decision-making through AI integration and the establishment of a comprehensive data ecosystem, as well as a robust M&E system and integrated planning that optimizes resource allocation and promotes data-driven governance and capacity enhancement. Strategies involve expanding MIS functionality, leveraging emerging technologies like AI and IoT, promoting data collaboration, developing holistic indicators, and ensuring data quality and security, among others.

The theme of "Data, Planning, and M&E" is of utmost significance within the SDP, as it serves as the foundational pillar upon which all other themes rely. The accuracy and reliability of data are crucial for the success of subsequent themes, making this theme pivotal in ensuring the entire SDP's effectiveness. Consequently, special attention and priority must be given to the implementation of the action plan within this theme to guarantee the SDP's overall success. While the successful implementation of this theme promises improved decision-making, targeted interventions, and enhanced accountability in Nepal's WASH sector. This theme risks include challenges related to the implementation of digital tools, resistance to change, and fluctuations in funding. To mitigate these risks, a comprehensive financing mechanism will be adopted with improved government budget allocation, donor support, public-private partnerships, and technology-driven cost efficiencies. Furthermore, regular progress reviews and risk assessments will be conducted to facilitate timely course corrections and maximize the theme's impact. Strategies such as data validation mechanisms, stakeholder communication platforms, capacity building, and robust data protection measures have been proposed to improve the data quality. Additionally, efforts will be made to raise awareness about data-driven decision-making and advocate for political support to ensure the theme's success. Data standardization protocols, feedback loops, and user-friendly data accessibility platforms will also be established to enhance data-driven insights and credibility.

Cost of theme (2023 price): **16386.07 million**

III. Capacity Building:

Capacity development is a fundamental theme within Nepal's WASH sector, extending beyond traditional training to empower individuals and organizations with the knowledge and resources needed for sustainable solutions. Comprehensive assessments of capacity needs, involving various stakeholders, serve as the foundation for tailored capacity development programs and skill enhancement, enabling adaptable growth. The integration of digital solutions and automation, provided by NWASH-MIS, offers significant potential to enhance capacity development.

This theme plays a foundational role in Nepal's WASH sector's SDP, as accurate and reliable data are vital for the success of subsequent themes. Successful implementation of capacity development

strategy promises strengthened technical expertise, empowered communities, improved financial management, and innovation, contributing to the achievement of SDG targets and beyond. Therefore, documenting and prioritizing the theme's progression is essential, as it highlights the success of the entire SDP, drawing insights from each cycle of capacity development and building upon the foundation provided by the Management Information System (MIS).

Cost of theme (2023 price): **42729.06 million**

IV. Policy and institutional framework:

This theme in Nepal's WASH sector is dedicated to establishing a robust governance framework, including policies, regulations, and organizational structures to enhance equitable and accountable WASH services. This comprehensive approach involves clear governance functions, including effective regulation and citizen-centric mechanisms, all guided by principles of transparency, inclusion, and human rights. While governance functions have heavily inclined towards local governments following constitutional changes, there is a need for federal government facilitation to empower provincial and local governments, particularly in achieving SDGs and sustaining expected WASH services. The SWOT analysis highlights both strengths, such as approved acts, policies, and dedicated sectoral ministries, and weaknesses, including unclear institutional arrangements and non-coordinated efforts. Opportunities exist for advocacy and collaboration, but challenges arise from the political economy and institutional resistance to change.

The governance theme's goal is to strengthen the governance framework for WASH, leading to clearer policies, enhanced advocacy, transparent structures, and accountability measures. Strategies include evidence-based policy advocacy, organizational reviews, regulatory framework strengthening, partnerships, stakeholder engagement, and innovative financing. This theme's significance lies in its foundational role in fostering equitable, community-centric WASH services that promote public health, environmental sustainability, transparency, and accountability. To mitigate risks like political instability and corruption, measures such as Standard Operating Procedures, social audits, and regular communication will be implemented, ensuring the theme's effectiveness in guiding the WASH sector's governance efforts.

Cost of theme (2023 price): **NRs. 181600 million**

V. Sector financing:

The WASH sector faces a critical challenge in bridging the gap between the actual expenditure and the required funding, with a 2% GDP deficit. To address this issue, the sector needs a substantial shift in its financing approach, including diversifying funding sources, leveraging tariffs, and exploring innovative financing solutions. Collaborations with other ministries offer opportunities for increased financial support, and a robust and diversified financing framework is essential to secure adequate, reliable, and equitable funding for WASH services. This framework aims to achieve funding

diversity, targeted financing for equitable access, financial resilience, and transparency, emphasizing the synergy between financing and governance interventions. The SWOT analysis identifies various strengths and opportunities, such as drafted regulation and climate financing, but also highlights weaknesses and threats, including low absorption capacity and climate-induced disasters.

To address challenges related to political and economic instability, inadequate data, user fees, equity concerns, and partnership issues, the financing theme will employ strategies such as standard operating procedures, data accessibility, targeted financing mechanisms, sector-wide approaches, and risk mitigation provisions. Building financial handling capacity will be a priority through capacity-building programs focused on financing. Overall, this theme's significance lies in its role in securing the necessary financial resources to achieve WASH goals in Nepal, ensuring equitable access to clean water, sanitation, and hygiene services while promoting transparency and financial sustainability.

Cost of theme (2023 price): **NRs. 5078.62 million**

VI. Gender equality and social inclusion:

GESI theme in Nepal's WASH sector is deeply rooted in the constitutional recognition of water and sanitation as a fundamental human right. It upholds core principles of non-discrimination, transparency, accountability, and participation to ensure that marginalized and vulnerable communities enjoy equitable access to and benefits from WASH services. The comprehensive GESI theme strives to eliminate barriers to access, inclusivity in public spaces, promote representation and empowerment, and bringing marginalized populations in decision making process. By addressing challenges such as tokenism, insufficient data segregation, and a supply-driven approach, this theme contributes to a more inclusive and accessible WASH sector.

To realize these objectives, the GESI theme acknowledges the strengths of advocacy groups and existing policies while addressing weaknesses such as tokenism and limited beneficiary consultation. Opportunities are identified in aligning GESI efforts with broader sectoral interventions and integrating GESI criteria into funding processes. While elite capture remains a potential threat, the theme remains guided by principles of equity, inclusion, participation, and empowerment. Its overarching goal is to ensure that marginalized communities have equitable access to WASH services, empowering them, strengthening legal and institutional frameworks, promoting inclusive infrastructure, reducing vulnerability, fostering partnerships, and enhancing awareness of GESI considerations in WASH planning and programming.

Cost of theme (2023 price): **NRs. 7438.54 million**

VII. Climate Challenge and Crisis Navigation

The theme of Climate Change Adaptation and Disaster Risk Management in the context of the WASH sector in Nepal addresses critical vulnerabilities in multiple dimensions. It identifies vulnerabilities

in the system, institutions, culture, and data, recognizing that climate-induced disasters increasingly impact WASH infrastructure and services. While acknowledging that some pilot initiatives have been undertaken, it highlights the need for a comprehensive and nationally scaled approach. The theme aims to update guidelines and standards, expand vulnerability assessments, strengthen resilience in highly vulnerable areas like Terai, foster data collaboration between practitioners and academia, engage communities, enhance interagency cooperation, and establish a robust monitoring and evaluation system. The establishment of a clear climate rationale for comprehensive programs addressing climate-related risks has paved a path forward. Key risks include contamination exposure during droughts, reduced water supply, potentially displacing vulnerable groups. Floods also threaten water sources and infrastructure, worsened by limited funding and governance. Vulnerabilities due to landslides add to these challenges, with all risks linked to waterborne disease outbreaks triggered and compounded by climate change impacts.

To mitigate risks associated with this theme, the document outlines various strategies. Funding constraints can be addressed by diversifying funding sources, using instruments like insurance, and raising awareness about the impact of climate inaction on WASH. Technical complexity can be managed through research and development, partnerships with academia, and staying informed about cutting-edge technologies. Data availability and quality issues can be resolved through cross-sectoral data sharing and multi-hazard analysis. Market and supply chain risks can be mitigated by facilitating private sector involvement and maintaining regular dialogues to assess the situation. Resilience trade-offs can be addressed by conducting proper economic analyses for programs and projects. Social and cultural factors can be managed through awareness, empowerment, and community engagement. Finally, interagency coordination can be improved by operationalizing coordination platforms, preparing climate briefs, and integrating action points into the monitoring loop.

This theme is highly relevant in the context of sustainable development, as climate change poses increasing threats to WASH systems, particularly in vulnerable communities. By prioritizing climate resilience and disaster risk management in WASH policies and practices, Nepal can contribute to the well-being of its citizens, public health, and overall community resilience while aligning with global SDGs. Additionally, exploring climate financing opportunities can help bridge the funding gap in the WASH sector.

Cost of theme (2023 price): **NRs. 480071 million**

The SDP (2024-2043)

The SDP for Nepal's WASH sector through the interconnectedness of above theme is a comprehensive, twenty-year roadmap that recognizes WASH as a fundamental right for all citizens. It encompasses water supply, sanitation, hygiene, wastewater management, solid waste disposal, and water resource conservation, emphasizing equitable access, especially for vulnerable communities. Governance improvement, legal strengthening, and a robust funding strategy are key elements of this plan, reflecting its commitment to delivering sustainable, safe, and inclusive WASH services.

Cost of SDP (2023 price): **NRs. 4272227.76 million**

SDP Cost (Million NPR)

The SDP for the period from 2024 to 2043, which aims to address the Sustainable Development Goal (SDG) objectives while aligning with Nepal's long-term vision, has been structured around seven distinct sectoral themes. These themes are intricately interconnected and possess both direct and indirect connections to one another.

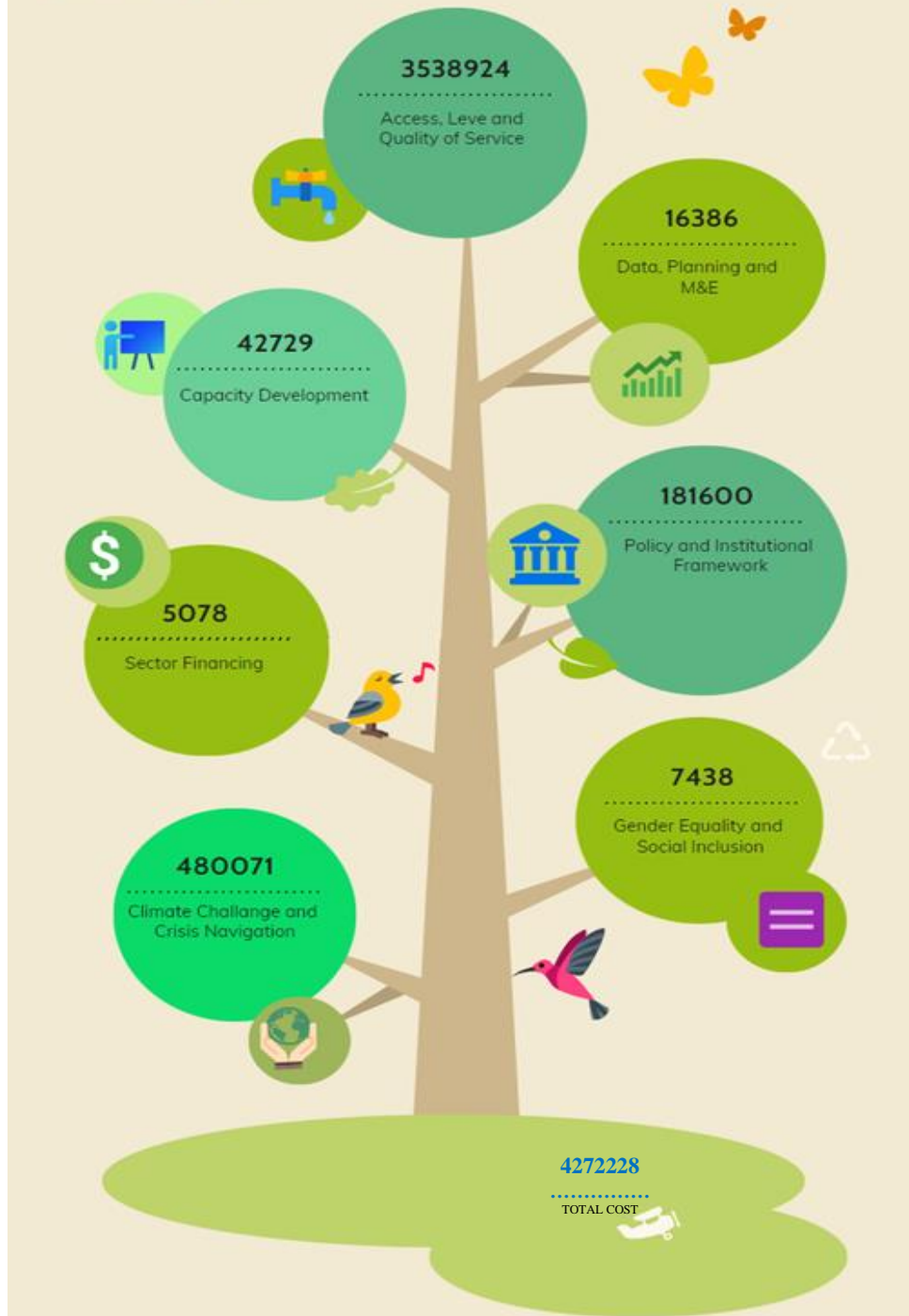


Figure 1 SDP Cost Summary

3. INTRODUCTION

3.1 Background

The previous SDP 2016-2030 (draft) was formulated shortly after the inception of the Sustainable Development Goals (SDGs). Although it was never officially endorsed, its core principles found extensive application in the WASH sector of Nepal. Its effectiveness was acknowledged by all relevant stakeholders. Notable achievements in the past seven years, as envisioned by the SDP, include advancements in Management Information Systems (MIS), enhanced clarity in Monitoring and Evaluation (M&E) frameworks, the adoption of a Municipality-led approach to WASH planning, the integration of climate-resilient design, and the attainment of Open Defecation Free (ODF) status and many others.

Simultaneously, numerous external factors influenced the sector, providing clarity on previously vague and ambiguous aspects. Federalization gained prominence, rapid technological progress occurred, the concept of the MWIS became more defined, and the WASH planning process evolved. Existing rural and urban policies were replaced by a new national WASH policy, and the sector was endowed with a dedicated act, namely the Water Supply and Sanitation Act. Institutional mechanisms, which were vaguely presented in the previous SDP, became more visible and transparent. Expenditure patterns and trends became more discernible and measurable, and the MIS was fortified with additional attributes.

After 2014, the sector has recently (2023) undergone a comprehensive Joint Sector Review (JSR) through a rigorous consultative process, identifying sectoral gaps and a clear way forward that necessitates the development of a revised sectoral plan. Consequently, the previous SDP required a thorough overhaul to align with the evolving context. Additionally, the prior SDP only covered the SDG period, leaving questions unanswered about the post-SDG era. To guide the sector toward a long-term vision of Government of Nepal (up to 2100 BS) and ensure alignment with national and international commitments, a complete reconfiguration of sectoral strategies was deemed necessary. This has led to the comprehensive update of SDP aligning with the WASH policy, WAS act and JSR findings.

The proposed SDP rectifies the ambiguities of the previous version while preserving the essence and concepts that were celebrated by the sector.

3.2 Objectives and Scope of the Document

3.2.1 Objectives

The objective of the document is to serve as a comprehensive and strategic roadmap that guides the sustainable development of the Water, Sanitation, and Hygiene (WASH) sector in Nepal over the next 20 years. It includes the following key objectives:

1. To provide a clear and cohesive framework for the systematic and sustainable advancement of the WASH sector in Nepal over the next two decades.
2. To outline the strategic priorities, policies, and actions necessary to achieve universal access to safe water, improved sanitation, and enhanced hygiene practices while promoting equitable distribution, environmental sustainability, and public health outcomes.
3. To serve as a guiding document for government institutions, development partners, civil society, and all stakeholders, fostering collaboration, accountability, and innovation in the pursuit of WASH sector excellence and the well-being of all Nepali citizens.

3.2.2 Scope of the Document

1. **Defining the Boundaries:** This SDP includes all aspects of the WASH sector within the national priorities, recognizing that access to WASH services is a fundamental right for all citizens, regardless of their geographical location.
2. **Sector Components:** The plan covers the three core components of the WASH sector – water supply, sanitation, and hygiene promotion. Additionally, it extends its scope to include wastewater management, solid waste disposal, and the conservation and protection of water resources. This holistic approach acknowledges the interconnectedness of these elements and ensures comprehensive sector development.
3. **Temporal Framework:** This is a long-term SDP, spanning a duration of twenty years, outlining clear and measurable objectives, targets, and indicators to guide the sector's development. It is designed to provide a roadmap for achieving significant milestones within this timeframe. It will be reviewed and updated periodically to adapt to evolving challenges and opportunities.
4. **Target Beneficiaries:** The primary beneficiaries of this plan are the citizens of the nation, with particular emphasis on vulnerable and marginalized communities. This includes rural populations, indigenous groups, women and children, persons with disabilities, and those living in poverty. By prioritizing equity and inclusion, it aims to leave no one behind.
5. **Governance Framework:** The plan includes recommendations for strengthening governance and the prevailing legal and regulatory framework governing the WASH sector.
6. **Resource Allocation:** It outlines a comprehensive funding strategy, detailing budgetary requirements and potential funding sources, including government budgets, international aid, public-private partnerships, community contributions and other innovative models.

4. FOUNDATIONS OF WASH SECTOR

4.1 Historical Overview of WASH in Nepal

A historical overview of the Water, Sanitation, and Hygiene (WASH) sector in Nepal provides valuable insights into the evolution of efforts to improve access to clean water, sanitation facilities, and hygiene practices in the country. Here is a brief historical overview:

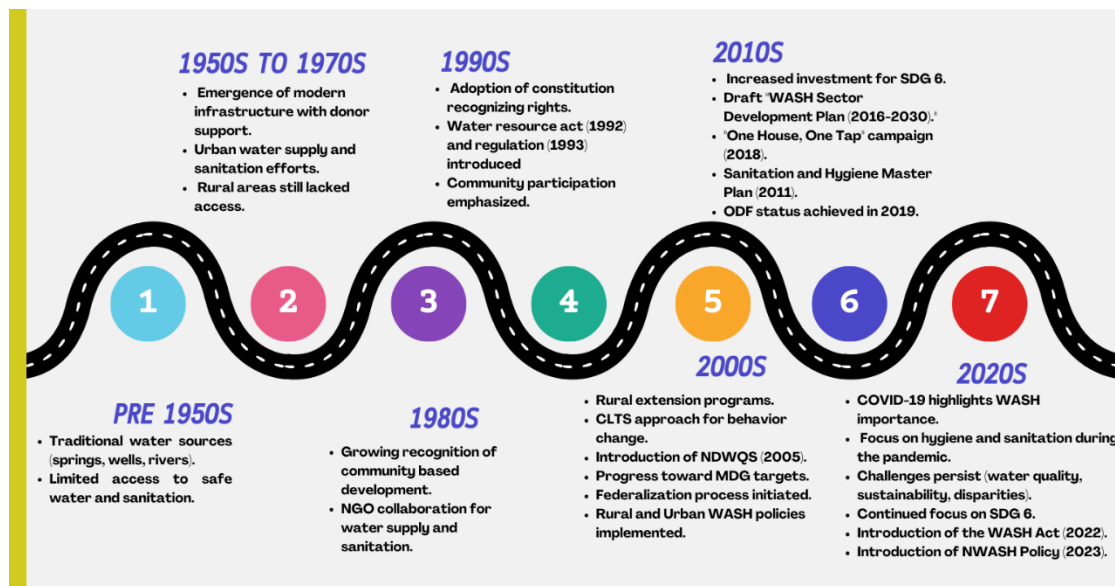


Figure 2 Journey of WaSH

4.2 Legal and Policy Framework

The legal and policy framework for the Water, Sanitation, and Hygiene (WASH) sector in Nepal is a critical foundation for guiding and regulating activities. Nepal's **prevailing** legal and policy framework is robust which encompasses laws, policies, strategies, and regulations to address various aspects of WASH. Here is a detailed overview:

Year	Document	Summary
2015	Constitution of Nepal	Constitution of Nepal recognizes clean drinking water and sanitation as fundamental rights (Article 35(4)). It also grants the right to a fresh environment (Article 30) and consumer rights (Article 44).
2022	Water Supply and Sanitation Act	The Water Supply and Sanitation Act of Nepal ensures compliance to Constitutional requirements of citizen's fundamental right to clean water supply and sanitation by strengthening WASH Governance in federalization and taking services closer to citizens. It also ensures accountability, reliability and professional management of water and sanitation utility services and their sustainable operations.
2023	National WASH Policy	The policy outlines a comprehensive approach to availability, equitable access to adequate and safe water supply, sanitation and hygiene through water resource conservation and development, emphasizing integrated

Year	Document	Summary
		planning, sustainable water sources, disaster mitigation, GESI responsive services and community participation, among other factors.
2017	Local Governance Operation Act	This act empowers local governments to manage WASH programs, encouraging community involvement and tailored solutions.
1989	NWSC Act	This act outlines the corporation's roles, responsibilities, and organizational structure. It empowers NWSC to manage, operate, and expand water supply systems, ensuring safe and reliable drinking water for communities.
2006	Water Supply Management Board Act	The act outlines WSMB's functions, including planning, coordination, monitoring, and regulation of water supply services. It also addresses aspects of financial sustainability, service quality, and equitable access to water, promoting efficient and sustainable management practices in the country's water supply sector.
2019	M&E Framework for water supply system functionality and sustainability	The M&E framework focuses on Functionality and Sustainability of Water Supply and led to the establishment of NWASH-MIS, serving as a model for similar frameworks.
2019	National Water Resource Policy	The Water Resource Policy includes river basin masterplans, IWRM integration, capacity building, data management, intergovernmental collaboration, and water-induced disaster prevention.
2022	National Drinking Water Quality Standards	These standards set quality parameters for drinking water in Nepal, crucial for protecting public health.
2022	Domestic Wastewater Effluent Standard	This standard defines characteristics and limits for domestic wastewater effluent.

4.3 Commitments

The WASH sector in Nepal is guided by both national and international commitments, which serve as pivotal influences shaping the direction of WASH initiatives. These commitments hold significant importance as they are actively integrated into the policy landscape and national periodic plans, guiding the development of the WASH sector in the country.

Commitments	Description
Sustainable Development Goals (SDG)	SDG 6 focuses on ensuring access to clean water and sanitation for all. It aims to achieve universal and equitable access to safe and affordable drinking water, as well as adequate sanitation and hygiene facilities by 2030. SDG 6 recognizes that clean water and sanitation are fundamental to human

Commitments	Description
	well-being, health, and sustainable development, addressing critical global challenges such as water scarcity, waterborne diseases, and environmental sustainability.
National Periodic Plans	The country's Fifteenth Plan (2019-2024) has set the vision of "Prosperous Nepal, Happy Nepali" and milestone targets for 25 years' development pathway to become a middle-income country by 2030 and a developed country by 2043.
Sanitation and water for All (SWA)	SWA is a global partnership uniting government, civil society, development partners, and stakeholders to tackle water and sanitation challenges worldwide. SWA commitments, made by participating countries and partners, address critical issues including expanding access to clean water and sanitation, enhancing governance and policies, investing in capacity building, and promoting gender equality. These commitments provide a global framework for coordinated action to achieve Sustainable Development Goal 6 (SDG 6) and ensure universal access to safe water and sanitation. SWA's collaborative approach is instrumental in advancing global efforts towards improved health, well-being, and sustainable development through access to essential water and sanitation services.
SACOSAN	Unites South Asian nations in a collective commitment to address sanitation and hygiene challenges. These commitments include expanding access to sanitation services, promoting behavioral change, strengthening governance, advocating for gender equality, improving waste management, and adopting innovative solutions. SACOSAN commitments serve as a regional roadmap to advance sanitation and hygiene goals and enhance the well-being of South Asian communities. Through collaboration and shared dedication, member countries work towards achieving a healthier and more sustainable future.
Second Nationally Determined Contribution (2020)	Nepal's climate action plan highlights sanitation and waste management among its measures to combat climate change and protect vulnerable communities.
National Adaptation Plan (2021)	The NAP integrates climate adaptation across sectors and government levels, with a significant focus on "Health water supply and Sanitation," requiring an estimated USD 4.75 Billion for implementation.

4.4 Sector Initiatives

These innovative and transformative initiatives within Nepal's WASH sector have reshaped the nation's approach to water, sanitation, and hygiene, resulting in meaningful and lasting improvements that continue to benefit the population and contribute to the overall well-being of the country.

Initiatives	Description
Sanitation Movement	The sanitation movement in Nepal gained significant momentum following the launch of the Sanitation and Hygiene Master Plan in 2011. This visionary document served as the roadmap for the nation's efforts to address sanitation challenges and improve hygiene practices. The movement, guided by the principles and objectives outlined in this plan, made remarkable progress over the years. By 2019, Nepal had successfully achieved Open Defecation Free (ODF) status , marking a significant milestone in the country's commitment to ensuring access to safe and clean sanitation facilities for all its citizens. This achievement stands as a testament to Nepal's dedication to public health, community empowerment, and sustainable development.
One House One Tap (OHOT)	The "One House, One Tap" movement in Nepal is a crucial initiative aimed at providing equitable access to clean and safe drinking water to every household in the country. Originating from the 2009 National Urban Water Supply and Sanitation Sector Policy, it evolved and gained prominence in government policies and programs and is recently highlighted in the 2023 National WASH Policy. Through infrastructure development, community involvement, and government support, the movement reflects Nepal's commitment to sustainable development and the fundamental right of its citizens to access safe drinking water.
Municipal level WASH Plan	The 2016-2030 draft SDP had a vision to localize the SDGs and promote thorough planning across all government tiers. The evolution of N-WASH MIS has empowered the creation of automated WASH plans by harnessing data from the MIS database. This data-driven approach to WASH planning has garnered acknowledgment from various stakeholders and has transformed into a movement for local-level WASH planning.
Water Safety Plan (WSP)	The NDWQS (2006), officially recognized the WSP initiative. It is a systematic and risk-based management strategy used by water utilities and authorities to identify, assess, and manage potential risks to the safety of drinking water from the source to the tap. The updated NDWQS (2022) has sustained the WSP approach, which is also outlined in the recent National WASH policy (2023). Although the initiative hasn't reached its envisioned impact, the government's increased focus and will help minimize water quality risks and enhance public health in Nepal.
Hand Hygiene for all (HH4A)	Following the outbreak of the COVID-19 pandemic in 2019, handwashing gained renewed significance as one of the essential preventive measures against the virus's transmission. In Nepal, this heightened awareness of the importance of handwashing during and after the pandemic led to the development of the "Hand Hygiene for All" (HH4A) roadmap (draft). This roadmap represents a comprehensive plan or strategy aimed at ensuring that hand hygiene practices are not only maintained during the pandemic but are also integrated into long-term public health efforts. It outlines the steps and initiatives required to promote widespread access to clean water and soap, as well as education and awareness campaigns to encourage regular and effective handwashing practices.
Municipality-wide inclusive	The MWIS approach has been initiated in specific urban centers to integrate interventions across the sanitation value chain, ensuring the delivery of safely managed sanitation services. This approach recognizes that sanitation goes beyond just constructing toilets; it encompasses safe waste containment, transportation, treatment, and disposal. The goal is to

Initiatives	Description
Sanitation (MWIS)	provide not only access to sanitation facilities but also to ensure their safe and hygienic use, preventing contamination and protecting public health and the environment. These efforts align with the guiding characteristics of MWIS, emphasizing evidence-based decision-making, institutional arrangements, diverse technical solutions, political commitment, non-infrastructure components, integration with urban services, and a focus on equity and inclusivity.
3-star approach in WinS	Through a joint effort involving various organizations and government bodies, the Three Star Approach (TSA) for Water, Sanitation, and Hygiene in Schools (WinS) has been effectively put into practice. Within the WinS framework, the "Seven Flags Approach for Total Sanitation (7FATS)" has been applied in specific public schools. These endeavors are directed toward fostering a favorable learning environment and encouraging the adoption of sanitation and hygiene practices in schools across Nepal.
WASH FIT	The WASH FIT, a risk-based approach, serves as an assessment tool to evaluate the WASH facilities within HCFs. It facilitates the formulation of a WASH Improvement Plan aligning with JMP indicators, to enhance the quality and service level of these facilities. In Nepal, WASH FIT has been implemented as part of the National Health care waste management standards and operating procedure 2020.
MHM	MHM stands as a significant hygiene initiative undertaken by the Government of Nepal (GoN). The MoWS has undertaken the drafting of a dignified menstruation policy, aiming to address the critical needs surrounding menstrual hygiene. Further, GoN endorsed the provision of free sanitary pads to adolescent girls in community schools, aimed at improving menstrual hygiene and reducing issues like absenteeism and drop-outs.

4.5 Linkage to National Development Goals

The linkage between the SDGs and the Water, Sanitation, and Hygiene (WASH) sector in Nepal is profound, as the WASH sector plays a crucial role in achieving several of these global goals. Here are some key SDGs and their direct relevance to the WASH sector in Nepal:

SDG Goal	Name	Linkage with SDP
SDG 1	No Poverty	Access to clean water and sanitation contributes to poverty alleviation by improving health and productivity.
SDG 2	Zero Hunger	Adequate sanitation and hygiene facilities support food security by preventing waterborne diseases and improving nutrition. (MSNP)
SDG 3	Good Health and Well-being	Access to clean water and sanitation is essential for public health, reducing waterborne diseases and improving well-being.
SDG 4	Quality Education	Proper WASH facilities in schools create a conducive learning environment, promoting quality education.
SDG 5	Gender Equality	Equal access to WASH services empowers women and girls, contributing to gender equality.

SDG Goal	Name	Linkage with SDP
SDG 6	Clean Water and Sanitation	WASH sector's core focus, aiming for universal access to safe drinking water and sanitation facilities.
SDG 7	Affordable and Clean Energy	Sustainable water and sanitation practices contribute to energy efficiency and conservation.
SDG 8	Decent Work and Economic Growth	Improved WASH services lead to better health outcomes and productivity, supporting economic growth.
SDG 9	Industry, Innovation, and Infrastructure	Access to clean water and sanitation infrastructure is crucial for sustainable development and innovation.
SDG 10	Reduced Inequalities	WASH sector addresses inequalities by ensuring equitable access to services for marginalized communities.
SDG 11	Sustainable Cities and Communities	WASH initiatives promote sustainable urban development through access to clean water and sanitation.
SDG 12	Responsible Consumption and Production	Sustainable WASH practices promote responsible water use and waste management, contributing to environmental conservation.
SDG 13	Climate Action	WASH sector resilience initiatives address climate change impacts on water resources and infrastructure.
SDG 15	Life on Land	Proper sanitation practices reduce land and water contamination, supporting biodiversity conservation.
SDG 16	Peace, Justice, and Strong Institutions	Access to clean water and sanitation is fundamental for building peaceful and just societies.
SDG 17	Partnerships for the Goals	Collaboration and partnerships are essential for achieving WASH goals, mobilizing resources and expertise.



Figure 3 SDP linkage with SDGs

The WASH sector in Nepal recognizes the interconnectedness of the SDGs and strives to integrate these global objectives into its policies, strategies, and programs. The SDP for WASH in Nepal is intrinsically connected to the nation's broader development agenda. It aligns with, complements, and actively contributes to several key sustainable development goals (SDG) and priorities.

5. SECTOR STATUS

5.1 Water Supply Status

5.1.1 Availability, Access, and Coverage

a. Key Initiatives Implemented

The situation has improved considerably, marked by several key developments and initiatives that have significantly contributed to enhanced water supply coverage. These efforts represent a positive path for the sector:

Government's Active Involvement:

All three levels of government actively engaged in the formulation and development of Water Supply projects, demonstrating a commitment to addressing sanitation and water supply challenges.

Shift in Program Focus:

In 2018, the government shifted its attention to the "One House One Tap" (OHOT) campaign, marking a significant change in the approach to water supply and sanitation efforts.

Community-Based Service Model:

Community-Based Service Model: Most utilities adopted a community-based service model, with exceptions noted in five boards, 23 NWSC branches, KUKL and four boards in rural /municipalities. This approach aimed to involve local communities in sanitation and water supply initiatives.

Water Quality Enhancement:

Substantial investments were made in establishing water treatment facilities and implementing Water Safety Plans (WSP) to improve water quality. However, ensuring consistent access to safe water remained a persistent challenge.

Expansion of Piped Water Networks:

Collaborative efforts between the government and development partners led to the creation and expansion of piped water networks. These initiatives included the construction of water treatment plants, distribution pipelines, and reservoirs to enhance access to clean water.

Prioritization of Pumping Systems:

The government prioritized investments in pumping systems to address water stress in the network, emphasizing the importance of efficient water distribution.

b. Key Achievement

The sector achievement in terms of population coverage and water supply service level is truly remarkable and reflects significant progress in providing access to clean and reliable drinking water to a larger segment of the population. This achievement is a testament to the collective efforts of various stakeholders, including government agencies, non-governmental organizations, and the communities themselves.

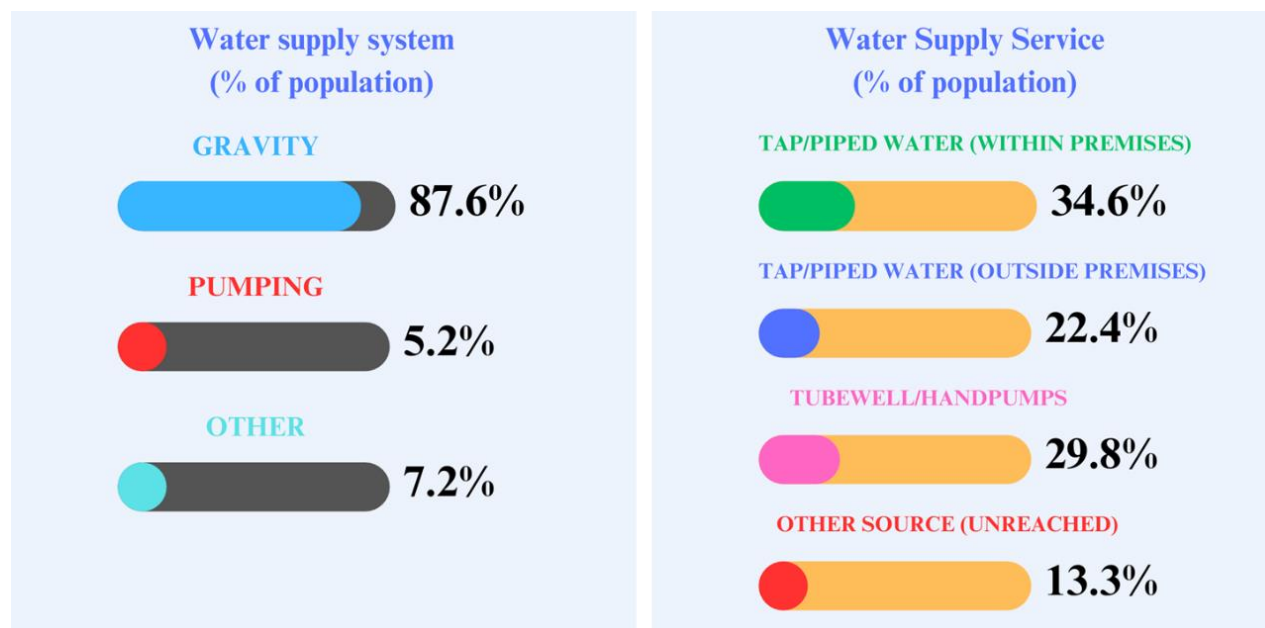


Figure 4 Water Supply System & Service Mechanism

c. Key Strategies Implemented

To address these gaps and further improve access to safe water, the Government of Nepal and its partners have implemented several key strategies and priorities:

1. **Infrastructure Expansion:** Continued investment in water supply infrastructure, especially in underserved and remote areas. This includes the construction of new water supply systems and the extension of pipelines.
2. **Climate-Resilient Solutions:** Water supply projects in water stressed area focusing climate change adaptation. Climate -resiliency is integrated in the project scopes.
3. **Community Engagement:** Involving local communities in water supply management and maintenance remains a priority to ensure sustainability.
4. **Equity and Inclusivity:** Targeted interventions to improve access for marginalized communities, including those in hilly and remote areas.
5. **Capacity Building:** Building the capacity of provincial and local governments to plan, manage, and operate water supply systems for decentralized governance.
6. **Partnership and Financing:** Collaboration with development partners, NGOs, and the private sector, as well as exploring innovative financing mechanisms.

5.1.2 Water Quality and Source Sustainability

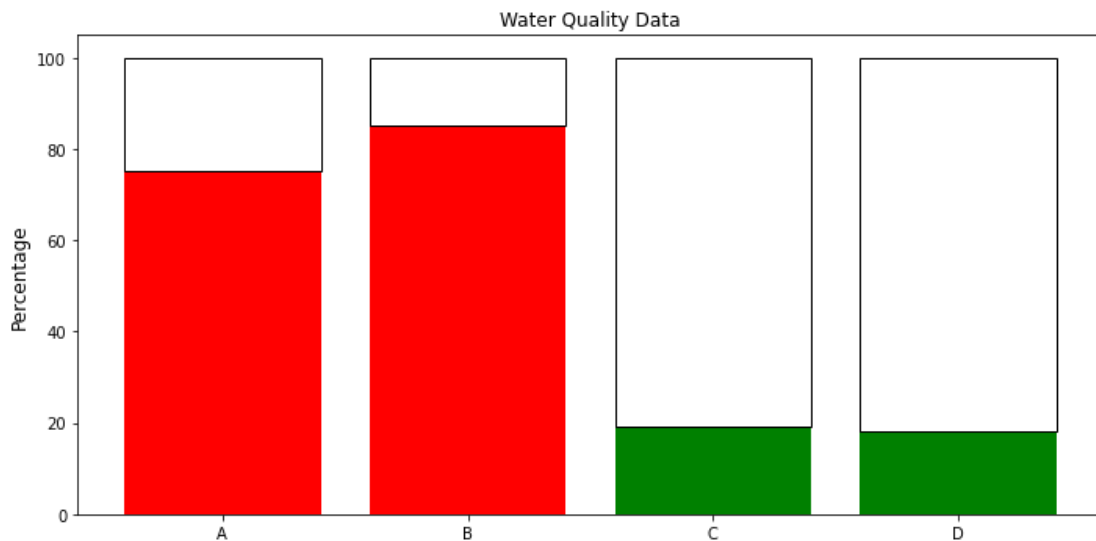
The analysis of water quality and source sustainability in Nepal's water supply sector demonstrates progress in ensuring safe drinking water. Ongoing efforts focus on protecting sources, improving treatment, enhancing monitoring, and promoting community engagement to sustain and meet future challenges:

a. **Key Initiatives Implemented**

1. **Establishment of Water Treatment Plants:** Collaborative efforts between the government and development partners led to the establishment of water treatment plants across various systems. These plants played a crucial role in improving the quality of drinking water supply.
2. **Water Quality Monitoring System:** Nepal has evolving water quality monitoring system, enhancing its ability to assess and maintain the quality of drinking water sources.
3. **Protection of Natural Water Sources:** Initiatives were launched to safeguard natural water sources, including springs and wells, from contamination. This preservation effort aimed to ensure the availability of clean and safe drinking water.
4. **Promotion of Sustainable Practices:** The sector actively promoted sustainable water source management practices. Additionally, climate-resilient water safety plans were developed and implemented to safeguard the quality of drinking water supply, even in the face of changing environmental conditions.

b. **Key Achievement**

The analysis of water quality and source sustainability in Nepal's water supply sector presents significant progress in guaranteeing safe drinking water.



A: Percentage of population whose source water was tested and with E. coli contamination in source water

B: Percentage of population whose household drinking water was tested and with E. coli contamination in household drinking water

C: Percentage of population with an improved drinking water source on premises, whose source water was tested and free of E. coli and available when needed

D: Percentage of population with an improved drinking water source located on premises, free of E. coli, available when needed and ≤ 10 ppb arsenic

Figure 5 Water Quality Status (Source: MICS 2019)

c. **Key Strategies Implemented**

To address these gaps and enhance water quality and source sustainability, Nepal has outlined several key strategies and priorities:

1. **Source Protection:** Strengthening efforts to protect natural water sources, including the construction of protective structures and community engagement in source management.
2. **Water Treatment:** Expanding and upgrading water treatment plants to meet growing demand while maintaining high treatment standards.
3. **Monitoring and Surveillance:** Continuously monitoring water quality and promptly addressing any contamination issues through early warning systems. (NDWQS has made it mandatory)
4. **Community Engagement:** Empowering communities with knowledge and skills to manage and protect water sources effectively. (water safety plan)
5. **Climate Resilience:** Incorporating climate-resilient practices in water source management and infrastructure design.

5.2 Sanitation Status

5.2.1 Sanitation Facilities and Coverage

Nepal has made significant progress in addressing sanitation facilities need and increasing coverage. Over the past decade, the country has taken determined steps to improve access to clean and safe sanitation facilities for its citizens, particularly in rural areas where the need was most acute.

While there is considerable progress in rural sanitation, urban sanitation remains a critical component of Nepal's development agenda, with a focus on improving the quality of life for urban residents and promoting clean and sustainable urban environments.

a. **Key Initiatives Implemented**

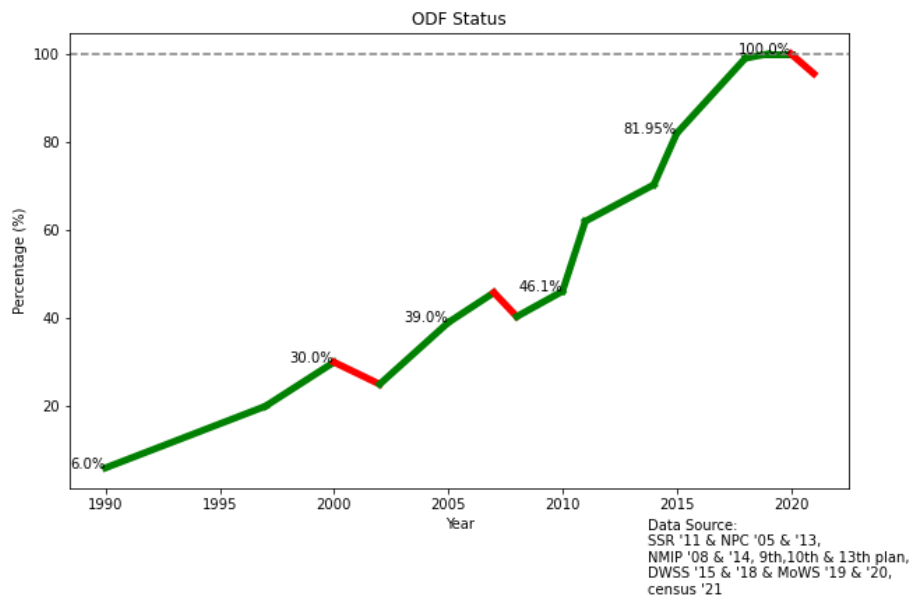
1. **Toilet Construction Movement:** A household-led toilet construction movement, supported by government and non-government partners, brought significant changes to rural sanitation. The "One House, One Toilet" initiative played a pivotal role in promoting household toilet construction, extending efforts to urban households, public spaces, and institutions. Collaboration with government bodies, NGOs, and international partners contributed to increased toilet availability.
2. **Open Defecation Free (ODF) Achievement:** Nepal widely adopted the Sanitation and Hygiene Master Plan to promote sanitation and eliminate open defecation. Communities were empowered to construct toilets with local resources, leading Nepal to become the first ODF country in South Asia by September 30, 2019.
3. **Total Sanitation Campaign:** Recognizing the importance of maintaining ODF status and advancing toward total sanitation, the government has taken steps in this direction. However,

efforts in this regard have been somewhat limited, leading to observed "slippage" in ODF practices in recent census data.

4. **Urban Sanitation Infrastructure:** Several urban areas initiated the development of sanitation infrastructure, including sewerage systems and sewage treatment plants, to enhance waste management and wastewater treatment. However, it's important to note that many of these infrastructures were built as project components without comprehensive sanitation technology suitability analysis.
5. **MWIS Approach in Urban Sanitation:** In urban municipalities, the Municipality wide Inclusive Sanitation (MWIS) approach has been introduced to integrate sanitation interventions across the value chain. This holistic approach encompasses waste containment, transport, treatment, and disposal, emphasizing evidence-based decisions, institutional arrangements, diverse solutions, political commitment, non-infrastructure components, service integration, and equity.
6. **Solid Waste Management:** Urban areas have initiated solid waste management systems to address waste disposal challenges. Mechanisms for collection, segregation, and disposal have been established to efficiently manage urban waste.
7. **Public Toilet Construction:** Public toilets have been constructed in busy urban areas to cater to the needs of residents and visitors, contributing to cleanliness and hygiene in public spaces. Efforts have also been made to ensure the availability of sanitation facilities in public institutions like schools, healthcare facilities, and public places.

b. Key Achievement

Nepal's journey from a sanitation service coverage of only 6% in 1990 to achieving Open Defecation Free (ODF) status in 2019 is indeed an impressive and remarkable transformation. This achievement



reflects a intensive effort by the government, non-governmental organizations (NGOs), communities and the Nepali people to improve sanitation and hygiene practices throughout the country.

c. Key Strategies Implemented

To address these gaps and further improve sanitation

Figure 6 ODF journey (from 6% to 100%)

facilities and coverage, Nepal has implemented several key strategies and priorities in the past decades:

1. **Rural Sanitation:** Focusing on rural sanitation programs to bridge the urban-rural gap in access to improved sanitation facilities.
2. **Maintenance of facilities:** Promoting proper use and maintenance of sanitation facilities to communities.
3. **Gender-Inclusive Facilities:** Ensuring that sanitation facilities are gender-inclusive, with separate facilities for men, women, and persons with disabilities.
4. **Institutional Strengthening:** Strengthening institutional mechanisms for sanitation program coordination and monitoring.
5. **Public Institutions:** Expanding the availability of sanitation facilities in public institutions, including schools, healthcare facilities, and public places.
6. **Sewerage Expansion:** Expanding sewerage systems to cover more urban areas and upgrading existing systems to accommodate population growth.
7. **Sanitation Infrastructure:** Continued investment in sanitation infrastructure, including the construction of sewage treatment plants and the maintenance of existing facilities.
8. **Community Engagement:** Involving urban communities in sanitation initiatives, emphasizing the importance of sanitation practices, and encouraging the construction of household toilets.
9. **Waste Management:** Strengthening solid waste management systems in urban areas to ensure efficient collection, segregation, and disposal of waste.
10. **Public Awareness:** Conducting public awareness campaigns to educate urban residents about the significance of sanitation, hygiene, and proper waste disposal.
11. **Informal settlement Improvement:** Targeting informal settlements and slum areas with sanitation interventions to improve living conditions and reduce open defecation.
12. **Regulatory Framework:** Developing and enforcing urban sanitation regulations and standards to ensure compliance and sustainability of sanitation facilities and practices.
13. **Public-Private Partnerships:** Collaborating with private sector entities to support urban sanitation initiatives and investments in infrastructure.

5.2.2 Sanitation Behavior and Practice

Nepal has a history of open defecation practices and poor sanitation behaviors, which have posed significant challenges to public health and hygiene. Addressing sanitation behavior and promoting improved practices has been a critical aspect of the country's development agenda. Ongoing efforts are directed toward sustaining behavior change, addressing cultural norms, and promoting gender-sensitive and hygienic practices.

a. Key Sector Initiatives Implemented

Community-Led Total Sanitation (CLTS): The Community-Led Total Sanitation (CLTS) approach has been used as a transformative strategy that empowers communities to take ownership

of their sanitation and hygiene practices. It emphasizes the importance of ending open defecation and achieving total sanitation through community mobilization and behavioral change.

Behavior Change Communication (BCC): Behavior Change Communication (BCC) has been used as a strategic and interactive process to influence people's knowledge, attitudes, and behaviors to bring about positive social and health-related changes. These initiatives include radio broadcasts, workshops, and community meetings to educate individuals and communities about the importance of safe sanitation practices.

School Sanitation Programs: Schools have been instrumental in promoting sanitation behavior change. Hygiene education and the provision of sanitation facilities in schools have contributed to improved practices among students and their families.

b. Key Achievement

The key achievement of the sector so far is presented in the pictograph below.

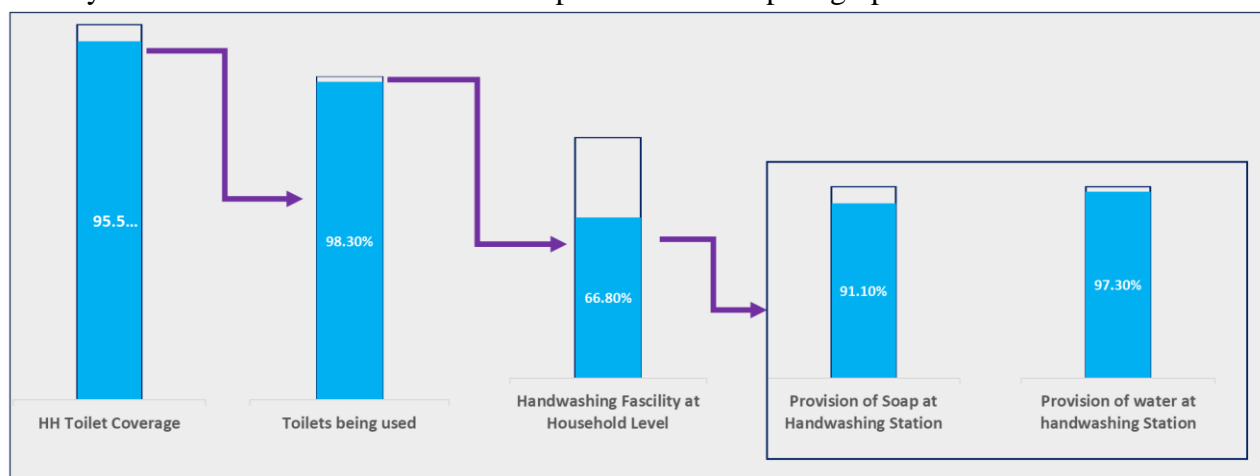


Figure 7 Toilet Status (Source Census (2021) & NWASH MIS)

c. Key Strategies Implemented

To address these challenges and further improve sanitation behavior and practices, Nepal has outlined several key strategies and priorities:

1. **Behavior Change Campaigns:** Continuously implementing behavior change campaigns, including CLTS and BCC, to reinforce the importance of using improved sanitation facilities and proper hygiene practices.
2. **School Programs:** Expanding school sanitation programs to reach more schools and students, integrating hygiene education into the curriculum, and ensuring that schools have well-maintained sanitation facilities.
3. **Community Ownership:** Promoting community ownership of sanitation facilities and practices, emphasizing that sanitation is a collective responsibility.
4. **Gender-Sensitive Approaches:** Implementing gender-sensitive approaches that address the unique needs and roles of women and girls in sanitation practices.

5. **Social and Cultural Sensitivity:** Ensuring that sanitation interventions are culturally sensitive and respectful of local practices and beliefs.

5.3 Hygiene Status

The sector has achieved remarkable progress in hygiene promotion and behavioral change, with strategies in place to address existing challenges. These initiatives and achievements are pivotal in enhancing public health, reducing waterborne illnesses, and improving the overall quality of life in Nepal. Continued commitment to these strategies and adaptability to evolving needs will be crucial in sustaining and further advancing these achievements.

a. Key Initiatives Implemented

1. **Behavior Change Promotion:** Encouraging behavior change proved to be a complex challenge. Despite widespread knowledge of proper hygiene practices, translating this knowledge into consistent behaviors, such as handwashing with soap, remained difficult.
2. **Rural-Urban Disparities:** Rural areas faced more substantial challenges concerning hygiene awareness and infrastructure compared to urban areas. Limited access to basic hygiene facilities like handwashing stations and toilets was a common issue in rural communities.
3. **Focused Attention on Menstrual Hygiene:** Initiatives were launched to address the sensitive issue of menstrual hygiene management (MHM). Many girls and women lacked access to affordable and hygienic menstrual products, as well as safe and private spaces for managing menstruation.
4. **Hygiene in Healthcare Facilities:** Hygiene promotion extended to healthcare facilities, with an emphasis on the availability of handwashing facilities and adherence to hygiene protocols. However, consistency in these practices varied across healthcare settings.
5. **Diverse Communication Strategies:** To engage communities effectively, diverse communication strategies, including interpersonal communication, street dramas, and community events, were employed to promote hygiene practices.
6. **Community-Led Total Sanitation (CLTS) Programs:** CLTS programs were instrumental in raising awareness about sanitation and hygiene at the community level. These initiatives triggered a sense of collective responsibility, motivating communities to abandon open defecation and adopt proper sanitation practices.
7. **Integration of Hygiene Education in Schools:** Hygiene education was integrated into school curricula, with a focus on students as key agents of change. Schools provided a platform for imparting knowledge about handwashing, safe sanitation practices, and menstrual hygiene.
8. **Utilization of Mass Media:** Government and non-governmental organizations (NGOs) utilized mass media platforms, including television, radio, and social media, to disseminate hygiene-related messages. These campaigns reached a wide audience and reinforced key hygiene practices.
9. **Engagement in Global Observances:** Nepal actively participated in global observances like Global Handwashing Day and World Toilet Day. These events provided opportunities to engage communities and raise awareness about the importance of handwashing and sanitation.

10. **Government Policies:** National policies and strategies, such as the National Hygiene and Sanitation Master Plan, emphasized the importance of behavior change communication in achieving hygiene goals.

b. Key Achievements

The achievements in the hygiene promotion and behavioral change sector in Nepal are commendable, marking significant progress in improving public health and well-being. Notable accomplishments include:

- **Increased Hygiene Awareness:** There have been significant improvements in raising awareness about the importance of hygiene practices, particularly in urban areas and schools. This achievement has contributed to better hygiene knowledge among the population.

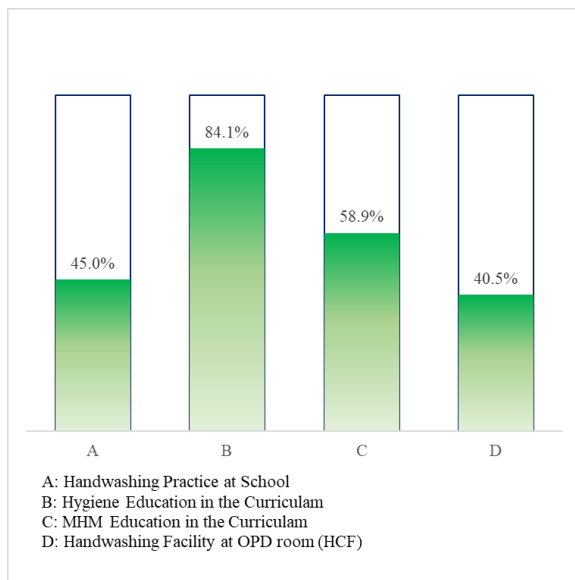


Figure 8 Hygiene at Institutions

- **Community-Led Total Sanitation (CLTS):** CLTS programs have played a pivotal role in raising awareness about sanitation and hygiene at the community level. These initiatives have fostered collective responsibility and motivated communities to abandon open defecation and embrace proper sanitation practices.

- **Integration of Hygiene Education:** Hygiene education has been successfully integrated into school curricula, targeting students as key agents of change. Schools provide a platform for imparting knowledge about handwashing, safe sanitation practices, and menstrual hygiene.

- **Mass Media Campaigns:** The government and non-governmental organizations (NGOs) have effectively utilized mass media channels, including television, radio, and social media, to disseminate hygiene-related messages. These campaigns have reached a wide audience and reinforced key hygiene practices.

- **Global Observances:** Nepal actively participates in global observances such as Global Handwashing Day and World Toilet Day, using these events as opportunities to engage communities and raise awareness about the importance of handwashing and sanitation.

c. Key Strategies Implemented

- **Behavior Change:** Emphasizing culturally sensitive and community-driven behavior change strategies is essential for improving hygiene practices

- **Rural-Urban Divide:** Expanding access to sanitation facilities, including handwashing stations, will complement awareness efforts and bridge the rural-urban divide.
- **School Hygiene:** Ensuring that hygiene education is included in the school curriculum and conducts teacher training programs to enhance its quality.
- **Menstrual Hygiene:** Addressing menstrual hygiene taboos, providing affordable menstrual products, and enhancing accessibility will empower women and girls.
- **Healthcare Facilities:** Ensuring hygiene practices in healthcare facilities is crucial for infection prevention, but adherence to hygiene protocols varies.
- **Communication Strategies:** The government and NGOs continue to utilize these communication strategies to reinforce hygiene practices.
- **Public Campaigns:** Campaigns remain an integral part of hygiene promotion, serving as opportunities to engage communities and emphasize the importance of hygiene.

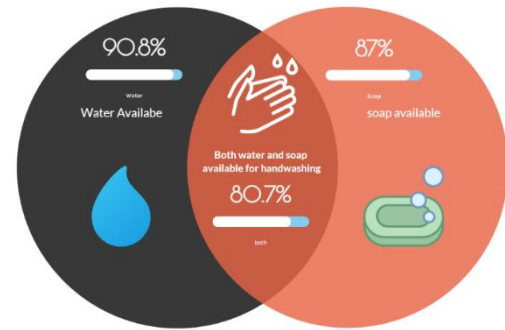


Figure 9 Figure 8 Handwashing Status (Source MICS (2019))

5.4 Public Health Impact Status

Improving hygiene practices in Nepal is integral to achieving better public health outcomes. Through continued efforts to raise awareness, ensure access to sanitation facilities, and promote behavior change, Nepal can further reduce waterborne diseases, enhance maternal and child health, and improve the overall well-being of its population.

a. Key Initiatives Implemented

Over the past decade, Nepal has undertaken several key initiatives in the WASH sector to address public health challenges:

- **Access to Clean Water Sources:** Nepal focused on improving access to clean drinking water sources. This involved constructing water treatment plants, rehabilitating existing water systems, and extending piped water networks to reach underserved communities, especially in rural areas.
- **Sanitation Facilities:** The government-initiated programs to promote proper sanitation facilities. Efforts were made to construct toilets in both urban and rural households, public places, and institutions. This included campaigns like the "One House, One Toilet" movement.
- **Hygiene Promotion:** Hygiene promotion was a priority. Nepal conducted educational campaigns, particularly emphasizing the importance of handwashing with soap, safe food handling, and menstrual hygiene management. These campaigns aimed to raise awareness and encourage behavior change.

- **Public Awareness:** The country invested in public awareness campaigns through various media channels. These campaigns educated communities about the health risks associated with inadequate **WASH** practices and motivated them to adopt healthier behaviors.
- **Community Engagement:** Nepal actively engaged communities in planning and implementing WASH initiatives. Communities were encouraged to take ownership of their WASH infrastructure, leading to sustainability.

b. Key Impacts

The impact contributed by these initiatives on public health in Nepal has been substantial:

- **Reduced Waterborne Diseases:** Access to clean water and improved sanitation significantly reduced the incidence of waterborne diseases, such as diarrhea and cholera, resulting in fewer cases and decreased mortality rates, especially among children.
- **Improved Maternal and Child Health:** Hygienic practices during childbirth and access to clean birthing environments improved maternal and neonatal health outcomes, reducing the risk of infections.
- **Lower Malnutrition Rates:** Proper hygiene practices, including handwashing and safe food handling, contributed to a reduction in foodborne illnesses and malnutrition, positively impacting overall health.
- **Decreased Healthcare Burden:** Improved WASH practices resulted in fewer preventable diseases, reducing the burden on healthcare systems and allowing resources to be redirected to other critical health needs.
- **Enhanced Quality of Life:** Access to clean water and sanitation facilities, along with improved hygiene practices, improved the overall well-being and productivity of communities, enhancing their quality of life.

c. Key Strategies Implemented

Nepal employed specific strategies to improve public health through WASH interventions:

- **Multi-Sectoral Collaboration:** The government collaborated with non-governmental organizations, international partners, and local communities to coordinate efforts effectively. This multi-sectoral approach ensured resources were used efficiently and interventions tailored to local contexts.

- Behavior Change Communication (BCC):** Behavior change communication strategies were implemented, considering cultural sensitivities. These strategies involved community-driven initiatives to promote WASH practices effectively.

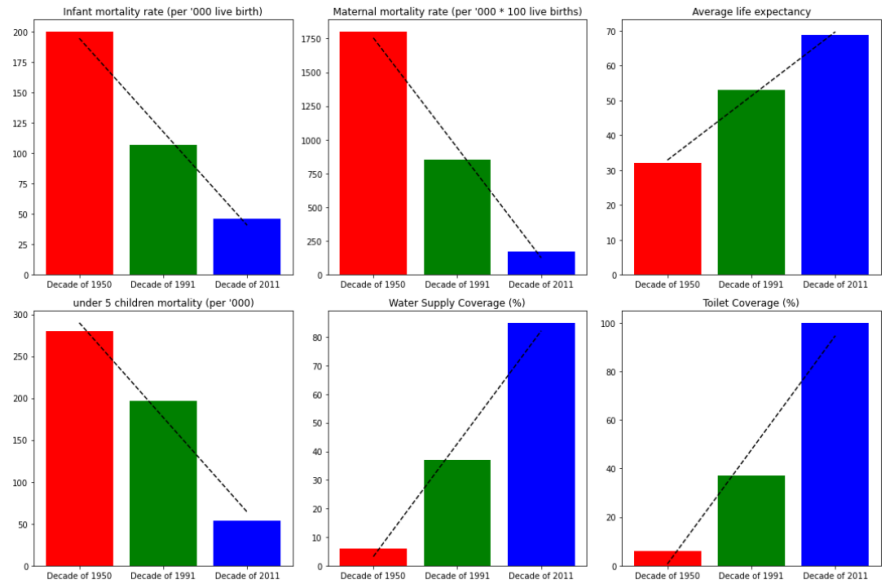


Figure 10 Impact of proper sanitation and hygiene

- Infrastructure Development:**

The country invested in WASH infrastructure that aligned with the specific needs of communities. This included the construction of water treatment facilities, sewage systems, and sanitation facilities designed for environmental sustainability.

Capacity Building: Local institutions and individuals were capacitated to manage and maintain WASH infrastructure and programs. This capacity building ensured the long-term sustainability of WASH initiatives.

6. SECTOR GOALS AND OBJECTIVES

6.1 Long-term Vision for the WASH Sector

Vision Statement: Assured, safe, and easily accessible water supply and sanitation services, and hygiene.

Goal: By 2100 BS, secure universal access to safe water supply and sanitation, concurrently accomplishing the SDGs.

Key Elements of the Goal:

1. **Universal Access:** The central principle of this goal is to leave no one behind. It envisions that every Nepali citizen will have equitable access to clean and safe drinking water services.
2. **Improved Sanitation:** The goal aims to eliminate open defecation entirely and ensure that every household has access to improved sanitation facilities that are gender-responsive, culturally sensitive, and meet the diverse needs of the population, including people with disabilities.
3. **Hygiene Promotion:** Optimal hygiene practices, including regular handwashing with soap, safe food handling, and menstrual hygiene management, will be embedded in the daily routines of all citizens, leading to reduced waterborne diseases and improved public health.
4. **Environmental Sustainability:** The goal recognizes the interdependence between water resources and environmental sustainability. It strives to protect water sources, reduce pollution, and promote responsible water resource management to mitigate the impacts of climate change.
5. **Gender Equality and Social Inclusion:** Gender-responsive and socially inclusive WASH interventions are integral to the goal. It seeks to bridge gender disparities in access to WASH services and ensure that marginalized and vulnerable groups, including women, children, persons with disabilities, and indigenous communities, have equitable access. It also envisions to include marginalized communities in decision making and transform the social harmful practices and norms related to WASH.

6.2 Envisioned Outcomes

The long-term vision for the WASH sector in Nepal envisions a future where:

- Clean and safe drinking water is accessible to every household.
- Sanitation facilities are not only improved but also culturally appropriate and accessible to all.
- Hygiene practices are second nature to every citizen, contributing to improved public health.
- Nepal's water resources are protected and sustainably managed.
- Gender disparities in WASH access are eliminated, and social inclusion is promoted.
- Poverty is reduced, and communities thrive due to improved health and economic opportunities.

6.3 Specific Objectives of the SDP

This SDP outlines a set of specific objectives designed to achieve the long-term vision of universal access to safe drinking water, improved sanitation, and optimal hygiene practices. These objectives are strategically aligned with national priorities and international commitments, including the Sustainable Development Goals (SDGs) by 2030. The flagship program envisioned under SDP has been annexed in ANNEX II. The specific objectives of the SDP are as follows:

1. **Achieve Universal Access:** Ensure that every citizen, regardless of their geographic location, economic status, or demographic characteristics, has equitable access to safe and reliable water supply and sanitation services.
2. **Raising Service Standards:** Raise the standards of water and sanitation services, exceeding customer expectations and establishing a new benchmark of excellence in managing water quality and the complete sanitation service chain.
3. **Promote Optimal Hygiene Practices:** Engrain optimal hygiene practices into the daily routines of all citizens including handwashing with soap, safe food handling, menstrual hygiene management, and other critical behaviors that reduce the risk of waterborne diseases and improve public health.
4. **Environmental Sustainability:** Safeguarding and responsibly managing water sources, with a focus on pollution reduction, IWRM, and the promotion of sustainable practices to mitigate the effects of climate change on the WASH sector.
5. **Gender Equality, Disability and Social Inclusion:** Empower women and marginalized groups while guaranteeing their equal participation in decision-making processes and equitable access to services.

6.4 Key Principles for Implementation

The SDP recognizes that effective implementation of WASH initiatives is essential to achieving its vision, goal, and objectives. To ensure successful implementation of the plan, it emphasizes several key principles for implementation:

1. **Policy Coherence:** The SDP emphasizes the significance of addressing policy gaps and ensuring policy coherence. It emphasizes the Coordinated policies at local, provincial, and national levels leading to more effective and sustainable WASH systems.
2. **Sequential Progression:** The SDP advocates a well-structured and sequential approach for its implementation. It acknowledges that the complex nature of WASH interventions requires careful planning and sequencing of activities. This principle entails breaking down larger objectives into manageable phases, ensuring that each step builds on the successes of the previous one. It allows for incremental progress, minimizes risks, and optimize resource utilization.
3. **Multi-Stakeholder Engagement and Mutual Accountability Mechanism:** Implementation of WASH projects involves various stakeholders, including Governments, External Support Agencies, Civil Society Organizations (CSOs), Private Sector, WSUCs, Utilities and Regulators and Research and Learning Institutions The SDP underscores the importance of creating

platforms for effective multi-stakeholder engagement. Collaboration cultivates synergy, leverages expertise, and pools resources to address complex challenges comprehensively. SDP emphasizes shared responsibility and accountability among these stakeholders, where each party is not only answerable for their own contributions but also ensures others meet their commitments.

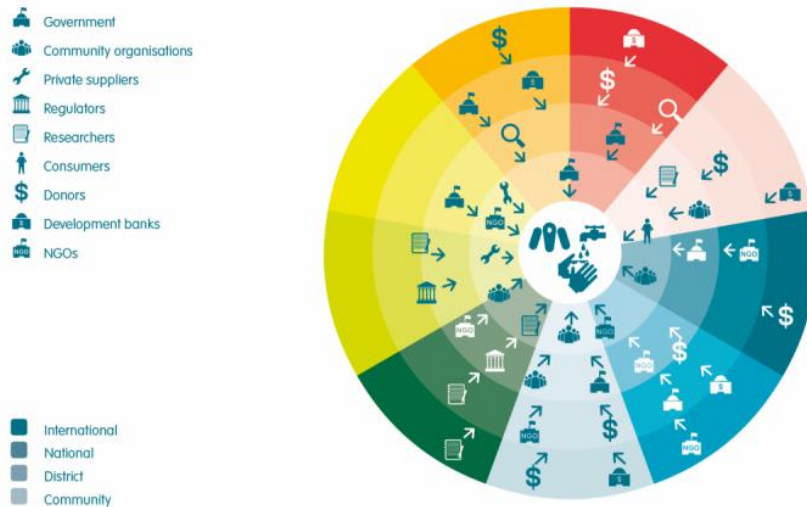


Figure 11 Multi Stakeholder engagement in WASH

4. **Decentralized Governance:** The SDP promotes decentralized governance in WASH implementation. It recognizes that local governments and communities are best positioned to understand their unique needs and priorities. By devolving decision-making authority to the local level, it empowers LGs and communities to take ownership of WASH services. Decentralization enhances accountability and ensures that interventions align closely with local realities. Disparities in territorial distribution of capacities and skills will be considered when determining mechanisms to address gaps between regions.
5. **Risk Assessment and Mitigation:** Implementation efforts must incorporate risk assessment and mitigation strategies. The SDP highlights the importance of conducting risk assessments to identify potential challenges and vulnerabilities that could hinder project success. Robust mitigation plans are essential to proactively address these risks, allowing for timely and effective responses to unforeseen circumstances such as natural disasters or community resistance.
6. **Adaptive Management:** Adaptive management is a core principle advocated by the SDP. It acknowledges that the dynamic nature of the WASH sector requires flexibility and adaptability in SDP execution. Implementation plans should be receptive to changing conditions, emerging

trends, and lessons learned. Regular reviews and adjustments ensure that interventions remain relevant and effective.

7. **Capacity Building:** Building the capacity of individuals, institutions, and communities is fundamental to successful implementation. The SDP prioritizes capacity-building efforts across all levels of WASH service delivery. This includes capacity development programs for WASH professionals, technical skills development, and community awareness and education initiatives. Strengthened capacity enhances the sustainability of systems and promotes local ownership.
8. **Resource Mobilization:** Adequate and sustainable resource mobilization is critical for WASH implementation. The SDP acknowledges the need for diverse funding sources, including government budgets, development aid, public-private partnerships, and innovative financing mechanisms. Effective resource mobilization ensures that projects have the necessary financial support to progress and thrive.
9. **Monitoring and Evaluation (M&E):** Rigorous M&E systems are integral to implementation. The SDP emphasizes the progression towards robust M&E frameworks with clear indicators and benchmarks. Regular monitoring and evaluation help track progress, identify bottlenecks, measure outcomes, and make informed decisions. Data-driven assessments facilitate evidence-based planning and course correction when necessary.
10. **Research and Learning:** Fostering innovation and technology is fundamental to achieve efficient execution. The SDP promotes the embrace of inventive approaches and contemporary technologies to amplify the impact of WASH initiatives. The SDP's core essence lies in establishing connections with academia and other research institutions to cultivate a culture of research and development (R&D).

6.5 Targeted Beneficiaries

6.5.1 Identification of Priority Populations and Communities

Identifying priority populations and communities is a crucial step in ensuring that interventions are targeted effectively to maximize impact and address pressing needs. This process involves a thorough analysis of various factors, including demographic characteristics, geographical locations, socioeconomic conditions, and vulnerability. Following are the key considerations and methodologies used to identify priority beneficiaries:

- a) **Geographical Vulnerability:** Geographical vulnerability assessment is a foundational element in the identification of priority populations. It involves mapping regions, districts, municipalities, and communities that are particularly vulnerable to WASH-related challenges. Factors such as proximity to water sources, prevalence of waterborne diseases, susceptibility to natural disasters, and terrain difficulty are considered.
- b) **Demographic Analysis:** Understanding the demographic composition of communities is essential. The SDP considers age groups, gender, and specific needs of vulnerable populations such as women, children, the elderly, and persons with disabilities. Targeting these groups ensures that interventions are equitable and inclusive.

- c) **Socioeconomic Status:** Economic conditions play a pivotal role in prioritizing beneficiaries. Vulnerable communities with limited financial resources are often prioritized to ensure that they have access to affordable WASH services. Poverty assessments and income distribution data assist in identifying economically disadvantaged areas.
- d) **Health and Disease Burden:** Assessing the prevalence of waterborne diseases and the overall health status of communities is a critical factor. Communities with high disease burdens, particularly related to inadequate water and sanitation, are given priority to address immediate health risks and reduce morbidity and mortality rates.
- e) **Environmental Sustainability:** Environmental factors, including water source sustainability and pollution levels influence beneficiary selection. Communities relying on unsustainable water sources or facing environmental contamination will be prioritized to mitigate environmental risks and promote sustainable practices.
- f) **Disaster Risk and Resilience:** Vulnerability to natural hazard, such as floods, landslides, and droughts, is a key consideration. Communities residing in disaster-prone areas are prioritized for WASH interventions that enhance resilience and disaster preparedness.
- g) **Marginalized and Indigenous Communities:** The SDP places a strong emphasis on social inclusion. Marginalized and indigenous communities facing discrimination and exclusion are given special attention. These communities may have historically been underserved and require tailored approaches to ensure their equitable access to WASH services.
- h) **Access to Existing Services:** Evaluating the present state of WASH services within a region holds paramount importance, with a focus on identifying regions where access to clean water and sanitation is deficient or absent, as these usually take precedence. Additionally, giving priority to communities with aging or deteriorating WASH infrastructure in urgent need of repair or replacement required. The durability and timeline of existing service should be continuously assessed.
- i) **Infrastructure and Technology Feasibility:** Assessing the technical feasibility and cost-effectiveness of implementing WASH infrastructure in specific areas is essential. Some regions may present logistical challenges or higher costs.

6.5.2 Vulnerable and Underserved Groups

The SDP recognizes the diverse needs of vulnerable and underserved groups and employs a multifaceted approach to address these challenges. It emphasizes inclusivity, affordability, accessibility, and cultural sensitivity to ensure that all segments of the population have equitable access to safe water, sanitation, and hygiene services. SDP promotes the representation and participation in the decision making of these groups. By prioritizing these groups, the plan aims to reduce disparities.

SN	Vulnerable/ Underserved Group	Challenges	Strategies
1.	Women and Girls	Women and girls often bear the primary responsibility for collecting water and managing household sanitation. Lack of nearby water sources or sanitation facilities can result in long, time-consuming journeys, impacting their safety and education.	The SDP places a strong emphasis on gender-responsive approaches, ensuring that water sources and sanitation facilities are easily accessible and safe for women and girls. It promotes menstrual hygiene management and gender-sensitive sanitation facilities in schools, HCF and public places.
2.	Children	Children are particularly vulnerable to waterborne diseases. Inadequate sanitation and hygiene practices in schools can lead to illness and absenteeism.	The SDP prioritizes child-friendly WASH facilities in schools and communities, promoting handwashing and hygiene education tailored to children's needs. This includes providing safe drinking water and clean toilets in schools.
3.	Persons with Disabilities	People with disabilities often face barriers in accessing standard sanitation facilities. Lack of inclusive design and accessibility can limit their independence.	The SDP advocates for inclusive WASH facilities that cater to the needs of persons with disabilities. This includes ramps, handrails, and accessible toilets. Community awareness programs aim to reduce stigma and promote inclusivity.
4.	Indigenous and Ethnic Minority Communities	Indigenous and ethnic minority communities may reside in underdeveloped areas with limited access to safe water sources. They often face cultural and linguistic barriers.	The SDP ensures that interventions are culturally sensitive and customized to the specific needs of these communities. It promotes community engagement and the inclusion of indigenous knowledge in water resource management.
5.	Elderly Population	Elderly individuals may have mobility issues and greater vulnerability to waterborne diseases. They require accessible facilities.	The SDP prioritizes easily accessible water points and sanitation facilities for the elderly. It also encourages community support systems to assist the elderly in accessing WASH services.
6.	Low-Income Communities	Low-income communities often struggle to afford improved sanitation facilities and access to safe water.	The SDP focuses on affordability through subsidies, microfinance, and community-based initiatives. It aims to reduce the financial burden on low-income households, enabling them to access WASH services.
7.	Urban Slum Dwellers	Urban slum dwellers face overcrowded conditions and inadequate sanitation, increasing the risk of disease transmission.	The SDP targets urban slums with upgraded sanitation facilities, improved waste management, and access to safe water. It

SN	Vulnerable/ Underserved Group	Challenges	Strategies
			promotes community-led initiatives in urban areas.
8.	Disaster-Prone Communities	Communities in disaster-prone areas face water scarcity during droughts and contamination during floods.	The SDP integrates disaster risk reduction measures, ensuring communities have access to safe water sources even during emergencies. It also promotes community-based disaster preparedness.
9.	Remote and Mountainous Areas	Remote and mountainous regions often have challenging terrain, making infrastructure development difficult.	The SDP considers energy efficient appropriate technology and community-managed infrastructure. It focuses on making services accessible in difficult terrains.
10.	Marginalized Social Groups	Marginalized groups face discrimination and social exclusion, limiting their access to basic services.	The SDP promotes social inclusion by engaging marginalized groups in decision-making processes and ensuring their representation. It addresses cultural and social barriers.

6.5.3 Key Stakeholders and Partnerships

A coordinated effort involving government agencies, development partners, NGOs, civil society, the private sector, and communities, at all the national, provincial levels, municipality and community level is essential to address the complex challenges of WASH and advance the nation's development agenda. The success of the WASH SDP in Nepal centres on effective partnerships and collaboration among these key stakeholders.

- a. **Government of Nepal (GoN):** The primary stakeholder of SDP is MoWS including various ministries/commissions and departments, who play essential roles in policy formulation, regulation, and implementation. They provide the overarching framework for the SDP and allocate resources for its execution.
- b. **Provincial Governments:** Provincial governments have jurisdiction over certain aspects of WASH, particularly at the provincial level and are responsible for coordinating WASH activities within the provinces, aligning with national policies, and allocating resources accordingly.
- c. **Local Governments (Municipalities and Rural Municipalities):** Local governments are crucial stakeholders in the SDP and responsible for the on-ground implementation of WASH initiatives, including the construction and maintenance of water supply systems, sanitation facilities, and hygiene promotion activities. The SDP emphasizes decentralized decision-making and empowers local governments to address the specific needs of communities.

- d. Development Partners and Donor Agencies:** Nepal receives support from various international development partners and donor agencies and bilateral partners. These partners provide financial and technical assistance to implement WASH projects, contribute to policy development, and collaborate with the government to achieve WASH targets.
- e. Non-Governmental Organizations (NGOs):** Numerous NGOs, both national and international, actively engage in WASH activities across Nepal. They work at the grassroots level, implementing projects related to water supply, sanitation, hygiene promotion, and capacity building. NGOs often partner with government agencies and local communities to ensure holistic and community-centric interventions.
- f. Civil Society and Community-Based Organizations (CBOs):** Civil society organizations, community-based organizations, and community leaders play a pivotal role in facilitating community engagement and mobilization. They create awareness, promote behavioral change, and advocate for WASH-related issues. Their involvement enhances the sustainability and acceptance of WASH interventions.
- g. Private Sector:** The private sector, with a wide array of stakeholders including water supply companies, sanitation service providers, technology firms, suppliers, manufacturers, and entrepreneurs, plays a vital role in implementing the SDP. Private entities are actively engaged in infrastructure development, maintenance, service delivery, and technological innovations. Their participation brings innovation, expertise, and resources to the WASH sector, fostering a dynamic environment for achieving the program's objectives. Public-Private Partnerships (PPPs) are encouraged to harness the private sector's capabilities and resources for more effective and sustainable service provision.
- h. Service Providers:** WSUCs and other Service providers, both public and private, are essential in executing the SDP's goals. They are responsible for ensuring the delivery of safe water, sanitation services, and hygiene education to communities.
- i. Academic and Research Institutions:** Academic institutions and research organizations contribute to the SDP by conducting studies, surveys, and research on WASH-related topics. They generate valuable data, provide technical insights, and contribute to evidence-based policymaking and program design.
- j. Development Committees and Users' Groups:** At the community level, development committees and users' groups are integral to the SDP's success. They actively participate in the planning, construction, and maintenance of WASH infrastructure. These grassroots organizations ensure that the needs and preferences of local communities are considered.
- k. Media and Communication Partners:** Media organizations and communication partners play a critical role in disseminating information about WASH practices, hygiene, and government initiatives. They raise awareness, educate the public, and hold stakeholders accountable for achieving WASH targets.

7. THEME IDENTIFICATION

7.1 Identifying Challenges to Equitable WASH Services Provision

The SWOT analysis of WASH sector has revealed some distinct priority areas to provide equitable WASH services in Nepal. To develop effective strategies for improving access to WASH facilities in Nepal, it's crucial to address existing disparities and challenges. This highlights some key issues:

a. **Geographical Disparities:**

- **Rural-Urban Divide:** A significant gap exists between rural and urban areas in terms of WASH access, with urban areas enjoying better infrastructure.
- **Remote Areas:** Geographical barriers in remote and mountainous regions create challenges in providing essential WASH services.

b. **Socio-Economic Disparities:**

- **Poverty:** Low-income communities struggle to afford the costs associated with safe water and sanitation, hindering access.
- **Marginalized Groups:** Vulnerable demographics, including women, children, people with disabilities, and ethnic minorities, face barriers to accessing WASH services.

c. **Cultural and Behavioral Factors:**

- **Open Defecation:** Cultural practices, such as open defecation, pose challenges to improving sanitation and require behavior change campaigns.
- **Hygiene Practices:** Inconsistent hygiene behaviors, like handwashing, result from a lack of awareness and cultural norms.

d. **Infrastructure and Service Gaps:**

- **Water Scarcity:** Competition for limited water resources due to water scarcity affects water quality and contributes to waterborne diseases.
- **Inadequate Sanitation:** Population often lack improved sanitation facilities, leading to open defecation and hygiene risks.

e. **Institutional and Governance Challenges:**

- **Regulatory Weakness:** Weak regulatory frameworks can lead to substandard WASH services, necessitating stronger regulations.
- **Capacity Building:** Varying local institutional capacities demand capacity-building efforts for effective service delivery.

f. **Climate Change and Environmental Vulnerability:**

- **Water Source Vulnerability:** Climate change impacts, like altered rainfall patterns and glacial melt, affect water availability and quality.
- **Sanitation Resilience:** Extreme weather events can damage sanitation infrastructure and harm water sources, emphasizing the need for climate-resilient systems.

g. **Data Gaps and Monitoring Challenges:**

- **Data Availability:** Limited data availability hinders planning and decision-making, requiring reliable data for targeted interventions.

- **Compromised Data Quality:** Inaccurate or incomplete data can compromise the effectiveness of monitoring and decision-making processes.
- **Monitoring and Accountability:** Establishing mechanisms for consistent monitoring, reporting, and accountability is challenging, particularly in remote areas.

h. **Financial Disparities:**

- **Limited Financial Resources:** Challenges related to funding and financial resource allocation impact the implementation of WASH projects and sustainability efforts. Ensuring equitable access to financial resources is essential for addressing these disparities and achieving WASH goals.

7.2 Theme Design

Identification of the challenges has clearly indicated the seven key areas that needs to be addressed. Hence, the seven process themes which leads to the outcome of “safely managed status” is proposed within the SDP. These themes, which are in line with JSR thematic division, have been carefully selected to guarantee the service delivery towards the "safely managed" status, ensuring accessibility and inclusivity for all.

These seven themes are not isolated; they are interconnected. The outputs of one theme can serve as inputs for others, creating a holistic and integrated approach to WASH development. This interconnectedness allows for constructive collaboration and maximizes the impact of interventions across the entire WASH spectrum. When outlining the activities within the SDP, considering seven distinct themes, a systemic approach has been adopted from the learnings of JSR.

The adoption of a thematic approach is motivated by the desire to break down the complexity of WASH challenges into manageable and measurable components. This approach facilitates a systematic and structured method for addressing the multi-variable nature of WASH, enabling more effective planning, implementation, and monitoring of activities. Through this thematic lens, SDP aims to ensure that WASH services are not only improved but also sustainable, inclusive, and resilient to the evolving needs and challenges of communities.

Each thematic process incorporates the integration of technological advancements, innovation, and research and development (R&D). The central focus of every thematic chapter revolves around the optimization of processes. The division into thematic areas is a product of a systems thinking approach and has been carefully considered as follows:

- **Understanding Complexity:** WASH services require a robust system to function long term. Delivering these services reliably and consistently over time is far more complex and demanding than simply constructing WASH infrastructure.
- **Interconnectedness:** A complex network of people and factors need to work effectively together to deliver water and sanitation services over time: these make up the WASH system.

- **Sustainability:** Systems thinking in WASH helps in understanding how to make water and sanitation systems sustainable. It provides useful tools, applied to real-life settings, and fleshes out a number of developmental innovations.
- **Holistic Approach:** Systems thinking helps adopt a holistic approach toward solving problems. It stems from the fact that any system is composed of different parts, and these different parts act in tandem to produce the function of the system.
- **Adaptive Implementation:** Systems thinking allows for a more adaptive implementation of policies and programmes.

7.3 Thematic Flow

Each theme plays a role in advancing towards the goal of "safely managed services." Once this goal is attained, the achieved level of safely managed services should be effectively utilized. Simultaneously, the outcome and process both must be consistently optimized to ensure improvements in service quality. This connection is visually depicted in the diagram provided below:

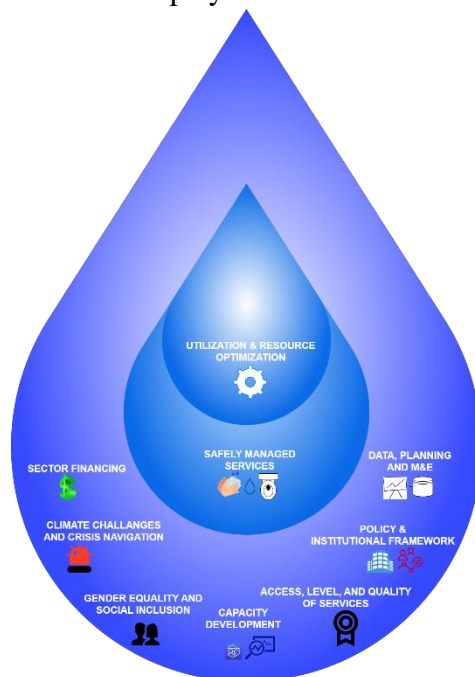


Figure 12 SDP themes

The provision of Safely Managed Services in Water, Sanitation, and Hygiene (WASH) is a critical goal for ensuring the well-being of communities and individuals. In the context of Nepal, achieving these services requires a comprehensive approach that addresses various interrelated themes. This chapter delves into how key themes, ranging from access and governance to data-driven decision-making and climate change resilience, contribute to the realization of Safely Managed Services in the WASH sector.

I. Access, Level, and Quality of Service

Improving access to WASH services is the first step in ensuring Safely Managed Services. This theme involves expanding infrastructure to reach underserved areas, elevating service levels to meet the needs of the population and guaranteeing the quality-of-service delivery. Access to clean and safe drinking water, adequate sanitation facilities, and hygienic practices is foundational for Safely Managed Services.

II. Data, Planning, and Monitoring & Evaluation

Data-driven decision-making is critical for achieving Safely Managed Services. This theme highlights the significance of collecting, analyzing, and utilizing data to inform planning and M&E systems. Accurate data helps identify areas in need of improvement and measure progress toward WASH goals.

III. Capacity Development

Capacity building is fundamental for delivering Safely Managed Services effectively. This theme addresses the need for developing skills and capabilities within the WASH sector, including training for technicians, engineers, and community leaders. A skilled workforce is essential for the maintenance and operation of WASH infrastructure.

IV. Policy and Institutional Framework

Effective governance structures and institutions are essential for managing and delivering WASH services. The policy and institutional framework theme emphasize the importance of clear regulations, accountability mechanisms, and coordination among various stakeholders. A well-defined framework ensures that WASH services are provided efficiently, equitably, and sustainably.

V. Sector Financing

Financing is essential for the sustainability of WASH initiatives. The sector financing theme explores innovative financing mechanisms and optimization strategies to ensure adequate resources for Safely Managed Services. Adequate funding is crucial for infrastructure development, maintenance, and continuous improvement.

VI. Gender Equality, Diversity, and Social Inclusion

Ensuring that WASH services are accessible and equitable for all members of society is a core principle of Safely Managed Services. The GESI theme emphasizes the integration of gender equality, diversity, and social inclusion principles into WASH initiatives. This ensures that marginalized and vulnerable groups have equal access to services and decision-making processes.

VII. Climate Change and Crisis Navigation

Recognizing the impacts of climate change and unforeseen crises, this theme integrates strategies for resilience and adaptability within the WASH system. Safely Managed Services must withstand environmental challenges and navigate crises effectively. Climate-resilient infrastructure and disaster preparedness are key components of this theme.

The realization of Safely Managed Services in the WASH sector of Nepal is a multidimensional endeavour that requires the integration of various themes. Access, governance, data-driven decision-making, capacity building, GESI, climate resilience, and financing are all interconnected aspects that contribute to the goal of providing safe and sustainable WASH services to all. By addressing these themes comprehensively and holistically, Nepal can make significant strides toward achieving Safely Managed Services and improving the well-being of its population. The key actions envisioned under each theme has been listed in ANNEX I

8. THEME 1: ACCESS, LEVEL AND QUALITY OF SERVICE

8.1 Background

Access to clean and safe drinking water, sanitation facilities, and hygienic practices lays the foundation for improving public health, enhancing overall well-being, and achieving Sustainable Development Goals (SDGs). Elevating service levels to meet the diverse needs of the population and ensuring the consistent delivery of high-quality services are key objectives within this theme. This chapter explores the multifaceted efforts made in Nepal to enhance access, raise service levels, and maintain the quality of WASH services to advance the nation's health and development agenda.

8.2 Definitions

a. Access:

A comprehensive understanding of access involves obtaining specific WASH services at defined quality levels, with manageable inconvenience and costs, while having the necessary information. "Having access" means having the potential to use services when needed, while "gaining access" involves effectively using the services.

- **Having Access:** Having access refers to the theoretical capacity of utilizing a WASH service. It implies that the necessary WASH facilities are in place, available, and supported by operational systems that enable people to use these services after coming into contact with them. Having access signifies that the potential to engage with WASH services exists and is ready for utilization.
- **Gaining Access:** Gaining access pertains to the actual procedure of entering the processes of utilizing WASH services. When someone gains access, it signifies that they have effectively utilized the WASH service. This definition highlights the act of using and benefiting from water, sanitation, and hygiene facilities. It denotes the entry into, and utilization of, WASH services.

Achieving equitable WASH access involves overcoming barriers such as financial, organizational, social, and cultural obstacles. This requires addressing both supply-side and demand-side factors. On the supply side, resources should be allocated based on needs, population size, and income distribution, rather than historical patterns. Policies should prioritize underserved regions. On the demand side, affordability, knowledge, cultural norms, and indirect costs must be considered.

Access to Water Supply: This refers to the availability of safe and potable water for drinking, cooking, personal hygiene, and other domestic purposes. It implies having reliable sources of water that are free from contamination, pollutants, and disease-causing agents.

Access to Sanitation: Sanitation access involves the availability of adequate and hygienic facilities for the safe disposal of human waste, including toilets and sanitation infrastructure. It includes facilities that prevent open defecation, which can lead to the contamination of water sources and the spread of diseases.

Access to Hygiene: Hygiene access relates to the availability of education, information, and resources necessary for practicing good hygiene behaviors. This includes promoting behaviors such as proper handwashing with soap, personal cleanliness, safe food handling, and menstrual hygiene

management. Adequate hygiene practices are essential for preventing the transmission of diseases and maintaining overall well-being.

b. Service level

Service level in the context of WASH refers to the quality and quantity of services provided to individuals, households, and communities related to clean water supply, sanitation facilities, and hygiene practices. It measures the extent to which WASH services meet the needs and expectations of the people they serve. Service levels are used as indicators to assess the effectiveness and impact of WASH interventions and programs.

In each component of WASH, service levels can be defined as follows:

Water supply Service Level: This refers to the quality, quantity, reliability, and availability of water supply to meet the demand of individuals and communities. It includes factors such as the distance to water sources, the quantity of water available per person, the reliability of water supply, and the quality of the water provided. Higher service levels ensure that people have access to a sufficient quantity of safe and potable water for drinking, cooking, and personal hygiene.

Sanitation Service Level: Sanitation service levels encompass the availability and adequacy of sanitation facilities that enable safe disposal of human waste. It includes factors such as the presence of toilets, their cleanliness and functionality, and the separation of waste from human contact. Higher service levels aim to eliminate risk of fecal contaminants along the sanitation service chain (containment, conveyance, and treatment) and ensure that people have access to hygienic and private sanitation facilities.

Hygiene Service Level: Hygiene service levels focus on the promotion of behaviors and practices that contribute to good health and well-being. This includes proper handwashing with soap, menstrual hygiene management, safe food handling, and personal cleanliness. Higher service levels involve widespread adoption of these behaviors, which help prevent the spread of diseases and improve overall hygiene.

c. Ladders

Service levels are often categorized into different tiers or "ladders" to indicate varying degrees of service quality and accessibility. These tiers help stakeholders, policymakers, and practitioners assess the progress made in providing adequate WASH services to communities. They also provide a framework for setting targets and goals to improve access and service quality over time. The concept of service levels presents the importance of not only increasing access to WASH services but also ensuring that the services provided meet certain standards of quality and reliability.

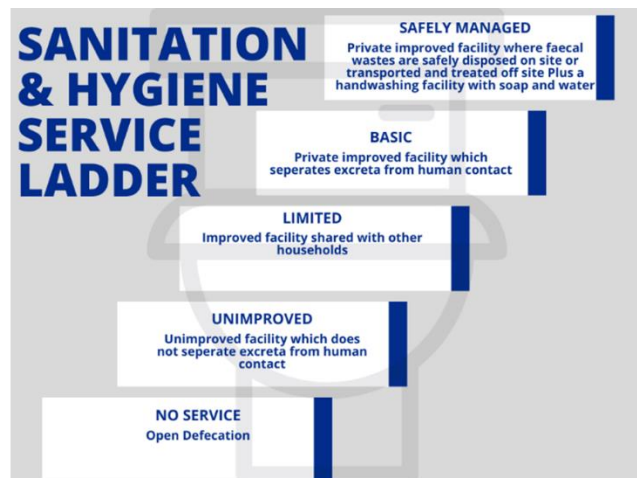
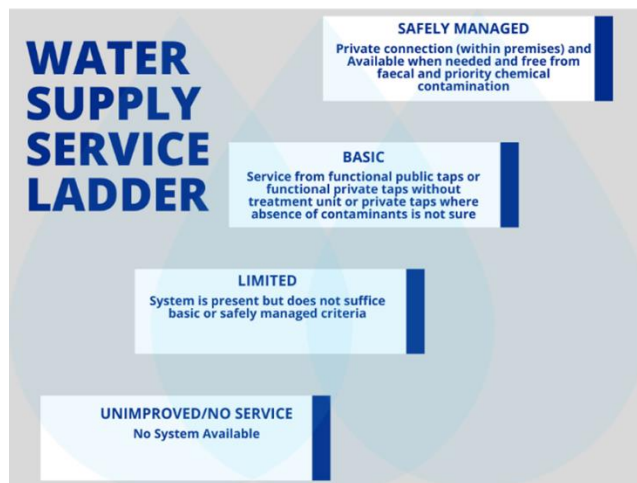


Figure 13 Water, Sanitation and Hygiene Service ladder as delineated in NWASH MIS

WASH in School

WATER SUPPLY SERVICE LEVEL			SANITATION SERVICE LEVEL			
Advanced	Adequate Capacity of Water Tank	No Fecal contamination	Advanced	Number of usable toilets for girls with MHM facility > 0	Number of usable disable friendly toilet > 0	Limited
Adequate water availability	Physically intact (excluding disables friendly taps) > 0	No Priority chemical contamination	Number of usable toilets for boys > 0			Number of usable common toilet + Number of toilets with minor repair required + Number of toilets with major repair required + Number of toilets with reconstruction required > 0
Basic	Improved	Limited	Basic	Number of usable toilets for girls with or without MHM facility > 0	Number of usable disable friendly toilet > 0	No Service
Adequate water availability		Not applying other conditions				
		No Service				
		No System Present				

HYGIENE SERVICE LEVEL					
Advanced	Soap present in Handwashing facility		MHM products provided in the school		Basic
Adequate water Availability					Adequate water Availability
Advanced	MHM education given in the school		Number of usable disable friendly Handwashing facilities > 0		Limited
Adequate Capacity of Water Tank			Incinerator for MHM available		
					Adequate water Availability
					No Service
					No Hygiene Related Service available

Figure 14 Service Level of Water, Sanitation, Hygiene for WinS (as defined by NWASH MIS)

WASH in HCF

Water Supply Service level at HCF				Sanitation Service Level at HCF		
Basic	Adequate water availability	Existing Capacity of Water tank \geq Required Capacity	No Service	Basic	Number of usable toilets for male ≥ 1	Limited
			No Fecal contamin...	No System Present		
Improved	No Priority chemical contamination		Limited	Number of usable toilets for female with MHM facility ≥ 1	Number of usable disable friendly toilet ≥ 1	No service
			Otherwise			Otherwise

Hygiene Service Level at HCF					
Basic	[Alcohol based rub present in point of care] OR [Soap present in Handwashing facility and Adequate Tank Capacity and Adequate Water Availability]	Number of usable toilets for male ≥ 1	Number of usable toilets for staff ≥ 1	Number of usable disable friendly toilet ≥ 1	No Service
					Usable toilets = 0
	Number of usable toilets for female with MHM facility ≥ 1	Adequate Number of usable handwashing facilities present at point of care		Limited	
				Otherwise	

Environmental Cleaning Service Level at HCF				SWM Service Level at HCF		
Basic	Adequate Water availability	Protocol for environmental cleaning adopted	No Service	Basic	Number of bins ≥ 3	Limited
			Protocol for environmental cleaning - not available	Staff for environmental cleaning - not available		
	Staff for environmental cleaning available		Limited		Mechanism available for Sharp and infectious waste separation and disposal	Number of bins = 2
			Otherwise			No Service
						Otherwise

Figure 15 Service level of Water, Sanitation, Hygiene, Solid Waste and Environment Cleaning (as defined in NWASH MIS)

WASH in public place

Advanced					Basic		Limited
Status of Toilet construction in public place - Existing	At least one toilet the provision for people with limited mobility		At least one toilet the provision for Children	No blocks without handwashing facilities	Status of Toilet construction in public place - Existing	Number of male toilets in recommended public place > 0	Status of Toilet construction in public place - Existing
Number of male toilets in recommended public place > 0	Adequate water available in all handwashing facilities and toilets		water tank availability	big enough water tank available which can reserve sufficient water for one day	Number of female toilets in recommended place > 0	Soap available in all handwashing facilities	
Number of female toilets in recommended place > 0	Soap available in all handwashing facilities	Adequate water available in all handwashing facilities and toilets		water tank availability	No blocks without handwashing facilities	Adequate water available in all handwashing facilities and toilets	Otherwise

Figure 16 WASH service level of public place (as defined in NWASH MIS)

The infographic displayed above illustrates the service ladder, a concept adopted from the Joint Monitoring Programme (JMP), which plays a central role in the Municipal WASH Planning and reporting process. This definition of service levels, as outlined on the ladder, will persist as a fundamental reference point throughout this SDP. It serves as the basis for assessing and articulating the varying degrees of WASH services within the context of planning and development.

d. Service level improvement

Service level improvement in WASH (Water, Sanitation, and Hygiene) refers to the efforts and initiatives aimed at enhancing the quality, availability, and accessibility of essential WASH services for individuals, households, and communities. It involves raising the standards of service provision in terms of water supply, sanitation facilities, and hygiene practices to better meet the needs and expectations of the population. Service level improvement is a crucial aspect of sustainable development and public health promotion.

Key elements of service level improvement in WASH include:

- 1. Enhancing Accessibility:** Service level improvement involves ensuring that WASH services are accessible to all members of the community, including marginalized and vulnerable populations. This may require reducing physical barriers, providing facilities for people with disabilities, and addressing gender-specific needs and social barriers.
- 2. Increasing Service Quality:** Improving the quality of WASH services means ensuring that water is safe to drink, sanitation facilities are hygienic and functional, and hygiene practices are promoted effectively. This may involve water treatment, regular maintenance of sanitation facilities, and behavior change campaigns.
- 3. Expanding Coverage:** Service level improvement includes efforts to extend the reach of WASH services to underserved or remote areas. This could involve building new infrastructure,

extending water supply networks, and establishing sanitation facilities in areas without adequate access.

4. **Promoting Sustainability:** Sustainable service level improvement considers long-term maintenance and operation of WASH facilities. It also involves training local communities or operators to manage and maintain the facilities, ensuring that the services remain effective and functional over time.
5. **Behavior Change:** Service level improvement includes promoting positive hygiene behaviors such as proper handwashing, safe food handling, and menstrual hygiene management. Behavioral change initiatives raise awareness and educate communities about the importance of adopting healthy practices.

e. **Quality of Service Delivery**

in the context of WASH (Water, Sanitation, and Hygiene) refers to the overall excellence and effectiveness of the services provided by the WASH utility or service provider to individuals, households, and communities. It involves several essential elements that determine the satisfaction and well-being of the service recipients. The quality-of-service delivery is a critical factor in ensuring that WASH services not only meet basic needs but also contribute to improved health, dignity, and overall quality of life. The quality-of-service delivery can be defined as follows:

Water Supply Service Delivery Quality:

- **Safe Water:** Ensuring that the water provided is safe for consumption, meeting established health and safety standards, and free from contaminants that could harm human health.
- **Reliability:** Consistency in the availability and delivery of water to meet the demands of individuals and communities, minimizing disruptions and downtime.
- **Pressure and Flow:** Providing adequate water pressure and flow rates to meet various domestic and community needs, such as drinking, cooking, and sanitation.
- **Response Time:** Timely response to service disruptions, leaks, and complaints from consumers to minimize service interruptions.

Sanitation Service Delivery Quality:

- **Hygiene and Cleanliness:** Maintaining sanitation facilities in a clean and hygienic condition, ensuring regular cleaning, and preventing foul odors and disease transmission.
- **Functionality:** Ensuring that sanitation facilities, such as toilets and sewage systems, are in good working order and not prone to frequent breakdowns.
- **Privacy and Safety:** Providing secure and private (not shared) sanitation options that protect the dignity and safety of users, particularly women, children, and vulnerable populations including OHS.
- **Response Time:** Timely response to service disruptions, leaks, and complaints from consumers to minimize service interruptions.

Hygiene Promotion Service Delivery Quality:

- **Effective Communication:** Implementing behavior change communication campaigns that use culturally sensitive messaging, educational materials, and community engagement to promote healthy hygiene practices.
- **Behavioral Impact:** Measuring the impact of hygiene promotion efforts on actual behaviors, such as improved handwashing with soap, safe food handling, and menstrual hygiene management.
- **Community Engagement:** Actively involving communities in the planning and implementation of hygiene promotion initiatives, ensuring local relevance and ownership.
- **Sustainability:** Designing hygiene promotion programs that lead to sustained behavioral change and long-term improvements in hygiene practices.

8.3 Thematic Scan

This presents the review of the current state of WASH services in Nepal, including key statistics and indicators related to access, service level and service quality.

8.3.1 Water, Sanitation and Hygiene

Access to Safe Water: While significant progress has been made, a large proportion of the population still relies on unimproved water sources, leading to waterborne diseases and health risks.

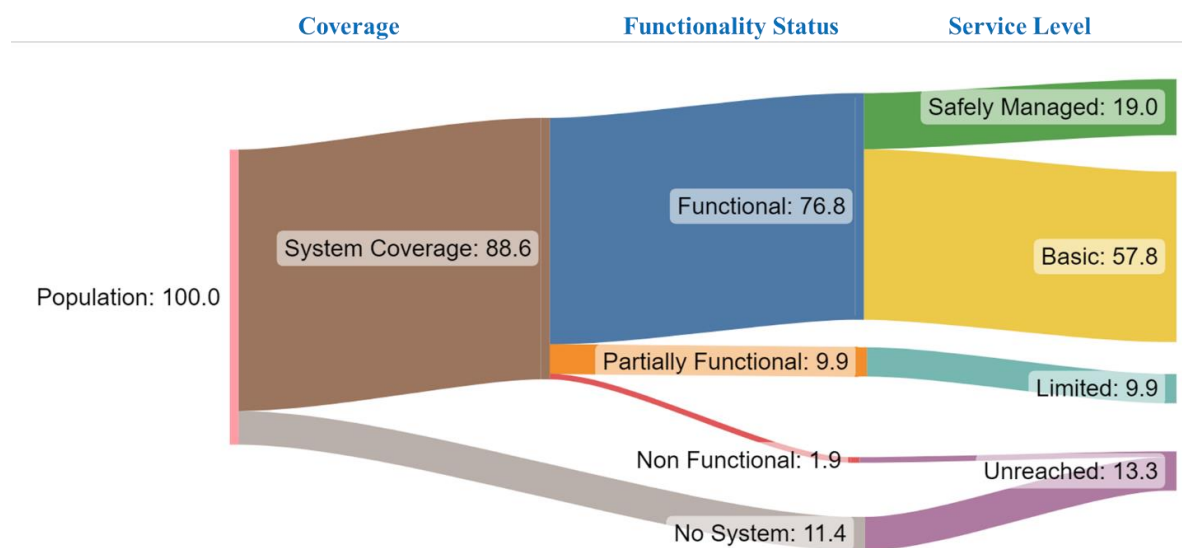


Figure 17 Coverage, Functionality and Service Level of Water (Source Census (2021), MICS (2019) and NWASH MIS(2023))

Functionality is the major problem that compromises the service delivery. This has significantly hampered the delivery of services, impacting the overall effectiveness and reliability of service provision.

Sanitation Facilities and Open Defecation: Open defecation remains a challenge in some parts of Nepal, contributing to health hazards and environmental pollution. The availability and usage of improved sanitation facilities vary across regions and communities.

The following Shit Flow Diagram (SFD) visually represents the entire sanitation service chain, from toilet usage to the eventual disposal or treatment of human waste. It provides a comprehensive overview of how sanitation services are managed in Nepal.

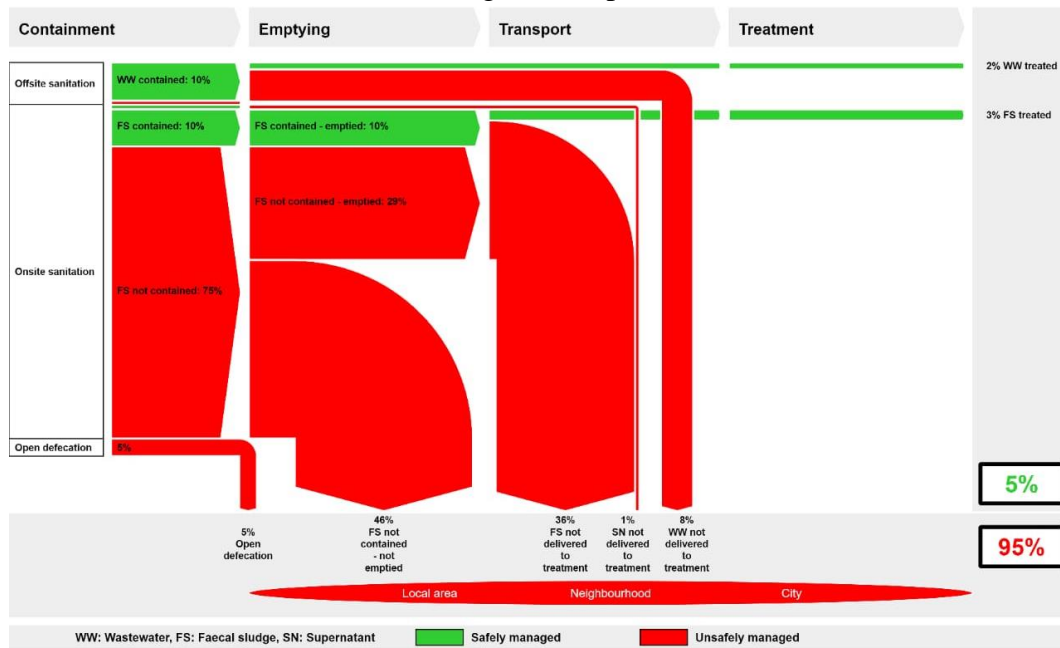


Figure 18 SFD of Nepal (JSR (2023))

Hygiene Behaviors and Practices: The adoption of handwashing with soap, menstrual hygiene management, and safe food handling practices are critical aspects of hygiene.

8.3.2 WASH in School

The SDP highlights the importance of WASH facilities in schools, emphasizing their role in promoting a healthy and hygienic learning environment. They help prevent waterborne

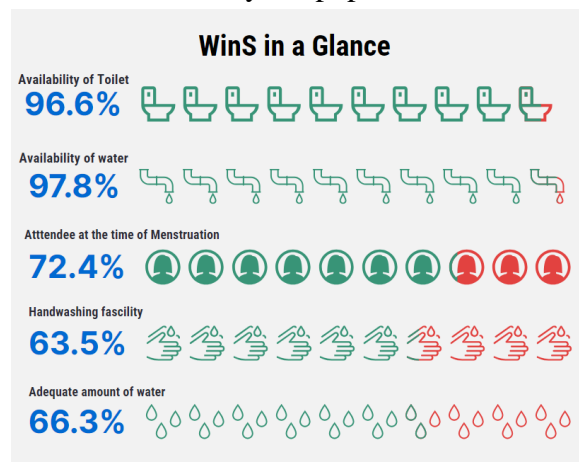


Figure 20 Wins in a Glance (Source: NAWASH MIS (2023))

8.3.3 WASH in HCF

Access to WASH facilities in healthcare facilities is essential for infection control, patient comfort and dignity, and enabling healthcare providers to deliver safe and effective care. These facilities are crucial in reducing disease transmission, enhancing the patient experience, and maintaining the quality and safety of healthcare services

The COVID-19 pandemic made gloves, masks, and hand hygiene protocols mandatory. However, the lack of adequate water supply in one-third of healthcare facilities and the absence of handwashing facilities in one-fourth of them indicate the need for accelerated interventions beyond business as usual.

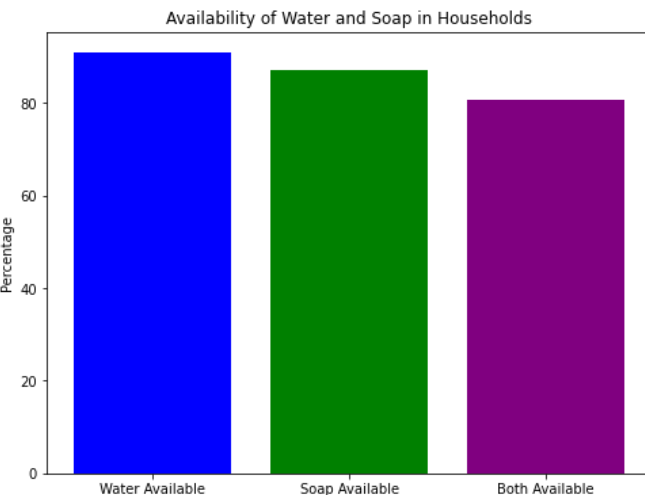


Figure 19 Soap and Water availability in household level (MICS(2019))

diseases, reduce absenteeism, and improve attendance. These facilities, with a focus on girls' needs, uphold students' dignity by providing private spaces for menstrual hygiene management. Furthermore, they instill good hygiene habits early in life, benefiting students in the long term. The NAWASH MIS employs a four-tier ladder, aligning with the three-star approach, to assess and standardize service access levels in the WinS framework for consistency across educational institutions.

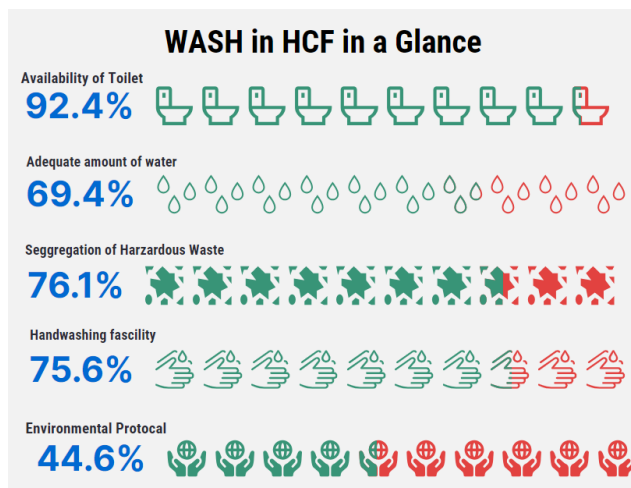
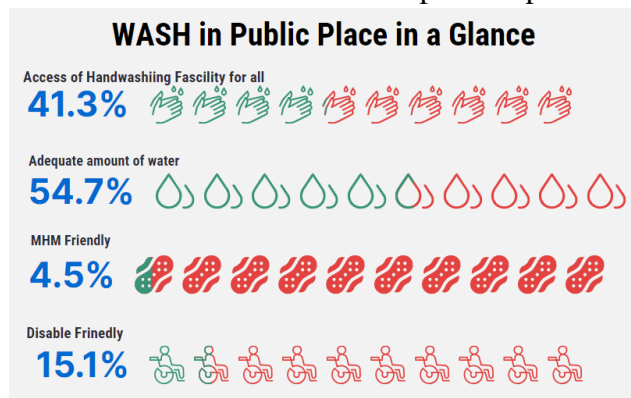


Figure 21 HCF in a glance (Source: NAWASH MIS, 2023)

8.3.4 WASH in Public Place

Access to WASH facilities in public spaces is essential for public health, social inclusion, and



environmental responsibility. These facilities provide clean and safe sanitation options, reducing the risk of waterborne diseases and maintaining hygiene standards. They also ensure accessibility for diverse individuals and contribute to cleaner, more sustainable communities by discouraging open defecation and reducing pollution.

Figure 22 WASH in public place (Source: NWASH MIS, 2023)

8.3.5 Disparities and Social Inclusions

Disparities in WASH services are often pronounced among marginalized and vulnerable groups, including rural communities, women, children, and people with disabilities.

The data shows regional disparities in access to WASH services in Nepal. Provinces such as Bagmati, Gandaki, Lumbini, Karnali, and Sudurpaschim have high sanitation coverage of over 90%, indicating better access to facilities. In contrast, Koshi and Madhesh Province (72%) show relatively lower coverage, indicating disparities between provinces. There are differences in WASH service access between geographic regions. Himalayan and Hilly regions exhibit exceptional sanitation coverage, exceeding 90%, while the Terai region lags with only 81.5% coverage of household sanitation facilities. This highlights the need to address inequalities in WASH services based on geography.

The lack of space for two pits in toilets affects 41.1% of households in the Madesh province, 25.9% in rural municipalities, 31.3% in municipalities, and 47.7% in metro/sub-metropolitan cities. This limitation can impact marginalized communities that often live in congested urban areas or remote regions.

According to the data, a vast majority of households, 93.7%, do not have toilets with disabled-friendly structures. This suggests that a large proportion of households do not have facilities that cater to the needs of individuals with disabilities. This situation is a cause for concern as it denies persons with disabilities the right to access proper sanitation facilities, which are essential for their dignity, health, and well-being.

The fact that more than 7% of girls do not use toilets during menstruation suggests that there are barriers or challenges related to menstrual hygiene management. Girls may face cultural taboos, lack

of access to clean and private facilities, or inadequate knowledge about proper hygiene practices during menstruation.

8.3.6 Technology Typology

a. Sanitation

71.9% of toilets in Nepal utilize the pour flush system, 17.9% consist of pit latrines with a slab, 5.8% are flush toilets, and 4.3% are composting toilets. The province with the highest proportion of pit latrines is Sudurpaschim, with 40.1%, followed by Lumbini with 29.2%. A majority of households, over 50%, reported that their pits have not been filled, whereas in Lumbini, 81.2% of households reported that their pits have been filled up. Unfortunately, the management of toilet waste is unsatisfactory, as it is often disposed of in open spaces without any proper processing and suitability analysis is not considered in WASH Planning.

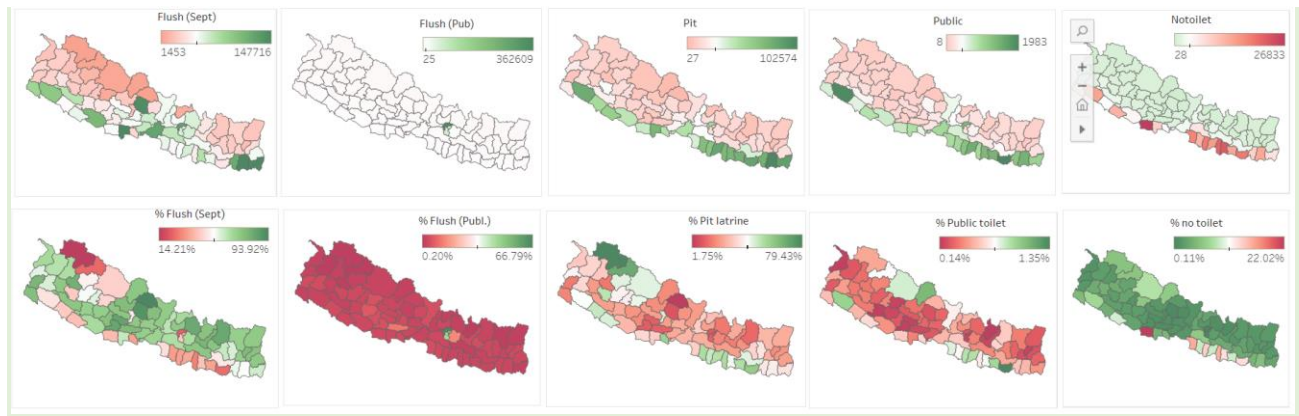


Figure 23 Toilet status (Source Cencus(2021)analyzed by UNICEF)

b. Water Supply

Technology in water infrastructure in Nepal include gravity fed (76.4%), Lift pumping (13.3%), deep tube well (6.5%), mixed project (2%) and groundwater system (1.7%). In Himalayan region, (98.4% gravity fed, 1.3% lift pumping and 0.3% groundwater. In hilly region, 80.4% gravity fed systems, 15.6% lifting, and 2.3% mixed systems and in Terai 44.6% deep tube well, 26.4% gravity fed, 17.75 % lift pumping.

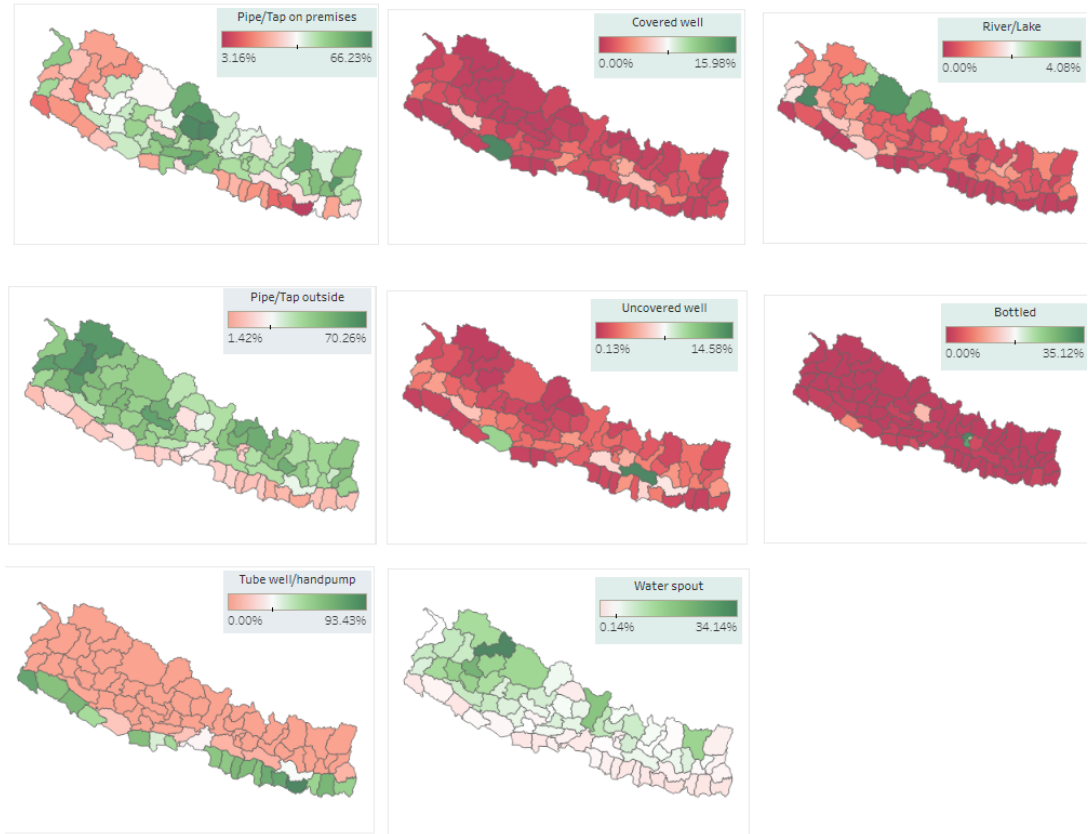


Figure 24 Water Supply status (Census (2021), analyzed by UNICEF)

c. Solid waste

Solid waste management is crucial for comprehensive environmental and public health improvement. The integration of SWM with WASH involves coordinated planning, waste segregation, and hygienic collection and transport and co-treatment of waste to prevent contamination of water sources. Community education on responsible waste disposal, along with composting and recycling programs, can reduce pollution and resource depletion. Moreover, ensuring public places with solid waste facilities also offer clean public toilets and handwashing stations promotes overall hygiene and sanitation.

Table 1 Percentage of Municipalities Reporting the Management of Waste Collected

Categories	Percentage of Municipalities Reporting							Municipalities Reporting (N)
	Manure Making	Pile-up in Landfill Site	Pile-up in the River Side	Open Dumping	Burning	Send for Re-cycle	Excavator	
Metropolitan City	40.0	60.0	20.0		40.0	40.0		5
Sub-Metropolitan City	20.0	60.0	20.0	30.0	30.0	50.0	10.0	10
Municipality	8.6	47.7	27.9	20.8	32.0	11.7	10.2	197
Overall	9.9	48.6	27.4	20.8	32.1	14.2	9.9	212

(Due to multiple responses, total may not add-up to 100)

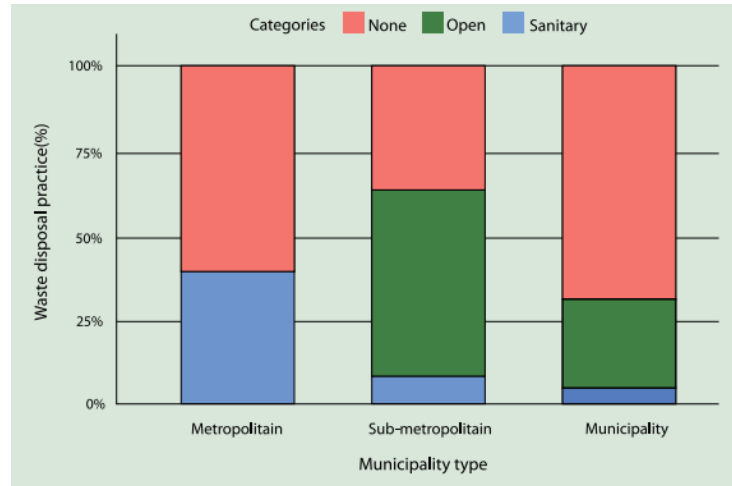


Figure 25 Waste disposal vs Municipality category

8.4 Identification of Existing Challenges and Opportunities

The following infographs shows the SWOT analysis, which is a strategic planning tool used to identify this theme's internal strengths and weaknesses, as well as external opportunities and threats.

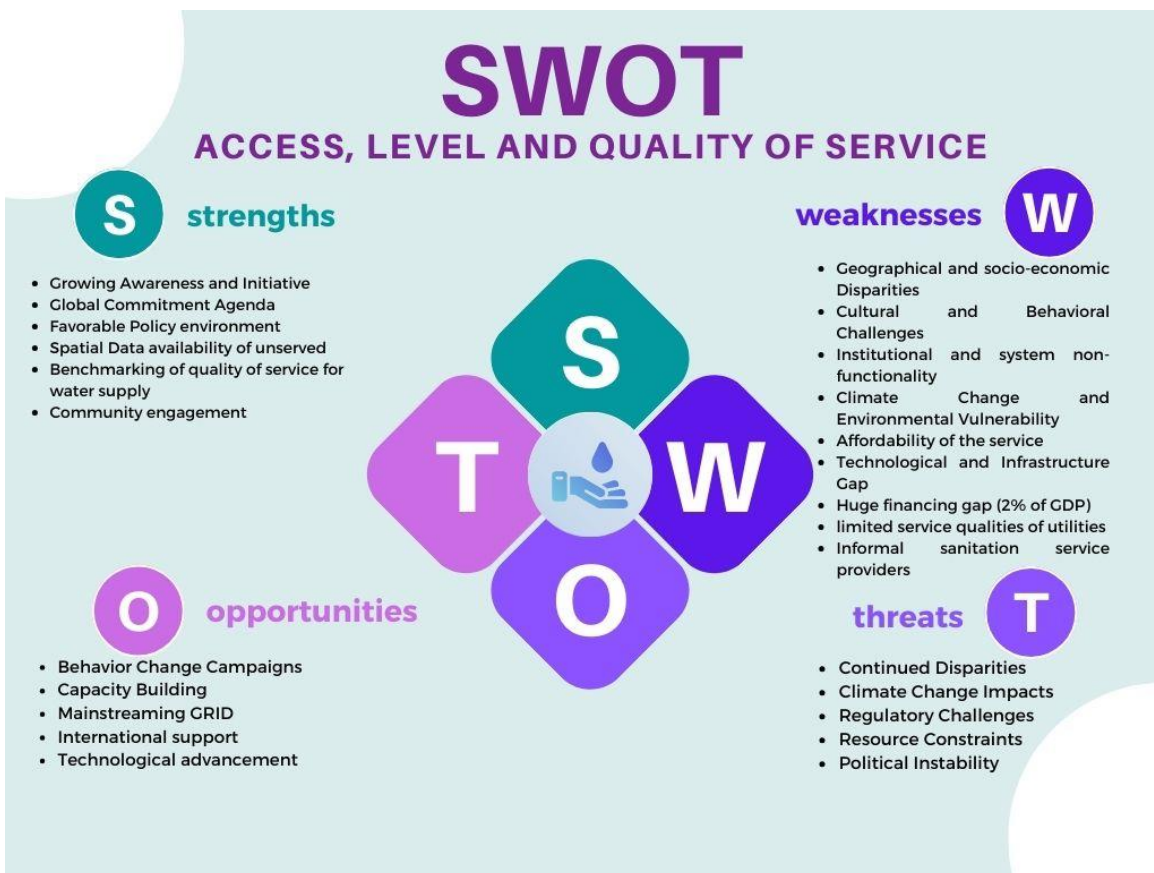


Figure 26 SWOT of Access, Level and Quality of Service theme

Based on current situation and this SWOT analysis, this theme's goals are delineated.

8.5 Guiding Principles

- a) **Universal Access and Equity:** Ensure equitable access to safe and clean water and sanitation services for all, regardless of location or socio-economic status, aligning with national priorities and global sustainability goals.
- b) **Behavioral Change and Hygiene Promotion:** Emphasize behavioral change through comprehensive hygiene education programs, promoting proper practices such as handwashing, menstrual hygiene management, and safe food handling.
- c) **Infrastructure Development and Sustainability:** Develop and maintain infrastructure continuously with a focus on climate-resilient design principles to mitigate the impact of climate change.
- d) **Quality of Service Delivery:** Elevate the quality and reliability of WASH services for reliable, water quality standards, and provide prompt responses, even during crises and disasters.

8.6 Theme Goal

Long-term Goal: To ensure universal access, enhance infrastructure, promote behavior change, ensure equitable benefits, and continuously improve service levels and quality of service, all aligned with national priorities, including SDG.

Goal for the SDP period (2024-2043):

Outcome 1: Universal Access to Safe and Clean Water

Goal 1: Achieve universal access to safe and clean water sources for all households, schools, healthcare facilities, and public spaces by 2043.

Desired Outcomes:

1. **Community Access:** All communities, regardless of geographical location, have reliable access to improved water sources that meet national quality standards.
2. **Household Access:** Every household has access to an adequate and reliable supply of clean water for drinking, cooking, and hygiene purposes regardless of any form of disparities.
3. **Schools and Healthcare Facilities:** Schools and healthcare facilities have access to safe water sources, promoting a healthy learning and healing environment.
4. **Public Spaces:** Public spaces, such as markets and transportation hubs, have water facilities that cater to the needs of the population with special focus on vulnerable groups and people with disability.

Outcome 2: Improved Sanitation Facilities and Hygiene Practices

Goal 2: Ensure that every individual has access to improved sanitation facilities and practices proper hygiene by 2043.

Desired Outcomes:

1. **Household Sanitation:** All households have access to improved sanitation facilities that are safe, private, and culturally appropriate.

2. **Open Defecation Elimination:** Communities are actively engaged in campaigns to eliminate open defecation practices, promoting public health and environmental sustainability.
3. **Menstrual Hygiene Management:** Menstrual hygiene management is prioritized, ensuring that women and girls have access to clean and private facilities for menstrual hygiene.
4. **Hygiene Practices:** Proper hygiene practices, including handwashing with soap, is ingrained in daily routines, reducing the transmission of diseases.
5. **Schools and Healthcare Facilities:** Schools and healthcare facilities have access safe sanitation and hygiene promoting a healthy learning and healing environment.
6. **Public Spaces:** Public spaces, such as markets and transportation hubs, have sanitation and hygiene facilities that cater to the needs of the population with special focus vulnerable groups and people with disability.

Outcome 3: Improved Service Level

Goal 3: Improve quality and accessibility of WASH services to meet the diverse needs of communities by 2043.

Desired Outcomes:

1. **Service Enhancement:** Service level improves continuously, accessibility and satisfaction among users of WASH services increases, and the service level meets evolving community requirements.
2. **Water Quality:** Water sources consistently meet or exceed national water quality standards, reducing waterborne diseases and health risks.
3. **Resilient Sanitation service chain-** Standardization in containment is implemented, conveyance mechanisms are enhanced, and wastewater treatment facilities are optimized. Resilient sanitation infrastructures are established that eliminates environmental and health risks across the entire sanitation service chain.
4. **Behavioral Change:** Hygienic behavior is improved consistently minimizing health risks.

Outcome 4: Enhanced Quality of WASH Service Delivery

Goal 4: Elevate the quality of WASH service delivery to meet and exceed national standards by 2043.

Desired Outcomes:

1. **Service Reliability:** WASH services are consistently reliable, ensuring uninterrupted access to safe water and sanitation facilities for all communities, even during adverse conditions.
2. **Sanitation Excellence:** Improved sanitation facilities adhere to the highest standards of safety, hygiene, and environmental sustainability, contributing to healthier living conditions.
3. **Timely Response**⁵: WASH services provide prompt responses to emergencies, ensuring the availability of clean water and sanitation facilities during crises and disasters.

⁵ The COVID-19 pandemic has highlighted the critical importance of timely response and the continuity of services, particularly in emphasizing the role of WASH in preventing infections through effective hand hygiene.

8.7 Career levels:

Service providers' career progression is evaluated based on the quality of service, operational efficiency, and management effectiveness. This assessment helps to determine where they stand along their career path, which is a crucial benchmark as regulatory enforcement may not be initially feasible, and service providers' organizational culture is still evolving. The regulator's role will be more of a facilitator, ensuring that service providers advance along a career trajectory through performance tracking.

Service providers are categorized into four levels:

- **Non-functional:** Falling below mandatory requirements.
- **Functional:** Meeting mandatory requirements but having a high risk of non-functionality due to institutional vulnerabilities.
- **Performing:** Demonstrating good performance with potential for further optimization.
- **Efficient:** Optimized, exhibiting a corporate culture, and achieving high scores in global benchmarks. Utility ensures they can operate during the pandemics like COVID-19, has the business continuity plan available.

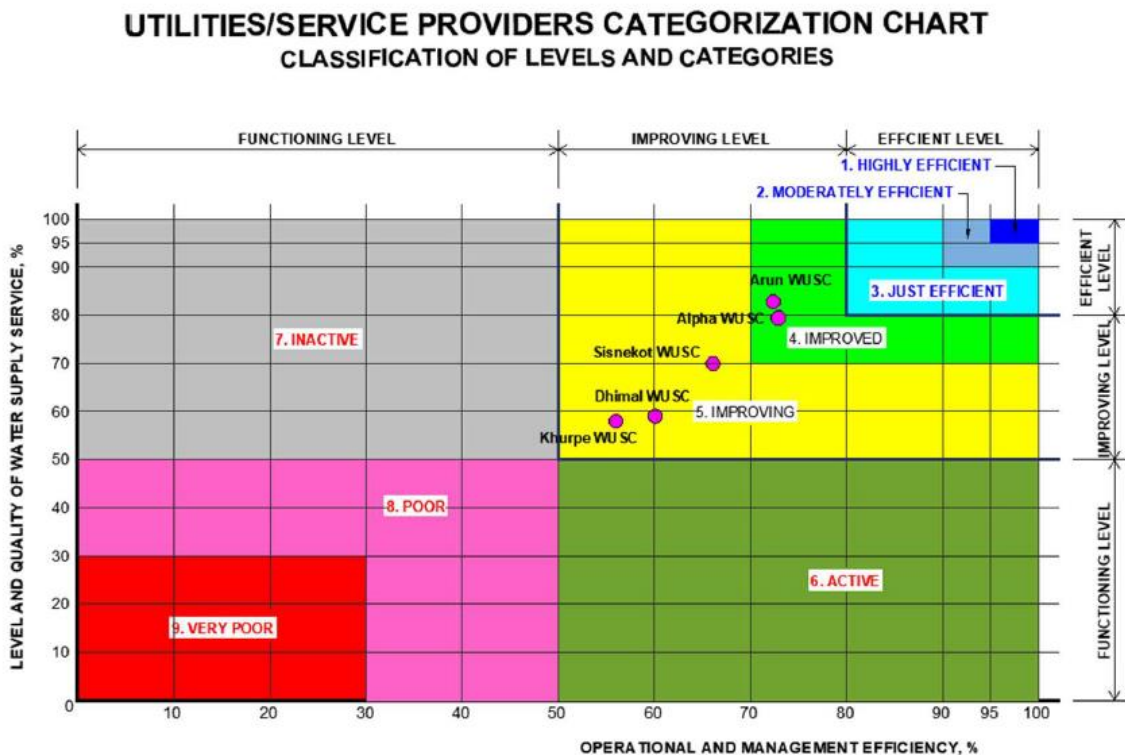


Figure 27 Utilities, Service Provide Categorization Chart

8.8 Project categorization:

Project categorization has been determined according to asset creation, ownership, service delivery, and regulation, with detailed information available in Annex (IV).

8.9 Strategic Approach and Interventions

To achieve the goals set for the improvement of access to and the level and quality of WASH services over the next two decades, it is imperative to identify strategic approaches and interventions that address the multifaceted challenges and disparities within the sector.

a. Strategic Approach 1: Infrastructure Development, Expansion and Service Level Improvement

Interventions:

- **Rural Water Supply Schemes:** Expand and strengthen rural water supply schemes, focusing on vulnerable and underserved communities, and institutions by constructing new infrastructure, rehabilitating existing systems, and ensuring regular maintenance.
- **Urban Water Supply schemes:** Upgrade and expand urban water supply to meet growing urbanization challenges and ensure equitable access to safe water for urban populations.
- **Sanitation Facilities:** identify OD area & OD risk zones; and provide technological, SBC intervention, and targeted financing to minimize risks. Promote the construction of improved sanitation facilities in households, schools, and healthcare facilities, with a focus on areas with high open defecation rates.
- **Urban Sanitation Facilities and SWM:** Improve urban sanitation infrastructure along the sanitation value chain to address the specific challenges of urban areas effectively.
- **Climate-Resilient Infrastructure:** Incorporate climate-resilient design principles into WASH infrastructure development to mitigate the impact of climate change.
- **Enhancing Operation and Maintenance (O&M) for Sustainable WASH Infrastructure:** Implement comprehensive O&M program to ensure the long-term functionality and sustainability of newly developed and expanded WASH infrastructure
- **WinS, HCF, and Public Place:** Ensure infrastructure facility for equitable access to hygienic and inclusive WASH facilities in schools (WinS), healthcare facilities (HCF), and public places.
- **Prioritize the Completion of Ongoing Projects:** Give precedence to the timely and efficient completion of WASH projects that are already underway, ensuring a focused and strategic approach to enhance overall impact and sustainable outcomes.

b. Strategic Approach 2: Behavior Change and Hygiene Promotion

Interventions:

- **Hygiene Education:** Implement comprehensive hygiene education programs targeting schools, communities, and healthcare facilities to promote proper handwashing with soap, menstrual hygiene management, and safe food handling practices.
- **Behavioral Communication:** Utilize mass media, community engagement, and social marketing campaigns to communicate and reinforce positive hygiene behaviors and solicit public support for WASH programs.

c. Strategic Approach 3: Process standardization and optimization

Interventions:

- **Standardization of Protocols:** Develop standardized protocols and guidelines for planning, implementing, and managing WASH projects and services to ensure consistency and quality in WASH service delivery.
- **Optimization of Supply Chains:** Enhance the efficiency of supply chains for WASH infrastructure components, including spare parts, equipment, and materials, to reduce delays and ensure timely availability for maintenance and repairs.
- **Capacity Building:** Empower WASH professionals, service providers, and community members via capacity-building programs for effective management and operation of WASH systems.

d. Strategic Approach 4: Technological innovation and R&D

- **Technology Adoption:** Identify and adopt innovative technologies and solutions for water purification, sanitation, and wastewater treatment, including eco-friendly and energy-efficient options.
- **Research Initiatives:** Fund and support research initiatives to address emerging challenges and enhance WASH service delivery, with a focus on areas like water quality monitoring, sanitation innovations, and climate-resilient infrastructure.
- **Pilot Projects:** Implement pilot projects to assess the feasibility and effectiveness of new technologies and approaches before scaling them up for broader use in the WASH sector.

8.10 Cost of Theme

The costs presented in this section of the SDP are derived from a comprehensive analysis of the Key Action Points outlined in Annex 1.

(ATR- Annual Thematic Requirements, CR- Cumulative Requirements)

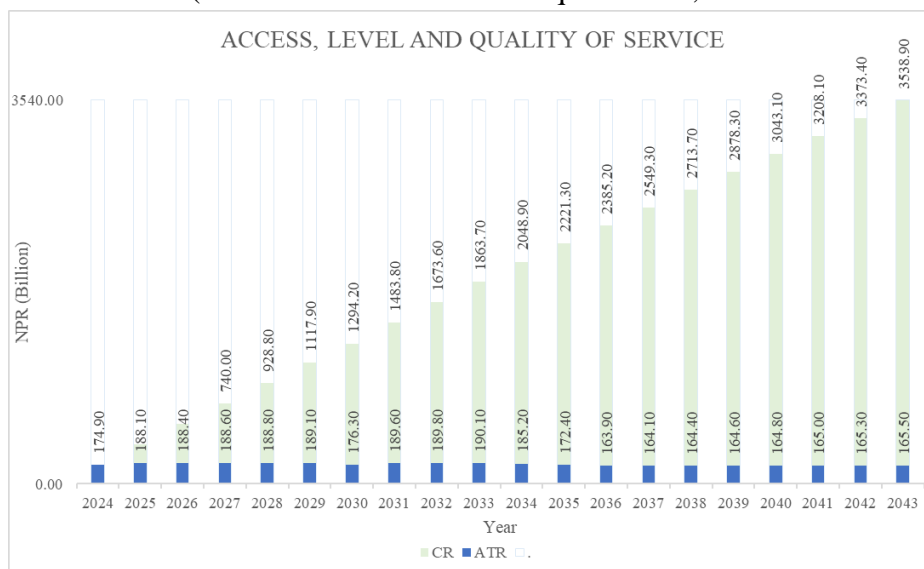


Figure 28 Annual requirements for access, level and quality of service theme

Total cost of this theme is NRs. **3538924.47** Million (in 2023 price) for 20 years period. The breakdown of each period can be found in the Chapter 16.

8.11 Significance of theme

The theme "ACCESS, LEVEL AND QUALITY OF SERVICE" in the WASH sector represents a comprehensive and holistic approach to addressing one of the most critical global challenges – ensuring access to clean water and sanitation for all. It encompasses not only infrastructure development but also behavioral change, equity, sustainability, and innovation, all aimed at improving the well-being of communities and contributing to broader development goals.

8.12 Relevancy to SDP

1. **Universal Access:** Ensuring universal access to safe and clean water is a fundamental goal. This signifies a commitment to providing essential services to every individual and community, regardless of their geographical location or socio-economic status. This goal is aligned with global sustainability objectives, such as the Sustainable Development Goals (SDGs).
2. **Public Health and Well-being:** Access to safe water and improved sanitation facilities is crucial for public health. It helps reduce the prevalence of waterborne diseases, contributes to better hygiene practices, and ultimately leads to improved overall well-being, particularly for vulnerable populations.
3. **Education and Healthcare:** The theme emphasizes providing clean water and sanitation facilities in schools and healthcare facilities. This supports a healthy learning and healing environment. Clean and safe water is essential for students' concentration and attendance, while healthcare facilities require reliable water sources for patient care and infection control.
4. **Environmental Sustainability:** The theme also focuses on eliminating open defecation and improving sanitation practices. This contributes to environmental sustainability by reducing contamination of water sources and promoting proper waste management.
5. **Equity and Inclusion:** The theme stresses the importance of addressing disparities and ensuring that vulnerable groups and people with disabilities have access to WASH services. This commitment to equity and inclusion aligns with principles of social justice and human rights.
6. **Quality of Service:** The emphasis on improving the level and quality of WASH services reflects a commitment to meeting the evolving needs of communities. This includes not only providing access but also ensuring that services are reliable, safe, and responsive to emergencies and crises.
7. **Behavioral Change:** The theme recognizes the significance of behavioral change in promoting hygiene practices. This acknowledges that infrastructure alone is not enough; people's behaviors and attitudes towards water and sanitation must also be addressed.
8. **Climate Resilience:** Incorporating climate-resilient design principles into WASH infrastructure development demonstrates a forward-looking approach to addressing the impacts of climate change on water resources and sanitation infrastructure.
9. **Service Reliability:** The commitment to reliable WASH services, even during adverse conditions, ensures that communities can count on these essential services in times of need, including during disasters.

10. Technological Innovation and Research: The inclusion of technological innovation and research initiatives demonstrates a commitment to staying at the forefront of WASH service delivery. This can lead to more efficient, sustainable, and cost-effective solutions.

8.13 Theme Risks

Risks and Proposed Mitigations for the theme:

Risk Category	Potential Risks	Mitigation Strategies
Universal Access (Outcome 1)		
Infrastructure Challenges	<ul style="list-style-type: none"> Inadequate infrastructure development, lack of maintenance. 	<ul style="list-style-type: none"> - Assess infrastructure needs regularly and invest in upgrades. - Implement comprehensive maintenance programs.
Equity and Inclusion	<ul style="list-style-type: none"> Exclusion of vulnerable groups, disparities in access. 	<ul style="list-style-type: none"> - Ensure targeted interventions for underserved communities. - Promote inclusive designs and facilities for people with disabilities.
Water Quality	<ul style="list-style-type: none"> Water sources not meeting quality standards. 	<ul style="list-style-type: none"> - Implement water quality monitoring and treatment programs. - Promote community awareness of water safety.
Improved Sanitation (Outcome 2)		
Open Defecation	<ul style="list-style-type: none"> Resistance to behavioral change, continued open defecation. 	<ul style="list-style-type: none"> • Launch awareness campaigns on the health and environmental risks of open defecation. • Engage communities in designing and adopting sanitation facilities.
Cultural Sensitivity	<ul style="list-style-type: none"> Cultural barriers to adopting improved sanitation practices. 	<ul style="list-style-type: none"> • Tailor hygiene education to respect local customs and beliefs. • Engage community leaders to advocate for change.
Menstrual Hygiene	<ul style="list-style-type: none"> Stigmatization, lack of access to facilities. 	<ul style="list-style-type: none"> • Create safe and private facilities for menstrual hygiene. • Launch education campaigns to reduce stigma.
Hygiene Practices	<ul style="list-style-type: none"> Poor adherence to hygiene practices, especially in schools. 	<ul style="list-style-type: none"> • Implement hygiene education programs in schools and communities. • Monitor and incentivize proper handwashing and hygiene.
Improved Service Level (Outcome 3)		
Service Quality	<ul style="list-style-type: none"> Inconsistent service quality and accessibility. 	<ul style="list-style-type: none"> • Establish service-level agreements and regular assessments.

Risk Category	Potential Risks	Mitigation Strategies
		<ul style="list-style-type: none"> • Address service gaps through targeted interventions.
Climate Change	<ul style="list-style-type: none"> • Vulnerability to climate-related disruptions. 	<ul style="list-style-type: none"> • Incorporate climate-resilient design principles into infrastructure. • Develop contingency plans for extreme weather events.
Infrastructure Resilience	<ul style="list-style-type: none"> • Lack of resilience in sanitation service chain. 	<ul style="list-style-type: none"> • Standardize protocols for containment and wastewater treatment. • Enhance infrastructure to withstand environmental challenges.
Enhanced Quality (Outcome 4)		
Service Reliability	<ul style="list-style-type: none"> • Interruption of services during emergencies. 	<ul style="list-style-type: none"> • Develop backup systems and emergency response plans. • Ensure spare parts availability and maintenance readiness.
Safety and Sustainability	<ul style="list-style-type: none"> • Environmental impact and safety concerns. 	<ul style="list-style-type: none"> • Adhere to international safety and sustainability standards. • Monitor and report on environmental impact.
Technological Adoption	<ul style="list-style-type: none"> • Resistance to new technologies and innovation. 	<ul style="list-style-type: none"> • Conduct pilot projects to demonstrate benefits. • Educate stakeholders on the advantages of technology adoption.

9. THEME 2: DATA, PLANNING AND M&E

9.1 Background

The effective management and sustainable development of the WASH sector in Nepal necessitates robust data collection, comprehensive planning, and rigorous Monitoring & Evaluation (M&E) mechanisms. In a sector where evidence-based practices are still evolving, the establishment of a structured framework for data-driven decision-making is imperative.

This chapter establishes need of a robust and integrated data, planning and M&E system for WASH sector in Nepal, which will enable the sector to track progress towards the SDG 6 targets and other national/sub-national goals. The WASH M&E is intended to guide the planning, implementation, monitoring and evaluation of WASH programmes and projects at all levels, and to mobilize adequate and sustainable resources for the WASH sector. It also aims to enhance coordination, partnership, advocacy, and communication among WASH stakeholders at all levels.

The interconnected roles of data, planning, and M&E are integral to other thematic areas of SDP, playing a pivotal role in attaining sectoral objectives.

Data: The data landscape within the WaSH has undergone substantial evolution over time, transitioning from traditional paper-based MIS as practiced by National Management Information Project (NMIP) to modern web-enabled Geographic Information Systems (GIS) based MIS.

Planning: The WASH sector in Nepal is currently undergoing a gradual shift towards complete integration of evidence-based planning. Despite the significant improvement in data availability, the planning methodologies have not yet fully assimilated these shifts in the data landscape. While the commendable progress in creating evidence-based municipal WASH plans nationwide is notable, it is evident that the conversion of data into persuasive tools holds immense importance in encouraging the sector's political standing and getting support.

M&E: The establishment of the Management Information System (MIS), specially N-WASH-MIS, and integration of an updated M&E framework have reoriented M&E efforts effectively. Aligning indicators with global benchmarks like joint monitoring program/GLAAS and MWIS indicators for sanitation services is crucial for standardization and assessing global position. This alignment enhances transparency, informed decision-making, and global contextualization.

The symbiotic relationships between data, planning, and M&E are instrumental components of SDP's various dimensions. Recognizing the value of data-driven insights, evidence-based planning, and thorough M&E practices is essential for the successful achievement of sectoral aspirations.

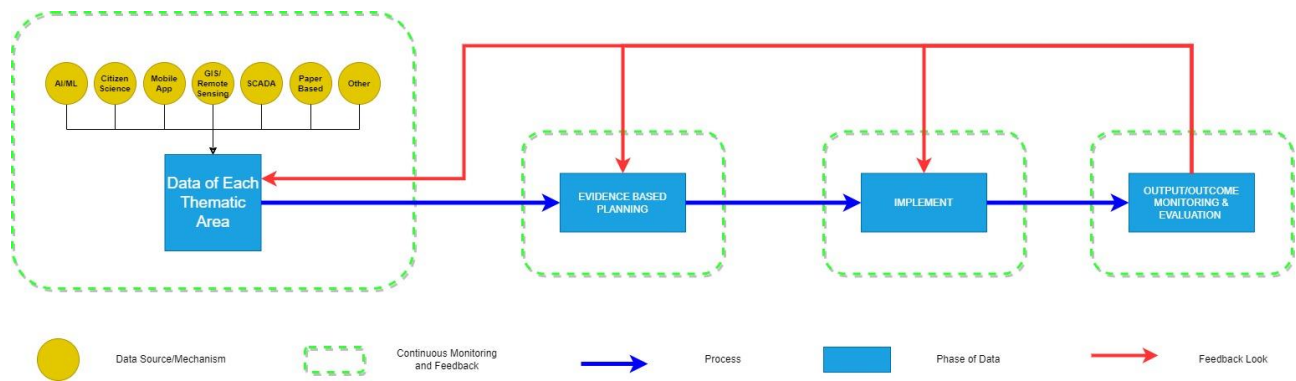


Figure 29 Data, planning and M&E symbiotic relationships.

9.2 Thematic Scan

The WASH sector in Nepal has made commendable progress in recent years, but gaps in data utilization, integrated planning, and rigorous M&E persist. One of the key challenges for the WASH sector in Nepal is the lack of reliable, comprehensive, and disaggregated data on the status, performance and quality of WASH services and facilities. This compromises evidence-based planning, decision-making, resource allocation, monitoring and evaluation, and accountability. Moreover, the federalization process has created new roles and responsibilities for the three tiers of government (federal, provincial and local) in the WASH sector, which require effective coordination and harmonization of data collection, management and reporting systems.

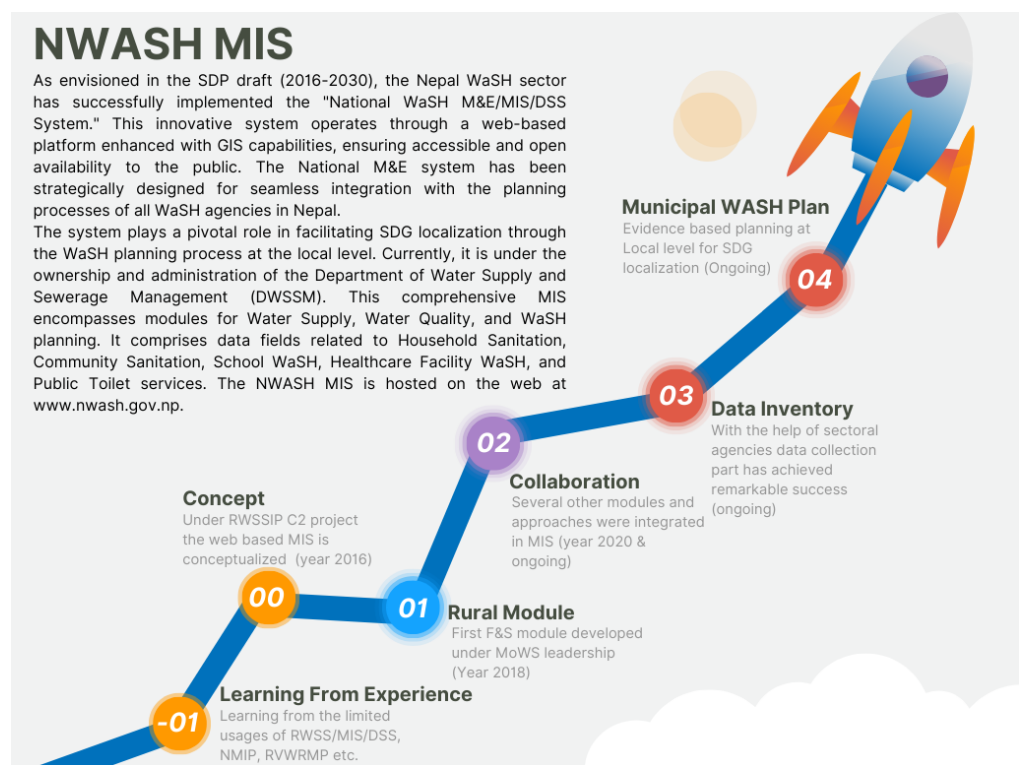


Figure 30 Evolution of MIS

Both qualitative (perception-based) and quantitative indicators for monitoring the performance of WASH services have undergone evolution over time. It has been recognized that perception-based indicators can serve as the initial phase, gradually transitioning into quantitative indicators through the application of technology as required.

Identification of existing challenges and opportunities

Despite the significant progress in data, planning, and M&E, the sector has yet to fully internalize their importance. Annual planning decisions often deviate from evidence, indicating a need for more aligned practices as M&E continues to evolve and learning opportunities emerge. With the preparation of Municipality level WASH Plan, the limited evidence exists at the local level that evidence-based planning is taking root primarily in local contexts. This positive trend also aligns with global standards, such as initiatives like SDG, JMP, SWA, GLAAS and other international commitments.

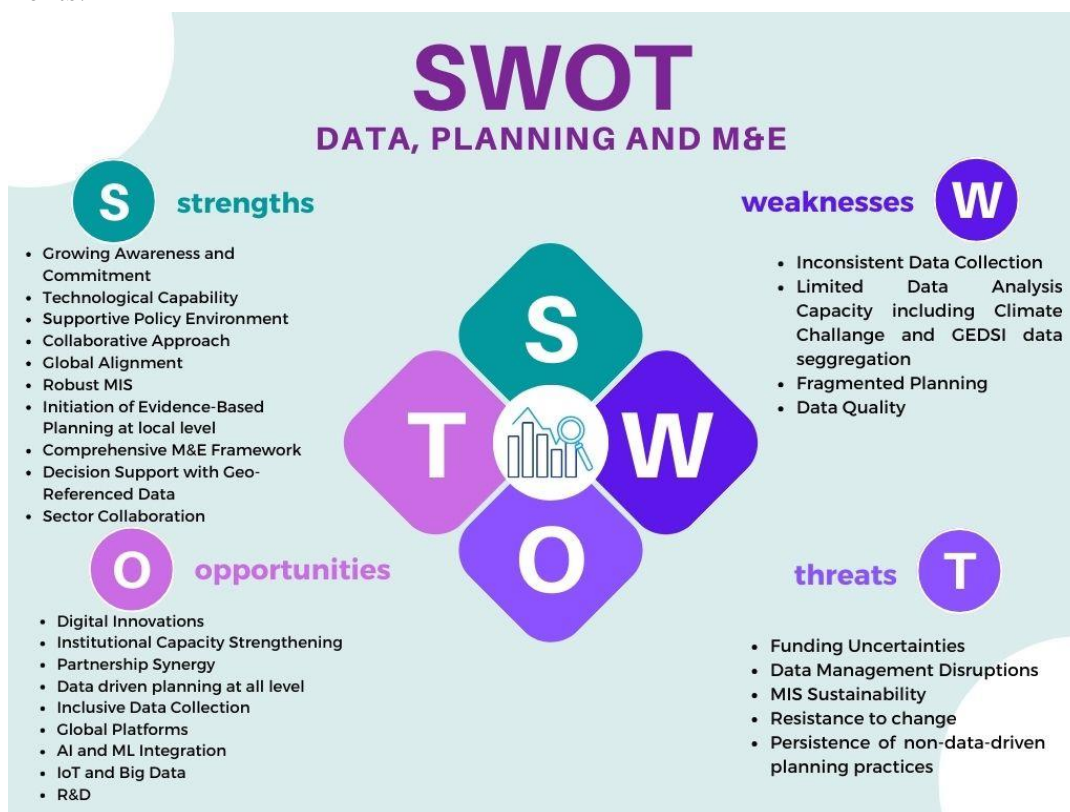


Figure 31 Data, Planning and M&E SWOT

Municipal Level WASH Planning:

Municipal-level WASH planning constitutes a distinct and purposeful initiative acknowledged and supported by the SDP. It embodies a collaborative and forward-thinking approach that empowers local governments to take charge of enhancing WASH services within their communities, aligning with the broader goals of sustainable development in Nepal.

- **Local Government Initiative:** Municipal-level WASH planning is led by local governments, especially municipalities, showcasing their proactive commitment to addressing local WASH challenges effectively.
- **Federal-Level Support:** These initiatives receive crucial technical support from the federal level, ensuring alignment with national WASH priorities, standards, and policies.
- **Localized SDGs:** The planning process customizes global SDGs to suit the specific needs of municipalities, enabling targeted interventions.
- **Municipal Ownership:** Municipalities take full ownership of the planning process, emphasizing their involvement in decision-making, resource allocation, and hands-on implementation.
- **Long-Term Vision:** Planning spans a 10-year horizon, allowing municipalities to establish clear, achievable goals for advancing WASH services.
- **NWASH MIS Utilization:** The National WASH Management Information System (NWASH MIS) is vital for data collection, analysis, and informed decision-making.
- **GIS Asset Mapping:** Geographic Information Systems (GIS) create detailed maps of WASH assets, aiding in understanding their distribution and accessibility.
- **Inclusive Stakeholder Engagement:** Diverse stakeholders actively participate, ensuring the plan reflects community perspectives.
- **Costed Planning:** Plans include detailed budgets and cost estimates, providing a practical roadmap for securing funding.
- **Progressive Implementation:** Many municipalities have successfully translated plans into action, executing water supply, sanitation, and hygiene projects.

9.3 Guiding Principles

- a) **Evidence-Based Decision-Making:** Make planning and interventions based on accurate and up-to-date data.
- b) **Harmonizing for Consistency:** Align reporting system with global indicators and reporting standards.
- c) **Holistic Approach:** Integrate planning that considers water supply, sanitation, hygiene, and social inclusion dimensions.
- d) **Gender and Social Inclusion:** Make data collection, planning, and M&E gender-responsive, socially inclusive and disability friendly.
- e) **Stakeholder Engagement:** Engage all relevant stakeholders for data collection, planning, and monitoring.
- f) **Capacity Development:** Build the skills and capacities of WASH professionals for effective data management and analysis.
- g) **Innovation and Technology:** Harness technology for efficient data collection, storage, and dissemination.

9.4 Theme Goal

Long-term Goal: To establish a robust data, planning, M&E and learning framework that supports evidence-based decision-making and ensures sustainable development in the WASH sector of Nepal.

Goal for the SDP period (2024-2043):

Outcome 1: Enhanced data driven decision making.

Goal 1: *Operationalize a robust data-driven decision-making system that harnesses diverse data sources and AI integration, enabling accurate and reliable insights for strategic planning and execution by 2043.*

Desired outcomes:

1. **Establishment of a Comprehensive Data Ecosystem:** A well-structured and inclusive data ecosystem are established that incorporates diverse data sources and protocols⁶.
2. **Integration of AI and Machine Learning for Predictive Analytics⁷:** AI and Machine Learning technologies into the decision-making process are successfully integrated. **Outcome 2: Enhanced Data-Driven Governance and Capacity Enhancement**

Goal 2: Strengthen governance and capacity in utilizing data for evidence-based planning, transparent reporting, and improved decision-making.

Desired Outcomes:

1. **Data-Driven Governance Framework⁸:** A governance framework is developed and implemented which ensures data is used effectively in decision-making processes.
2. **Capacity Building⁹:** Capacity of stakeholders at various levels to collect, analyze, and interpret data is enhanced.
3. **Evidence-Based Planning¹⁰:** Data into the decision-making process is integrated for Evidence-based planning.
4. **Transparent Reporting¹¹:** Standardized reporting formats and mechanisms are implemented to ensure transparency and accountability in data sharing and reporting.

⁶ These protocols include the development of data-sharing agreements, data integration processes, and standardized data collection methods.

⁷ This includes the implementation of AI algorithms for data analysis, the development of predictive models, and the deployment of AI-driven tools for decision support.

⁸ This includes establishing clear roles and responsibilities for data management and utilization at all levels of the organization.

⁹ This includes understanding the capacity gap and introducing training programs, workshops, and knowledge sharing to empower individuals and teams with data-related skills.

¹⁰ This involves using data to inform resource allocation, program design, and policy formulation.

¹¹ This includes making data accessible to relevant stakeholders in a clear and understandable manner.

5. **Stakeholder Empowerment¹²**: Stakeholders, including communities and local organizations, are empowered to actively participate in data analysis and utilization.

9.5 Strategic Approach and Interventions

a. Strategic Approach 1: Comprehensive Data Ecosystem and AI Integration

Interventions:

- **Enhancing MIS Functionality**: Expand and customize the existing Management Information System (MIS) for versatile application, integrating modules such as Sanitation, Governance Assessment, and Market Opportunities to enhance efficiency.
- **Leverage Emerging Technologies**: Integrate Citizen Science, Artificial Intelligence (AI), Machine Learning (ML), Internet of Things (IoT), and big data analytics with the MIS to optimize data collection, analysis, and insights.

b. Strategic Approach 2: Robust M&E System

Interventions:

- **Promote Data Collaboration**: Foster cross-sectoral collaboration for comprehensive decision-making by facilitating data exchange and communication between sectors.
- **Holistic Indicator Development**: Develop a comprehensive range of indicators spanning input, process, output, outcome, and impact indicators, ensuring consistency with global indicators. Advocate for consistency and updates with local indicators.

c. Strategic Approach 3: Integrated Planning Framework:

Interventions:

- **Integrated Planning**: Develop and implement an integrated planning framework that aligns data-driven decision-making with strategic planning across the WASH sector.
- **Planning Framework**: Create a comprehensive planning framework that integrates data from various sources, including monitoring and evaluation data, demographic data, and environmental data.
- **Stakeholder Engagement**: Engage stakeholders in the development of long-term WASH plans that consider the holistic impact of interventions on communities and the environment.
- **Reviews and Update**: Establish mechanisms for regular reviews and updates of the integrated plans to reflect evolving priorities and goals in the WASH sector.
- **Optimize Utility Support**: Establish a Utility Support Mechanism based on Key Performance Indicators (KPIs) to enhance operation efficiency, resource allocation, and service delivery. The KPIs of water and sanitation utilities has been annexd to ANNEX III

d. Strategic Approach 4: Data-Driven Governance and Capacity Enhancement

Interventions:

¹² This encourages ownership and fosters a sense of responsibility for WASH planning and implementation.

- **Ensure Data Quality and Security:** Implement measures to uphold data quality, privacy, and security, including addressing breaches and compliance with regulations.
- **Data-Driven Decision-Making:** Promote data-driven decision-making by aligning strategies with integrated resource planning principles to ensure efficient resource utilization.
- **Advanced Data Analysis:** Create data models, conduct trend analysis, forecasting, and Research and Development (R&D) in collaboration with academia for predicting performance trends and identifying potential challenges.
- **Cross Sectoral Communication Strategy:** Maintain periodic dialogues with sectors like Education and Health, leveraging cross-sectoral learnings to refine the sector's strategy.

9.6 Cost of the theme

The costs presented in this section of the SDP are derived from a comprehensive analysis of the Key Action Points outlined in Annex 1.

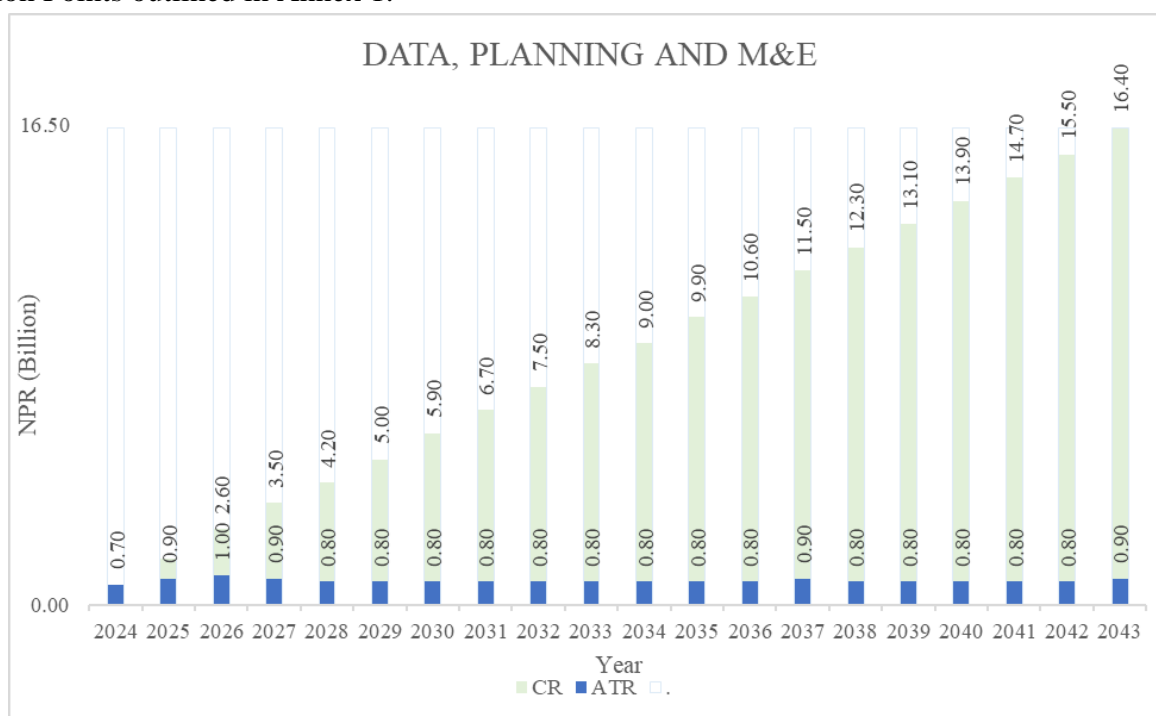


Figure 32 Annual Thematic Requirement (ATR) & Cumulative Requirement (CR) of Data, Planning and M&E theme

Total cost of this theme is NRs. **16386.07** Million (in 2023 price) for 20 years period. The breakdown of each period can be found in the Chapter 16.

9.7 Significance of theme

The theme of "Data, Planning, and M&E" establishes connections with all other themes within the SDP. All remaining themes are reliant on accurate data, meaning that any inaccuracies or mistakes within this theme will have a ripple effect on the other themes. As a result, this theme holds substantial significance, given its role in laying the foundation for the entire framework. Therefore, during the implementation of the SDP, special attention must be given to prioritize and effectively manage the action plan outlined within this pivotal theme.

9.8 Relevancy to SDP

1. **Evidence-Based Decision-Making:** The theme emphasizes the importance of basing all planning and interventions on accurate and up-to-date data. This ensures that decisions are informed by real-world insights, leading to more effective and targeted actions in the WASH sector.
2. **Harmonizing for Consistency:** By aligning reporting systems with global indicators and standards, the theme ensures that the data collected and reported is comparable on a global scale. This promotes transparency and allows for benchmarking against international best practices.
3. **Holistic Approach:** Integrated planning that considers water supply, sanitation, hygiene, and social inclusion dimensions ensures a comprehensive and interconnected approach to addressing WASH challenges. This holistic view leads to more effective solutions that benefit communities.
4. **Gender and Social Inclusion:** The theme recognizes the importance of gender-responsive and socially inclusive data collection, planning, and M&E. This approach ensures that the needs and perspectives of all members of society are considered, leading to more equitable outcomes.

9.9 Theme Risks

The successful implementation of this theme will lead to improved decision-making, better-targeted interventions, and enhanced accountability in the WASH sector of Nepal. However, there are potential risks, such as technical challenges in implementing digital tools, resistance to change, and funding fluctuations.

To mitigate these risks, a multi-faceted financing mechanism will be adopted, including government budget allocation, donor support, public-private partnerships, and leveraging technology-driven cost efficiencies. Regular progress reviews and risk assessments will be conducted to ensure timely course corrections and maximize impact.

Risks and Proposed Mitigations for the theme:

Risk Category	Potential Risks	Mitigation Strategies
<p>Outcome 1: Enhanced Data-Driven Decision Making</p>	<ul style="list-style-type: none"> • Inaccurate or incomplete data collection • Data privacy and security breaches. • Resistance to technology adoption. • Data quality degradation over time 	<ul style="list-style-type: none"> • Implement rigorous data quality control measures. • Establish robust data security protocols and encryption measures. • Provide comprehensive training and capacity-building on technology use. • Update and patch data management systems regularly to address vulnerabilities. • Highlight the benefits of technology adoption for data accuracy and efficiency. • Conduct regular data audits and verification. • Address concerns and misconceptions through awareness campaigns.
<p>Outcome 2: Enhanced Data-Driven Governance and Capacity Enhancement</p>	<ul style="list-style-type: none"> • Lack of stakeholder engagement in data utilization. • Resource constraints affecting capacity-building efforts. • Insufficient data utilization in decision-making processes. • Ethical concerns related to data collection and utilization. 	<ul style="list-style-type: none"> • Develop a stakeholder engagement plan and framework. • Develop a resource allocation plan that prioritizes critical data-related activities. • Create a culture of data-driven decision-making through awareness campaigns and training programs. • Organize regular consultations and feedback sessions with stakeholders. • Explore partnerships and collaborations to share resources and expertise. • Establish mechanisms for regularly reviewing and using data in planning and reporting. • Seek funding opportunities for data-related initiatives. • Ensure representation of diverse voices in decision-making processes. • Develop and adhere to data privacy and ethical guidelines and policies. • Recognize and reward data utilization and its positive impact on outcomes. • Obtain informed consent for data collection, especially in sensitive contexts. • Conduct regular ethical reviews of data-related projects.

10.THEME 3: CAPACITY BUILDING

10.1 Background

The theme of capacity development in the WASH system emphasizes a comprehensive approach beyond traditional training. It involves empowering individuals and organizations with the necessary expertise and resources to address complex challenges in providing sustainable water, sanitation, and hygiene solutions globally.

1. Nepal's Federalization and Human Resource Needs:

Nepal's transition to federalization has distributed WASH responsibilities across government levels. However, to effectively develop capacity, it's important to identify required human resources. A structured organogram outlining roles and responsibilities, especially for regulators, asset creators, and service providers, is lacking. Clear terms of reference, work divisions, and audits are crucial for systematic progress towards WASH goals.

2. Assessing Capacity Needs:

Past assessments of sectoral capacity in the form of training need assessments (TNA) have predominantly focused on asset creators and service providers leaving out vital contributors such as private sectors (professionals, manufacturers, suppliers), academia, and other institutions, intra and intersectoral influencers such as ministry of finance, forest and environment, federal affairs and general administration etc. It would be beneficial to adopt a more comprehensive approach, expanding the range of assessment techniques including self-assessment.



Figure 33 Capacity Development; what's hidden?

3. Integrating Assessments into Capacity Development:

The assessments provide a foundation for need based training programs, enhancing skills, and improving organizational structures. This ongoing process ensures continuous growth that adjusts to changing circumstances. The incorporation of digital solutions and automation, as exemplified by NWASH-MIS, holds significant potential to further enhance this process.

10.2 Thematic Scan

In the beginning of the 2000s, a Training Need Assessment (TNA) was undertaken to identify gaps and requirements within the capacity development landscape. Although there was a commitment

from the Government of Nepal (GON) to create a comprehensive Capacity Development Master Plan in sanitation and water for all (SWA), this plan is still awaiting implementation. This delay has posed challenges in achieving the needed strategic alignment and coordinated efforts essential for effective capacity development within the sector.

Outlined below are some specific needs within Nepal's capacity development sector for WASH:

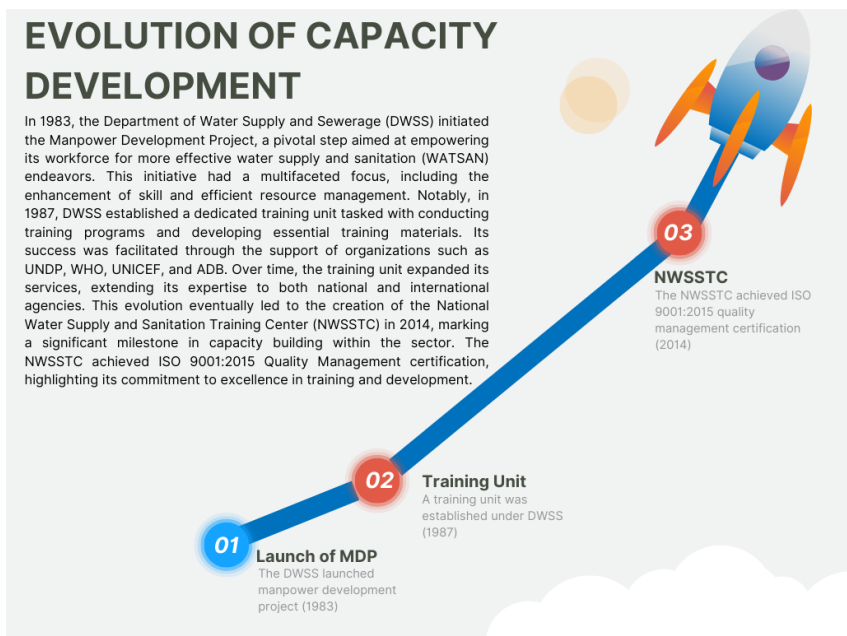


Figure 34 Figure 32 Evolution of Capacity Development

1. Training and Skill Development:

- **Need for Trained Professionals:** There is a shortage of skilled and trained professionals in the WASH sector, including engineers, technicians, Behavioural Change and public health experts.
- **Training Opportunities:** There is visible limited access to quality training programs and continuing education for WASH professionals.

2. Institutional Capacity:

- **Institutional Structures:** Many government agencies and institutions responsible for WASH management need the capacity to effectively plan, implement, and monitor WASH systems. This can lead to delays, inefficiencies, and suboptimal outcomes.
- **Interagency Coordination:** Coordination among various government departments, NGOs, and other stakeholders involved in the WASH sector is often inadequate.

3. Community Engagement and Empowerment:

- **Community Participation:** Incorporating communities into the process of planning, implementing, and overseeing WASH systems is of utmost importance to ensure long-term sustainability. Consequently, the aspect of empowerment holds a crucial role in this context.
- **Behavioural Change:** Promoting improved hygiene behaviours requires targeted communication and community engagement efforts. The need exist in implementing effective behaviour change communication strategies that address local beliefs and practices.

4. Technical Assistance and Expertise:

- **Technical Support:** Local governments and community-based organizations often need access to technical expertise for designing and implementing appropriate WASH interventions.
- **Innovation:** Broadening access to innovative technologies and solutions for WASH projects can significantly bolster the sector's capacity to respond to evolving needs and enhance overall efficiency.

5. Financing:

- **Funding:** Promoting awareness and securing strong commitment at a political level are necessary to maintain and effectively utilize funding for capacity building.

6. Data Collection and Monitoring:

- **Linkage with monitoring and evaluation:** Establishing an integration between the outcomes of monitoring and evaluation is needed to lead a process of continuous improvement of capacity development and learning programs.

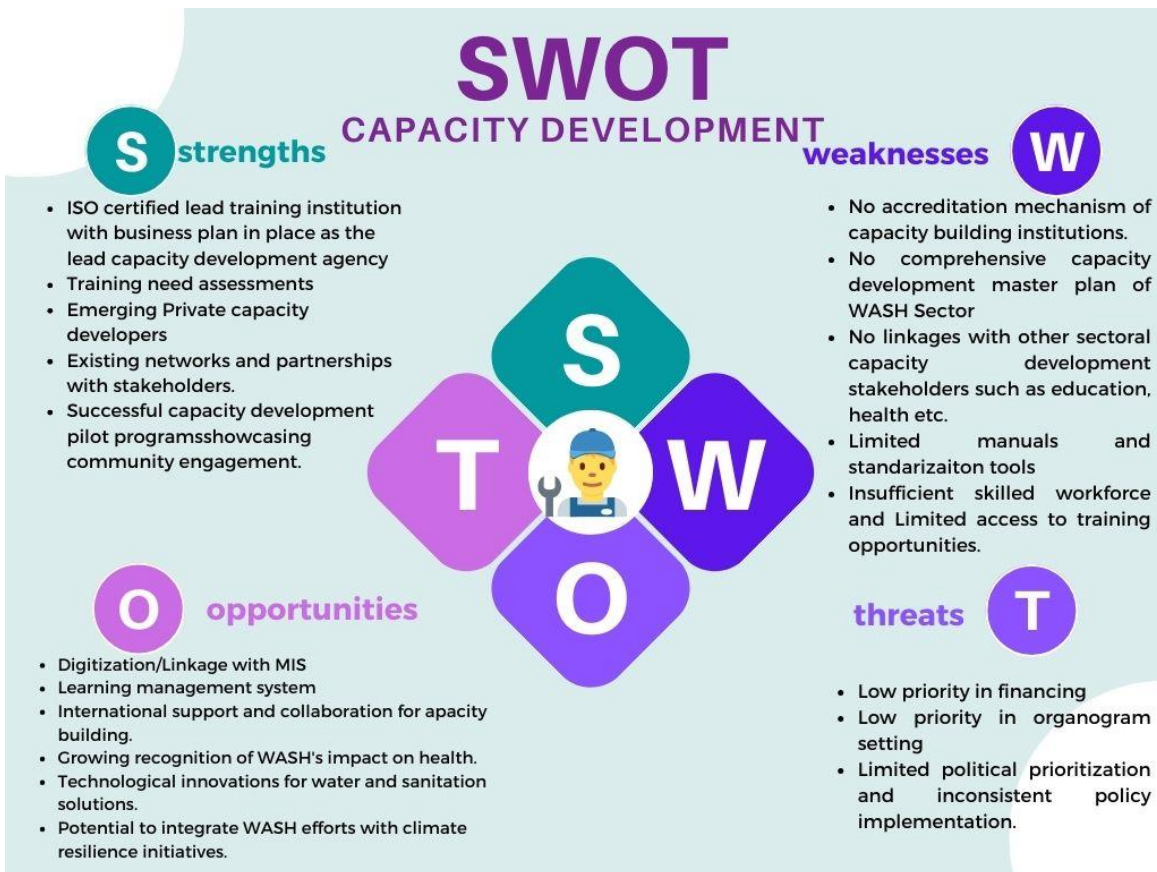


Figure 35 SWOT of Capacity Development Landscape

Currently, capacity building initiatives at the provincial and local government levels are in their early stages, indicating a pressing need for accelerated advancement in this area. Another significant aspect that has been absent in the realm of capacity development is a robust accreditation system.

Furthermore, the lack of a mechanism to audit syllabi based on human resource requirements has resulted in a disconnect between academic offerings and the practical needs of the sector. On a positive note, the introduction of the National Water Supply and Sanitation Management Information System (NWASH-MIS) presents an opportunity for using technology in the capacity development process, streamlining procedures, and enhancing the effectiveness of training through impact assessments.

10.3 Guiding Principles

Sustainability: Emphasize long-term sustainability by focusing on building local capacities and promoting self-reliance.

Partnership: Establish collaboration and partnerships among government agencies, Development Partners, Funding agencies, NGOs, private sector, and local communities for effective capacity development.

Evidence-based: Ensure capacity development strategies based on sound data, research, and assessments to ensure relevance and effectiveness.

Adaptability: Adapt capacity development initiatives to changing contexts, technologies, and challenges.

Standardization: Ensure rigorous standards, ongoing enhancement, and sustained relevance of capacity development programs and institutions.

10.4 Theme Goal

Long-term Goal: To systematically strengthen the knowledge, skills, and capabilities of WASH sector professionals, organizations, and communities, promoting a culture of continuous learning and innovation to drive sustainable improvements in water and sanitation service delivery.

Goal for the SDP period (2024-2043):

Theme Outcome 1: Effective Capacity Development

Goal 1: Establish a comprehensive and forward-looking capacity development system that enhances the knowledge, skills, and capabilities of WASH sector professionals.

Desired Outcomes:

1. **Professionals Empowered:** WASH sector professionals are equipped with the knowledge, skills, and expertise needed to design, implement, and manage effective WASH projects.
2. **Communities are Active Partners:** Local communities actively participate in WASH planning, behavior change initiatives, and local decision-making, becoming integral partners in the sector's success.
3. **Institutions are Strong:** Robust institutional structures are in place to support efficient WASH service delivery, enhancing the sector's capacity to meet its goals.
4. **Sustainability is Ensured:** Sustainable funding mechanisms are established to support ongoing capacity-building efforts, ensuring the longevity of WASH projects and programs.

5. **Innovation Thrives:** Data-driven methodologies promoting innovation and including culture of continuous improvement within the WASH sector is established.

Theme Outcome 2: Empowering Local Government and Communities

Goal 2: By 2043, Empower local communities to actively engage in WASH initiatives, promoting sustainable hygiene practices and ensuring equitable access to water and sanitation services.

Desired Outcomes:

1. **Local Government Empowerment:** Local governments are empowered to realize all government function as per the spirit of the constitution.
2. **Community Empowerment:** Local communities are empowered through culturally sensitive behaviour change communication programs to promote improved hygiene practices.
3. **Community-Led Initiatives:** Community-led WASH initiatives are implemented to empower local communities in planning, implementing, and managing WASH services and utilizing benefits gained.
4. **Enhanced Community Engagement:** Training programs are conducted to enhance community engagement, leadership, and ownership in WASH initiatives.

10.5 Strategic Approaches and Interventions

Strategic Approach 1: Budget-Aligned Capacity Building:

Interventions:

- Allocate a dedicated budget for capacity building activities.
- Measure capacity development efforts based on the portion of the budget expended.

Strategic Approach 2: Inclusive Technical Capacity Development:

Interventions:

- Develop technical capacity among vulnerable and underserved groups, including women, the poor, and excluded communities, within project areas.
- Focus on training Village Maintenance Workers (VMWs), Water Supply and Sanitation Technicians (WSSTs), Sub-engineers, and Engineers.

Strategic Approach 3: Multi Sector Engagement:

Interventions:

- Promote private sector involvement in capacity development activities within the WASH sector.
- Establish collaboration and partnerships among government agencies, NGOs, and local communities for effective capacity development

Strategic Approach 4: National WASH Academy Enhancement:

Interventions:

- Enhance the role and capacity of the NWSSTC to become a National WASH Academy that conducts research, provides training, and performs impact assessments.
- Conduct training for water sector professionals, policy makers, community members, and other Sector Actors.
- Create a online platform for knowledge sharing and learning among WASH practitioners, institutions, and stakeholders.

Strategic Approach 5: Needs Assessment and Network Expansion:

Interventions:

- Conduct regular capacity development needs assessments for various levels and actors within the water sector and develop capacity development master plan.
- Expand the National WASH Academy's network through partnership building, peer to peer learning, and collaboration with academia, nationally and internationally.

Strategic Approach 6: Standardization and Licensing:

Interventions:

- Standardize training manuals, guidelines, and other materials for capacity building within the WASH sector.
- Mandate the National WASH Academy for standards setting, licensing of WASH trainers, institutions, and skills, and franchising of course programs.

Strategic Approach 7: Data-Driven Capacity Planning:

Interventions:

- Utilize data for precise capacity planning, utilizing real-time insights to identify training needs and adapt strategies leading to the continual improvement of capacity development programs.
- Integrate self-assessment of capacity development into resource planning and update the annual capacity building plan with costing before the annual planning process.

Strategic Approach 8: Empowering Communities:

Interventions:

- Empower communities through culturally sensitive behavior change communication programs to promote improved hygiene practices.
- Establish community-led WASH committees to empower local communities in planning, implementing, and managing WASH projects.
- Conduct training programs that enhance community engagement, leadership, and ownership in WASH initiatives.

10.6 Cost of the Theme

The costs presented in this section of the SDP are derived from a comprehensive analysis of the Key Action Points outlined in Annex 1.

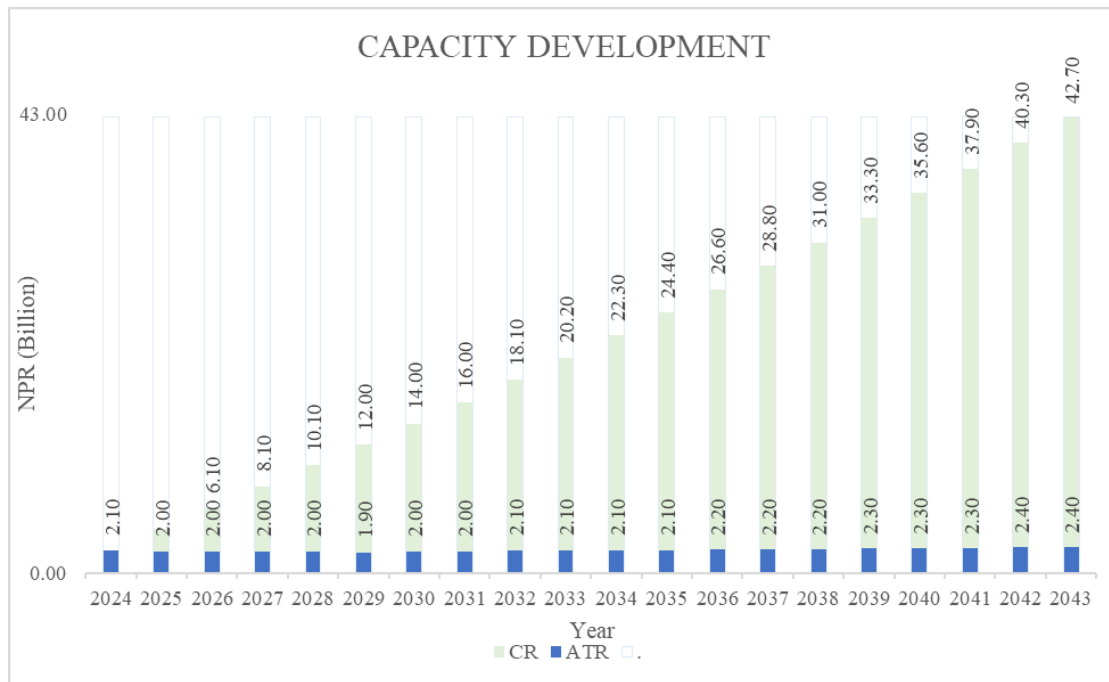


Figure 36 Budget requirement for Capacity Development

Total cost of this theme is NRs. **42729.06** Million (in 2023 price) for 20 years period. The breakdown of each period can be found in the Chapter 16.

10.7 Significance of theme

This Theme will be guided by the PDCA principle, allowing the capacity development process to refine itself with each cycle and drawing insights from prior cycles. Therefore, it is essential to document this progression as knowledge products. The Management Information System (MIS) will provide the foundation for this approach, while its outcome will contribute to all seven themes. It's crucial to prioritize this aspect, as the success of the output and process themes hinges on the proper execution of activities within this theme.

10.8 Relevancy to SDP

1. **Sustainability:** Capacity development emphasizes the creation of a sustainable foundation for the WASH sector. By investing in the knowledge, skills, and capabilities of professionals, organizations, and communities, it ensures that the sector can function effectively in the long term. This aligns with the principle of sustainability, as it promotes self-reliance and local capacity building, reducing dependency on external support.
2. **Partnership:** Capacity development fosters collaboration and partnerships among various stakeholders, including government agencies, NGOs, the private sector, and local communities. These partnerships are crucial for effective capacity development, as they bring

together diverse expertise and resources, allowing for a more comprehensive and inclusive approach to building capacity.

3. **Evidence-based:** Capacity development strategies are rooted in sound data, research, and assessments. This evidence-based approach ensures that capacity development efforts are relevant and effective, addressing specific needs within the WASH sector. It helps in making informed decisions and allocating resources efficiently.
4. **Adaptability:** The capacity development framework acknowledges the dynamic nature of the WASH sector. It emphasizes the need to continuously adapt capacity development initiatives to changing contexts, emerging technologies, and evolving challenges. This adaptability ensures that the sector remains resilient and responsive to new developments.
5. **Standardization:** Standardization is a key element of capacity development. By establishing rigorous standards and continuously enhancing them, capacity development programs and institutions can maintain relevance and quality. This ensures that professionals and organizations within the WASH sector receive consistent and standardized training and support.

10.9 Theme Risks

Risks and Proposed Mitigations for the theme:

SN	Risks	Mitigation Strategy
1	Lack of Priority (Resource/Political Willingness)	Advocate the impact of capacity building through data driven dialogues.
2	Low capacity of Capacity building institutions	Accredit/Establish provincial capacity development centers
3	Misalignment with goals	Standardize/Accredit of modules
4	Hardware support gap while building the capacity of service providers	Launch utility improvement programs along with capacity building
5	Failure to see the GESI components	Promote affirmative actions in capacity building/mandatory representations
6	Capacity building effectiveness not assessed	Focus on centralized monitoring systems/impact audit of capacity building initiatives
7	Resistance to change	Continue impact studies associated with performance-based grants
8	Short term focus	Adopt continual quality improvement methodology.
9	Siloed Approach	Advocate sector Wide Approach in capacity building
10	Over emphasis on training	Integrate capacity development program with job description, self-assessments /Research and development

11.THEME 4: POLICY AND INSTITUTIONAL FRAMEWORK

11.1 Background

WASH governance ecosystem is a complex ecosystem as it involves the layered approach. To improve the governance the foundational elements (building blocks) need to be in place, all functions should be working properly, all the governance attributes should be covered and outcomes should be measured and included in the monitoring and evaluation.

Building Blocks and Governance functions: Sector policy and strategy should focus on inclusive, effective service delivery and mitigate the barriers to do so. The clarity of institutional arrangements should be presented/proposed in the sector policies and strategies along with the cross sectoral communications. The regulation allows the service providers to improve their performance based upon the key performance indicators which allows the different service providing categorization based on their areas, performance. For example, on site sanitation options should have different regulatory provisions compared to big sewer networks with wastewater treatment operators. Similarly, the rural water operators should be regulated in a separate dimension compared to the urban water service providers.

Governance attributes: In a multi layered governance ecosystem the clarity of division of governance functions holds the utmost importance. The governance should incline towards the citizens and build the participatory approach, sound grievance handling and consumer feedback mechanism to make the asset creators and service providers accountable. Transparency should be promoted through regular communication arrangements such as publications, reports, public/social auditing, public hearing etc. As Water and Sanitation is recognized as a human rights, delicate consideration should be given for inclusion, fairness and rule of law while providing the WASH services. The optimization and corporatization of WASH service providers will include the continual management and operation efficiency improvement through capacity building arrangements which on long run can provide the effective service delivery, adaptation towards the climatic and social shocks. In terai the water supply providers are competing with tube wells because of social element as well.

Governance outcomes: The ideal scenario includes the enabling environment including the political commitments leading the financial flows able to reach SDG and beyond, have robust monitoring, evaluation and learning mechanisms and have the roadmap of capacity development as well. The mutual accountability mechanisms make the influencing sectors government agencies, development partners, media, private sectors, academia, research and learning players, CSOs accountable in helping reach the WASH targets in a more coordinated and collaborated manner.

11.2 Thematic Scan

Following the promulgation of the Constitution of Nepal, a significant portion of the responsibility for water supply, sanitation, and hygiene has been entrusted to local governments. Nevertheless, numerous governance assessments have indicated a substantial gap in the effective implementation

of governance functions within local and provincial governments to deliver the consistent and expected WASH services.

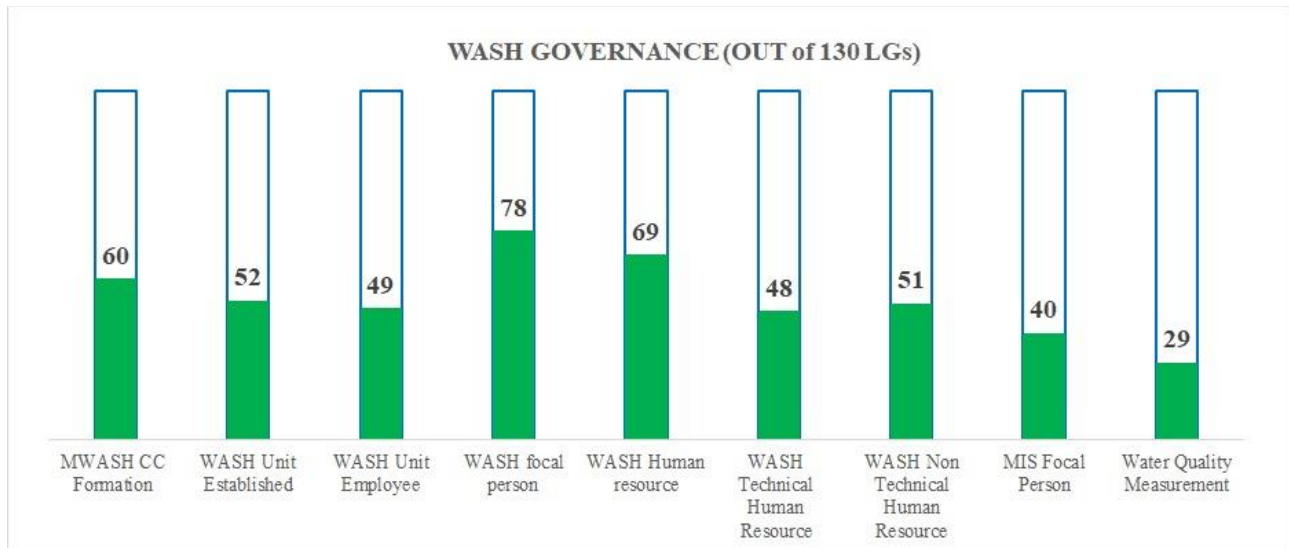


Figure 37 Institutional status of Local Government (Source; NAWASH MIS)

On the other hand, Government of Nepal has shown commitment towards fundamental right by formulating the WASH policy, Water and Sanitation Act. However, since it is a multilevel effort and Constitution focuses cogeneration, collaboration, and coordination the facilitation to grow the provincial and local governments business in achieving the SDGs and beyond should be under federal governments agenda. Service providers KPI tracking is well reflected in upcoming regulation

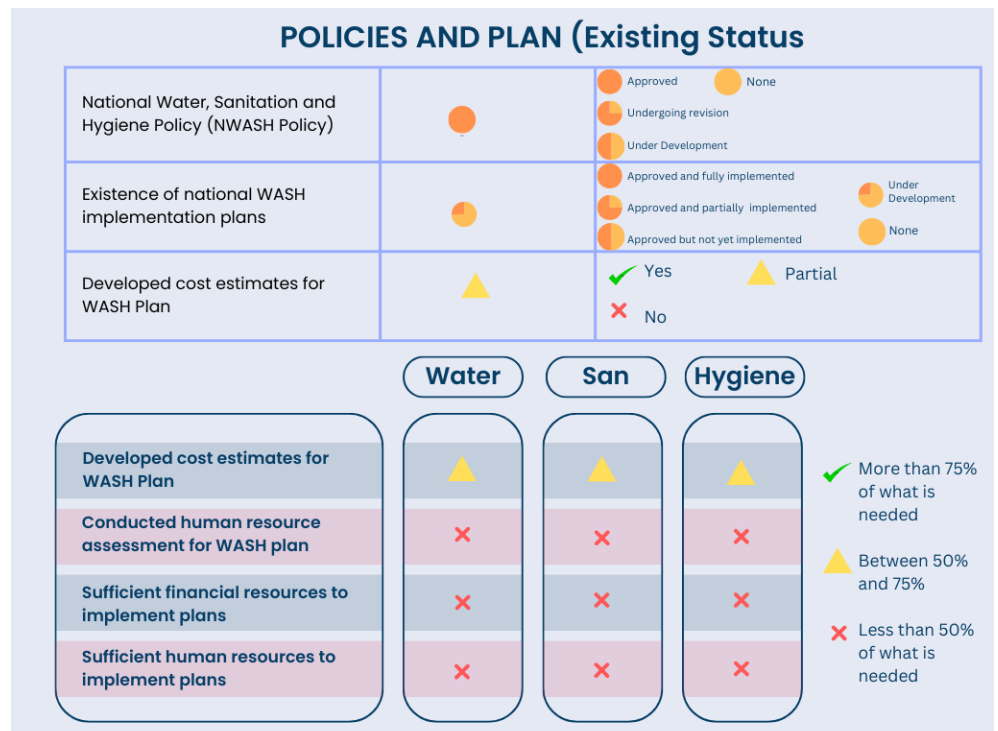


Figure 38 Status of Policies and plans

however, GoN still has miles to cover because of availability of limited standards in growing WASH landscape specially in onsite sanitation, waste water reuse, sludge standards and sub-soil and

groundwater discharge standards. Policy has stated the transition of DWSSM into the regulator, this will require the capacity building, adaptation to changed context and willingness to regulate in order to achieve the desired service levels, optimized processes.

11.2.1 Institutional Framework

Nepal's institutional framework for water, sanitation, and hygiene (WASH) involves a complex web of government bodies and stakeholders at various levels. At the national level, the Ministry of Water Supply (MoWS) is the central authority responsible for formulating policies, plans, and strategies related to WASH. MoWS coordinates and oversees WASH activities nationwide, with the Department of Water Supply and Sewerage Management operating under its umbrella to plan, develop, and manage water supply and sanitation systems. The Nepal Water Supply Corporation (NWSC) manages urban water supply, while decentralized Water Supply and Management Boards (WSMB) contribute autonomously to water supply and management efforts. KVWSMB, as the asset owner of all water supply and sanitation infrastructure, oversees water supply and sanitation management within the Kathmandu Valley through KUKL.

Under the Constitution, jurisdiction is shared among federal, provincial, and local governments. The Local Government Operation Act, 2017 outlines their roles in planning, implementing, and monitoring water and sanitation projects. Local governments, particularly municipalities and rural municipalities, are responsible for delivering water, sanitation, and hygiene services within their jurisdictions. To facilitate this, WASH Sections are established at the local level. The National Sanitation and Hygiene Steering Committee (NSHSC), chaired by the Ministry of Water Supply Secretary, fosters coordination, collaboration, and policy dialogue among government agencies, development partners, and stakeholders involved in sanitation and hygiene promotion. Water Supply and Sanitation Division Offices (WSSDO) operate at the district level, focusing on water supply and sanitation infrastructure. Water User and Sanitation Committees (WUSCs) play key roles in managing community-level WASH facilities, while development partners provide support and technical assistance to enhance WASH services and capacity building.

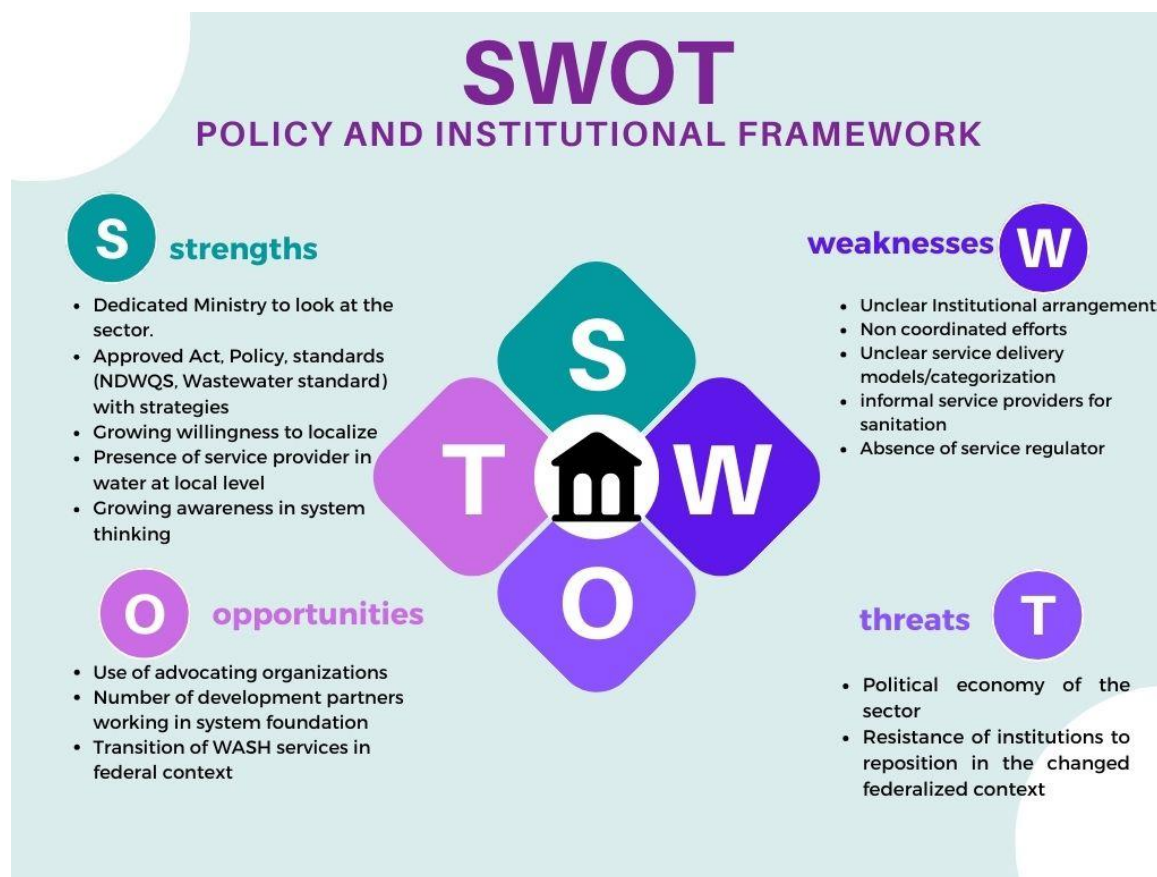


Figure 39 SWOT of policy and institutional landscape of sector

11.3 Guiding Principles

Empower Advocacy for Inclusive Governance: Strengthen the role of Civil Society Organizations (CSOs) to sensitize and engage stakeholders, expanding their influence to drive political and economic support for WASH services.

Comprehensive Policies, Effective Implementation: Develop and communicate holistic Policies, Strategies, and standards for WASH, ensuring their practical implementation to address diverse needs.

Clear Structure, Capable Resources: Establish a transparent Organogram and invest in skilled human resources to form a strong foundation for efficient WASH governance.

11.4 Theme Goal

Long-term goal: To establish a robust WASH governance framework, regulatory and service provision arrangements that leverages Civil Society Organizations (CSOs) for advocacy, ensures seamless integration of comprehensive policies into practical implementation, and cultivates a transparent organizational structure with skilled resources, thereby enhancing equitable access to inclusive, sustainable and accountable WASH services for all.

Goal for the SDP period (2024-2043):

Outcome 1: Governance Strengthened

Goal 1: Build the capacity of institutions and establish robust governance frameworks to effectively plan, manage, and deliver WASH services by 2043.

Desired Outcomes:

1. **Strengthened Governance Framework:** Clearer policies, regulations, and guidelines for WASH services are in place. Improved coordination and collaboration among stakeholders and more efficient resource management is promoted.
2. **Enhanced Advocacy and Awareness¹³:** Civil Society Organizations are effectively engaged in advocacy efforts for raising awareness about WASH issues.
3. **Policy Implementation:** Effective integration of comprehensive policies into practical implementation are established to bring tangible changes on the ground. This is ensured through performance-based grants and financing instruments.
4. **Transparent Organizational Structure:** Transparent organizational structure is established to enhance accountability and reduce corruption. Public reports on funding allocation and improved financial management strengthen trust among development partners and the public.
5. **Accountability Measures:** Feedback mechanisms, complaint systems, and robust monitoring and evaluation processes are introduced for measurable improvements in service quality and responsiveness.

11.5 Strategic Approaches and Interventions

Strategic Approach 1 : Evidence-Based Policy Advocacy:

Interventions:

- **Harness CSO partnerships for effective advocacy:** Collaborate closely with Civil Society Organizations (CSOs) to champion favorable WASH policies.
- **Employ evidence-based research:** Advocate based on researched data and insights.
- **Grassroots engagement:** Ensure that grassroots perspectives are integral to advocacy strategy.
- **Influence decision-makers:** Use evidence-based advocacy to sway decision-makers at sub-national, and national levels. For example, encourage the development of ‘model palikas’.
- **Align policies with community needs:** Advocate for policies that directly address the pressing needs of communities.
- **Drive positive change in WASH governance:** Collaborate among all the stakeholders for bringing transformative shifts in WASH governance.

¹³ This will translate into increased public consciousness, shifts in public attitudes, and greater support for WASH initiatives.

Strategic Approach 2 : Partnerships and Alliances:

Interventions:

- **Forge strategic alliances:** Build strong partnerships among CSOs, government agencies, private sector entities, and academic institutions.
- **Unify the WASH advocacy voice:** Ensure that all stakeholders speak with one harmonious voice in advocating for WASH.
- **Amplify advocacy messages:** Amplify advocacy messages and make them more impactful by working together.
- **Drive sustainable policy changes:** Lead to lasting policy changes through collaboration that benefits the WASH sector and communities.

Strategic Approach 3 : Organizational Structure Review:

Interventions:

- **Perform a thorough review:** Evaluate the entire WASH governance structure, including its alignment with the three tiers of government and intersectoral ministries.
- **Identify areas for optimization:** Identify opportunities to streamline roles, responsibilities, and reporting mechanisms to improve efficiency. Maintain a level of operational aggregation that favors efficiency focusing on regional delivery of services based on local governance decisions.
- **Enhance accountability:** Strengthen accountability mechanisms within the governance structure to ensure transparency and responsibility.
- **Promote efficiency:** Implement changes that enhance the efficiency of the governance framework, making it more responsive and agile.
- **Promote collaboration:** Encourage collaboration among different levels of government and ministries to create a more integrated and coordinated approach to WASH governance.

Strategic Approach 4 : Regulatory Framework Strengthening:

Interventions:

- **Collaborate with regulatory bodies:** Forge partnerships and working relationships with regulatory authorities responsible for overseeing WASH services. Support to local governments to formulate and enact municipal level WASH Acts/Regulations/Guidelines/Standards.
- **Review and update standards:** Conduct a comprehensive review of existing standards related to WASH services and update them as needed to reflect current best practices and technological advancements in the national context.
- **Revise licensing requirements:** Evaluate and modify licensing requirements for service providers to align with updated standards and ensure adherence to quality and safety standards.

- **Strengthen monitoring mechanisms:** Enhance monitoring and evaluation processes to track compliance with approved standards and regulatory requirements.
- **Facilitate adherence:** Create mechanisms that facilitate and encourage service providers to adhere to the established standards and regulations, promoting the delivery of safe and reliable WASH services through both reward/recognition and penalty/punishment.

Strategic Approach 5 : Public-Private Partnerships (PPPs):

Interventions:

- **Foster cross-sector partnerships:** Encourage collaboration and partnerships between public and private service providers in the WASH sector.
- **Leverage sector strengths:** Identify and utilize the unique strengths and capabilities of both public and private service providers to enhance the overall quality and accessibility of WASH services.
- **Transparent agreements:** Establish clear and transparent agreements that outline the responsibilities, roles, and expectations of each party involved in the partnership.
- **Define performance indicators:** Develop specific performance indicators and metrics to measure the success and effectiveness of the partnership in delivering improved WASH services.
- **Accountability mechanisms:** Implement robust accountability mechanisms to ensure that both public and private service providers adhere to their respective commitments and responsibilities within the partnership.

Strategic Approach 6 : Performance-Based Contracts:

Interventions:

- **Performance-based contracts:** Introduce contracts for service providers that are directly tied to their performance in delivering WASH services.
- **Financial incentives:** Offer financial incentives to service providers based on their ability to achieve measurable improvements in service delivery or award with rewards or recognitions for well performing service providers.
- **Key performance indicators:** Define clear and specific key performance indicators (KPIs) that service providers must meet to qualify for financial incentives.
- **Measurable improvements:** Focus on measurable improvements such as increased access to clean water, reduced downtime of services, and enhanced customer satisfaction as the criteria for incentives.
- **Accountability and transparency:** Establish robust systems for monitoring and evaluating service provider performance to ensure accountability and transparency in the incentive program.

Strategic Approach 7 : Stakeholder Engagement:

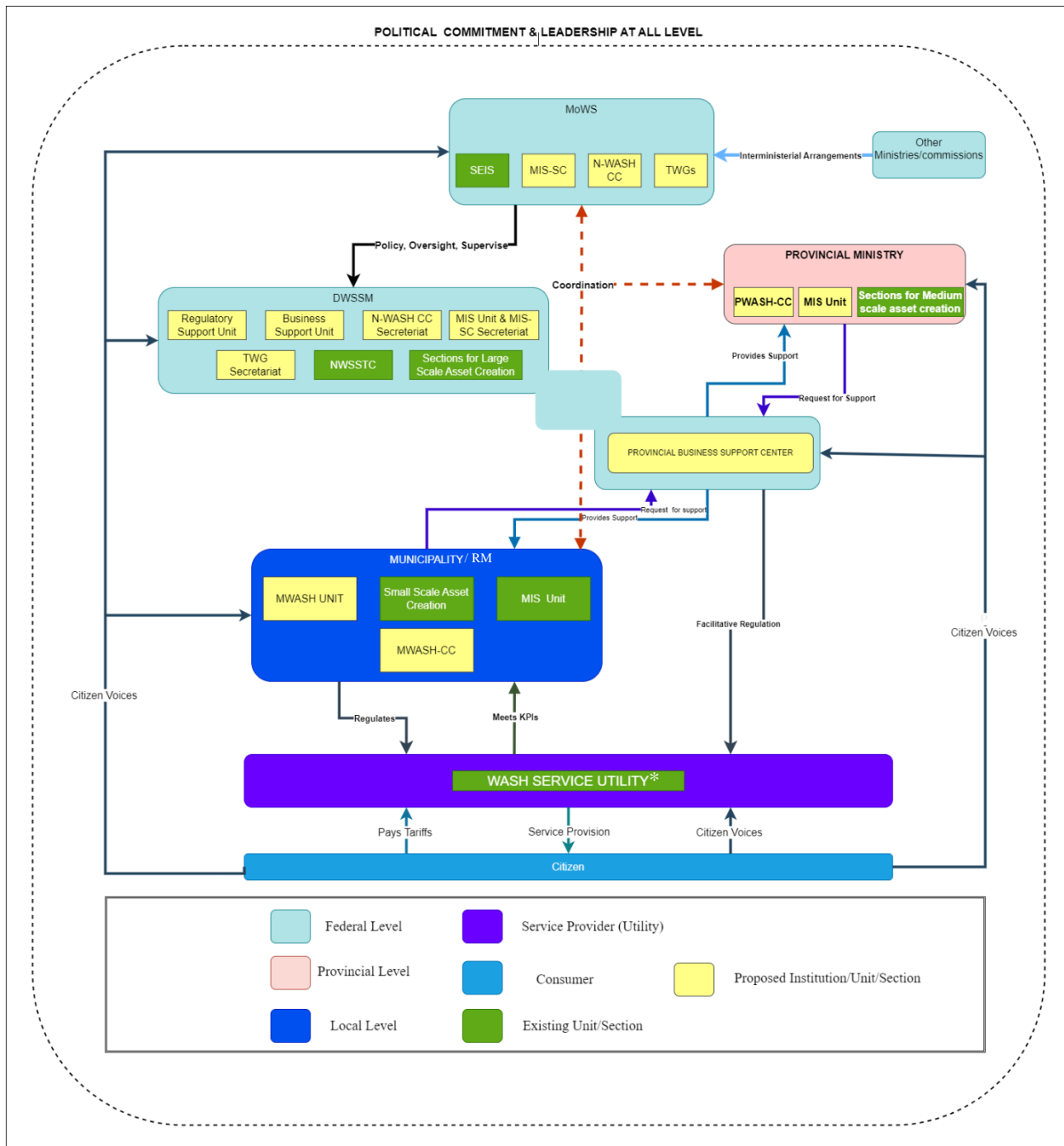
Interventions:

- **Regular dialogues:** Organize frequent and structured dialogues among regulatory bodies, service providers, local communities, and other stakeholders involved in the WASH sector.
- **Collaboration and engagement:** Establish a collaborative environment where all parties actively participate in discussions and decision-making processes.
- **Mutual understanding:** Promote a shared understanding of regulations, roles, responsibilities, and expectations among all stakeholders.
- **Feedback incorporation:** Ensure that feedback from local communities and other stakeholders is actively incorporated into regulatory decisions and service provision strategies.
- **Inclusive decision-making:** Facilitate an inclusive decision-making process that considers the interests and perspectives of all parties involved in the WASH sector.
- **Transparency:** Maintain transparency in regulatory processes and decision-making to build trust among stakeholders and enhance accountability.

11.6 Institutional Arrangement of WASH sector

11.6.1 Institutional Setup

The institutional arrangement within Nepal's Water, Sanitation, and Hygiene (WASH) sector is a complex web of interlinked entities that operate across multiple levels of government – federal, provincial, and municipal. This intricate network plays a vital role in ensuring the effective delivery of WASH services to communities across the nation. This informative infographic provides a visual roadmap of this institutional framework, illustrating how various entities are organized, their reporting and communication mechanisms, and their critical linkages within the federal structure of Nepal. Understanding this arrangement is essential for stakeholders, policymakers, and citizens alike, as it sheds light on how decisions are made, resources are allocated, and responsibilities are distributed to achieve the sector's overarching goal of providing safe, inclusive, and sustainable WASH services for all.



* The utility covers existing models like KUKL, NWSC, WSUC, Water Management Boards, Rural Water Boards, and any other old/new models. Generally, utilities fall under local government jurisdictions, though there may be exceptions, such as KUKL/NWSC.

11.6.2 Roles, Responsibilities and Mandates of the institutions

To fully comprehend the roles, responsibilities, and mandates of these institutions, it is crucial to examine the foundational background that has shaped their existence and functions over the years. Nepal's unique political and administrative context, characterized by federalization, has brought about

significant changes in the governance structure of the WASH sector. This chapter provides essential insights into how these institutions have evolved to adapt to this new federal structure and outlines the specific ToR that guide their activities. Understanding these terms is fundamental in facilitating effective coordination, resource allocation, and collaboration among these entities.

Sector Efficiency Improvement Section (SEIS)

1. Enhance sector efficiency by generating knowledge, sharing experiences, maintaining sector repositories, and fostering partnerships.
2. Build research and evidence-based policy culture by producing performance reports, and collaborating with academia, private sectors, and civil society organizations.
3. Provide Knowledge support to MoWS
4. Act as a liaison for thematic working groups

NWASH-CC:

1. Develop and oversee the strategic direction of the National WASH sector. Develop action plans to ensure the effective and sustainable delivery of water, sanitation, and hygiene services.
2. Fosters collaboration and coordination among various stakeholders for sector alignment

Regulatory Support Unit (DWSSM):

1. provide guidance and oversight to ensure compliance with water, sanitation, and hygiene (WASH) regulations and policies.
2. Facilitate communication and cooperation between regulatory bodies, service providers, and other stakeholders to streamline regulatory processes.
3. Monitor and evaluate the effectiveness of regulatory frameworks, recommend improvements, and disseminate regulatory information to promote transparency and accountability within the WASH sector.

Business Support Unit:

1. Promote Corporatization of the service providers
2. Facilitate private sector engagement.
3. Promote innovative financing.
4. Market development and create entrepreneurship and employment.

NWASH-CC Secretariat:

1. Provide administrative support to the N-WASH-CC, including organizing meetings, maintaining records, and facilitating communication among committee members and stakeholders.

Management Information System (MIS) unit:

1. Design and implement data collection tools, managing data from various sources, and ensuring data quality and integrity.

2. Generate regular reports and conduct data analysis to provide insights into the WASH sector's performance and trends to feed into the planning process.
3. Engage in capacity-building activities, including training sector stakeholders in data collection and utilization, updating in regular basis, promoting data-driven decision-making, and ensuring that WASH professionals have the necessary skills to manage and interpret data effectively.

Technical Working Group (TWG) secretariats:

1. Provide administrative support to the thematic working group including organizing meetings, maintaining records, and facilitating communication among committee members and stakeholders.

Large Scale Asset Creation Sections:

1. Plan, manage, and execute large-scale water supply and sanitation infrastructure projects, ensuring timely and cost-effective delivery while adhering to quality and safety standards.
2. Oversee budgeting, financing, and resource mobilization for infrastructure projects, exploring diverse funding sources, and effectively managing project budgets to optimize resource allocation.

Provincial Water, Sanitation and Hygiene Coordination Committee (PWASH-CC):

1. Develop and oversee the strategic direction of the Provincial WASH landscape. Develop action plans to ensure the effective and sustainable delivery of WASH services.
2. Fosters collaboration and coordination among various stakeholders for sector alignment at the provincial level.

Provincial Business Support Center:

1. Provide technical assistance, training, and capacity-building support to provincial and local governments, WASH service providers, and other stakeholders. It helps build the necessary skills and knowledge required for effective WASH service delivery and infrastructure management within the respective province.
2. Serve as a focal point of federal government for coordinating WASH activities and initiatives at the provincial level.
3. Collaborate with provincial government agencies, local authorities, non-governmental organizations, and development partners to ensure synergy in WASH efforts, share best practices, and facilitate knowledge exchange.

Provincial wings for medium level asset creation:

1. Plan, manage, and execute Medium-scale water supply and sanitation infrastructure projects, ensuring timely and cost-effective delivery while adhering to quality and safety standards.

2. Oversee budgeting, financing, and resource mobilization for infrastructure projects, exploring diverse funding sources, and effectively managing project budgets to optimize resource allocation.

Provincial MIS unit:

1. Implement data collection tools, manage data from various sources, and ensure data quality and integrity.
2. Validation of data generated from local governments.
3. Generate regular reports and conduct data analysis to provide insights into the WASH sector's performance and trends to feed into the planning process.
4. Engage in capacity-building activities, including training sector stakeholders in data collection and utilization, promoting data-driven decision-making, and ensuring that WASH professionals have the necessary skills to manage and interpret data effectively.

Municipal WASH unit:

1. License, monitor and regulate the service providers.
2. Formulate WASH plans, legislative requirements.
3. Execute WASH programs.
4. Responsible for small scale asset creations

Municipal MIS unit:

1. Implement data collection tools, manage data from various sources, and ensuring data quality and integrity.
2. Generate regular reports and conduct data analysis to provide insights into the WASH sector's performance and trends, share it for transparency and accountability to feed into the planning process.

11.7 Cost of the theme

The costs presented in this section of the SDP are derived from a comprehensive analysis of the Key Action Points outlined in Annex 1.

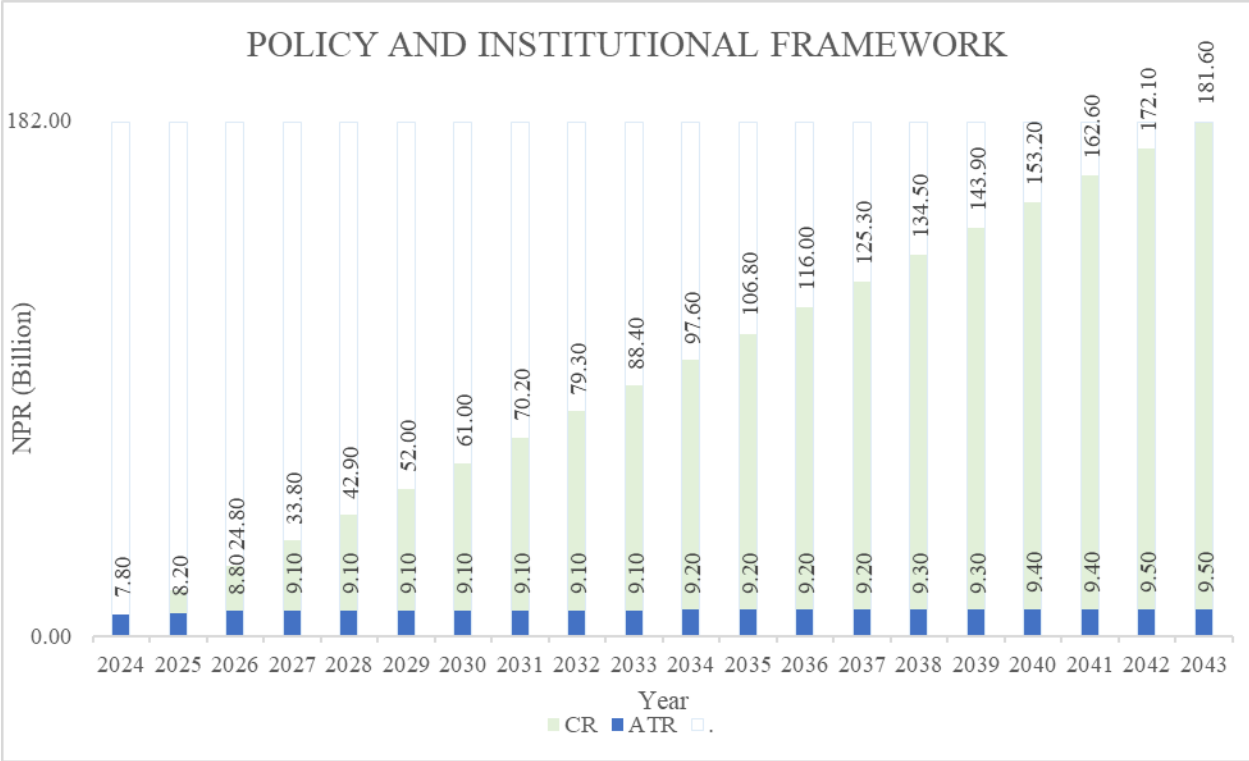


Figure 40 Annual Thematic Requirement of Policy and Institutional Framework theme

Total cost of this theme is NRs. **181600** Million (in 2023 price) for 20 years period. The breakdown of each period can be found in the Chapter 16.

11.8 Significance of theme

Governance theme provides foundational element for enhanced Water, Sanitation, and Hygiene (WASH) services. By empowering Civil Society Organizations (CSOs) to advocate for equitable access, integrating comprehensive policies into action, establishing transparent organizational structures, and fostering collaboration between service providers and regulators, this approach can drive systemic change. It not only improves public health and environmental sustainability but also ensures accountable, efficient, and community-centric WASH services that promote transparency and accountability.

11.9 Relevancy to SDP

- 1. Policy Formulation and Implementation:** Governance encompasses the development and implementation of policies, strategies, and regulations related to WASH services. Effective governance ensures that policies are well-designed, address the needs of all communities, and are carried out efficiently.

2. **Transparency and Accountability:** Transparent governance mechanisms enable citizens to understand how resources are allocated and used in the WASH sector. Accountability ensures that responsible authorities are answerable for their actions and decisions, reducing the risk of corruption and mismanagement.
3. **Stakeholder Engagement:** Effective governance involves engaging a wide range of stakeholders, including local communities, CSOs, government agencies, and development partners. Engaging these stakeholders fosters collaboration and ensures that the needs and priorities of communities are considered in decision-making processes.
4. **Regulatory Framework:** Governance establishes a regulatory framework that governs WASH services, including quality standards, environmental safeguards, and health regulations. Clear regulations help maintain service quality and protect public health.
5. **Conflict Resolution:** Governance helps manage conflicts and disputes related to WASH services, whether they involve resource allocation, infrastructure development, or service delivery. Timely resolution of conflicts ensures the continuity of services.
6. **Global Commitments:** International commitments, such as the Sustainable Development Goals, emphasize the importance of governance in achieving sustainable development objectives, including universal access to clean water and sanitation.

11.10 Theme Risks

Risks and Proposed Mitigations for the theme:

Risk	Mitigation strategy
Political instability	Establish standard operation procedures to ensure timely sensitization whenever there is a change in political leadership, applicable not only to MoWS but also to other sectoral ministries impacting sector performance.
Corruption	Conduct regular social audits and publish expenditure and associated impacts to enhance accountability and control measures.
Regulatory and policy challenges	Ensure close coordination among stakeholders in the regulatory landscape through regular meetings, with action points adopted for continual improvement.
Lack of Public perception and trust	Publish communication and knowledge products such as benchmarking reports and grievance reports regularly.
Low Institutional capacities	Record the capacity building of each stakeholder, assess its impact, and record any gaps in the monitoring and evaluation systems.

12.THEME 5: SECTOR FINANCING

12.1 Background

WASH sector financing, the realization of sector goals, centres significantly on the availability of sufficient financial resources. The initial step in this interest is a calculation of the required investments, a process of paramount importance. Furthermore, a close examination of expenditure trends becomes essential as it illuminates the areas where it may be falling short or missing crucial opportunities. Often, emphasis lies heavily on capital investments, while the ongoing operation and maintenance costs tend to be overlooked or underestimated, thus threatening the long-term sustainability of efforts to reach SDG 6 and beyond. To ensure success, a comprehensive approach that includes both capital and ongoing operational costs of water supply and sanitation services is imperative.

On a global scale, WASH sector has been found falling short of Sustainable Development Goal (SDG) targets, indicating an urgent need for accelerated and innovative funding solutions (GLAAS,2021). To bridge this gap, a diverse array of financial options, including tariffs, taxes, transfers, and other creative approaches like trade partnerships, resource sharing, equity investments, and bonds needs to be explored. This requires the foundational elements to be ready such as risk sharing mechanisms, regulatory frameworks. This emphasizes “FINANCING” theme is closely dependent upon the “GOVERNANCE” interventions pointed out in the chapter before.

Moreover, it's crucial to contextualize the approach to financing. Instead of relying solely on broad subsidies, which can sometimes result in well-intentioned but ineffective populist programs that do not

SUBSIDIES THAT REACH THE POOREST QUANTILE OF A COUNTRY POPULATION (AVERAGE)

6%          

SUBSIDIES THAT REACH THE WEALTHIEST QUANTILE OF A COUNTRY POPULATION (AVERAGE)

56%          

Figure 41 Why Targeted Financing (Source SWA)

effectively reach those most in need, sector should prioritize targeted financing. By directing financial resources toward specific needs and rights, the sector can make substantial progress in guaranteeing access to clean water, sanitation, and hygiene for all.

12.2 Thematic Scan

Before the COVID-19 pandemic, the WASH expenditure requirement stood at 3% of the national GDP. However, due to the pandemic's adverse impact on GDP growth and the reduced adsorption of the sector, the sector's expenditure requirement has now increased to 5% of the GDP.

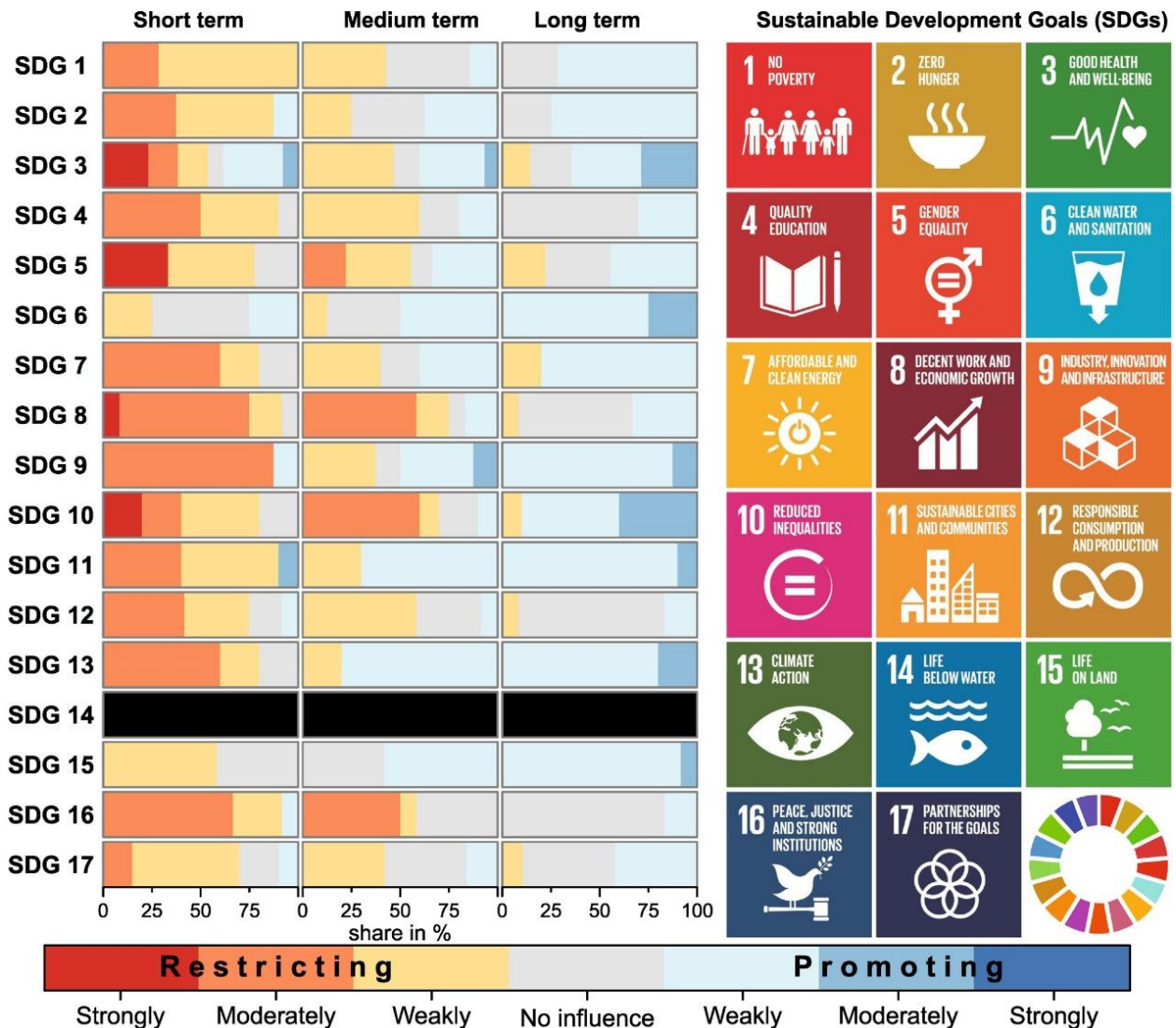


Figure 42 Covid impact on various SDGs

The resource requirement has suggested that along with the challenges there lie the opportunities of collaborating with the other sectoral ministries such as the Ministry of Education, Ministry of Health. The current trend, however, suggests that a significant departure in the prevailing approach to financing is required. In the absence of regulator leveraging of tariff has not been attained so far, whereas political sensitivity can leverage the Local, provincial, and federal commitment. There have been very few cost recovery projects based upon the life cycle cost assessments shows foundational elements of governance needs to be strengthened to create the enabling environment to access the repayable financing, to improve the willingness of financing institutions to invest in WASH. Very few piloting interventions have been seen on innovative financing solutions.

The total expenditure currently allocated to the WASH sector represents only about 1% of the country's Gross Domestic Product (GDP). This figure highlights a significant disparity between the financial resources currently dedicated to the sector and the financial requirements needed to meet the sector's goals and objectives. In other words, the gap between the available funding and the funding required for the WASH sector is substantial. This disparity in funding is a cause for concern because it implies that there is a substantial shortfall

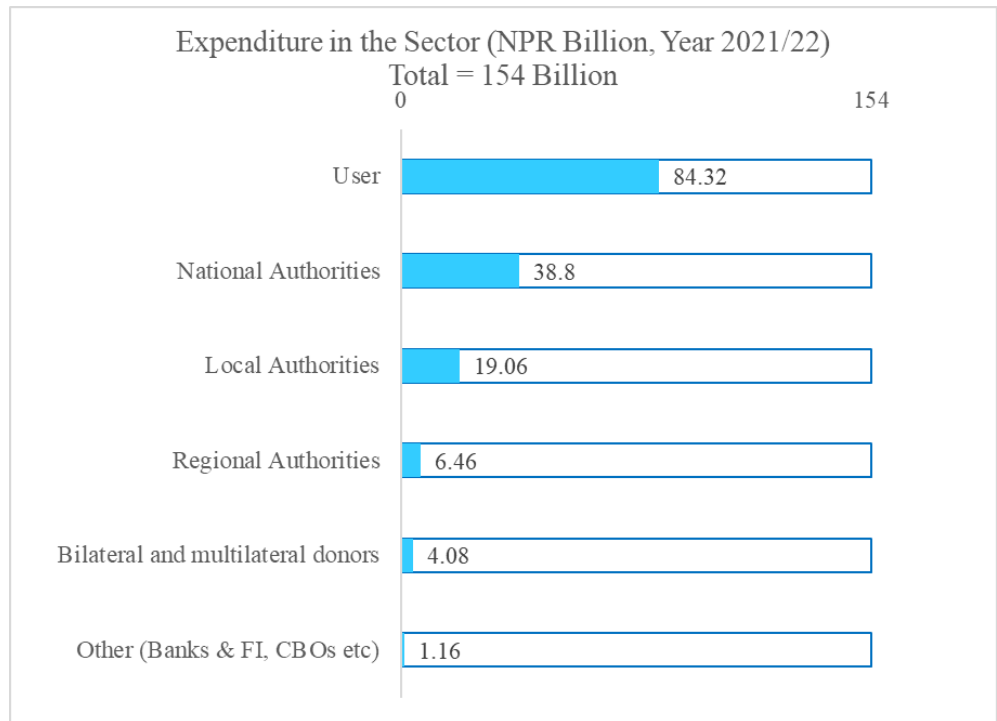


Figure 43 Sector Expenditure (Source, GLAAS)

in financial resources necessary to address the challenges and meet the targets set for the sector. To effectively bridge this gap and make progress toward achieving WASH-related Sustainable Development Goals (SDGs), there is a need for a considerable increase in investment, innovative financing mechanisms, and strategic resource allocation within the sector.

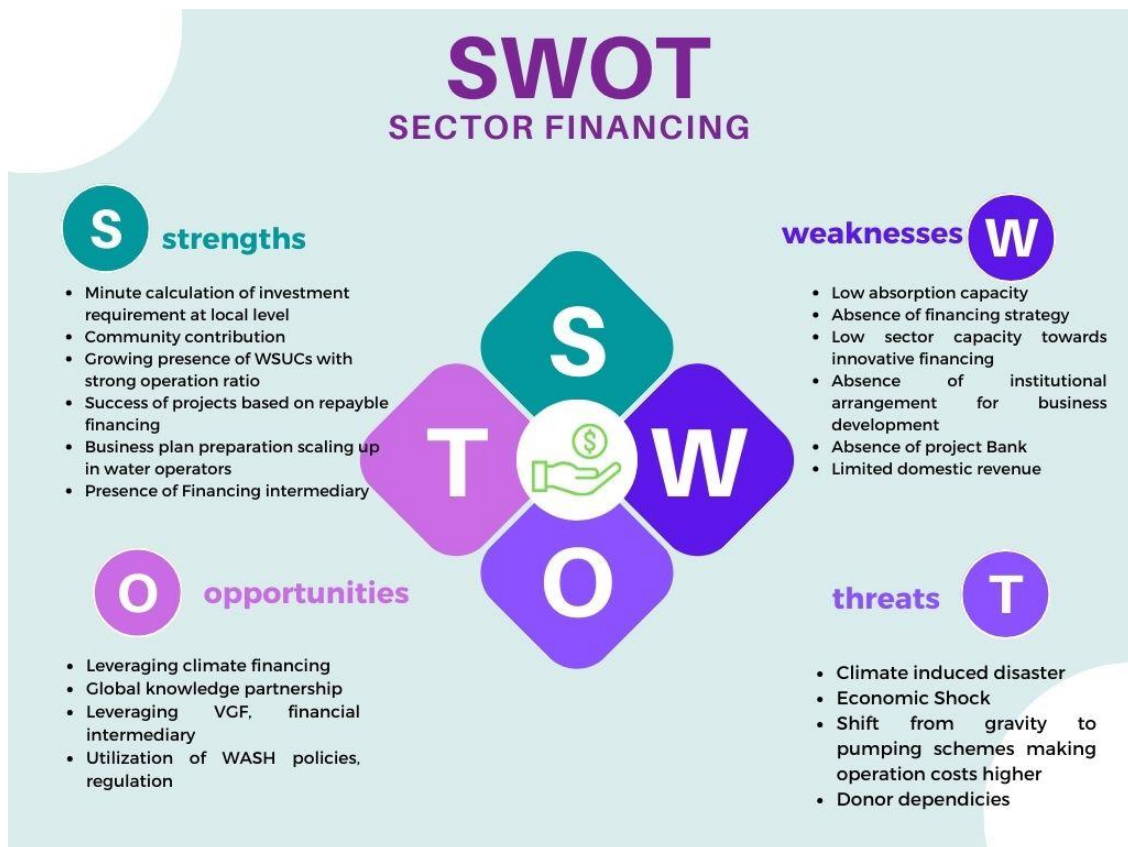


Figure 44 SWOT of Financing Landscape

12.3 Guiding Principles

- 1. Prioritize Universal Access with Political Backing:** Ensure consensus and strong political commitment to prioritize universal access to sustainable water and sanitation services within a realistic timeframe. Set clear targets to measure progress and success.
- 2. Establish Sustainable Financial Foundations:** Implement necessary financial reforms to create a robust foundation for mobilizing funding and finance within the WASH sector. Focus on operation and maintenance before investing on capital.
- 3. Focus on Equitable Funding and Support:** Mobilize diverse sources of funding, including taxes, tariffs, transfers, and repayable finance, with a specific emphasis on improving sanitation. Allocate public funds to reduce inequalities in service provision and subsidize services for those who cannot afford them, aiming for inclusive access.

12.4 Theme Goal

Long-term goal: To ensure the long-term sustainability of WASH services by establishing a robust and diversified financing framework that secures adequate, reliable, and equitable funding for the provision, maintenance, and expansion of WASH infrastructure and services.

Goal for the SDP period (2024-2043)

Outcome: Sustainable Financing for WASH

Goal1: Establish sustainable financing mechanisms to ensure the long-term financial viability of the WASH sector by 2043.

Desired Outcomes:

1. **Increased Funding Diversity:** A significant increase in the variety of funding sources is obtained for WASH projects and services, including government allocations, user fees, grants, loans, public-private partnerships, and innovative financing mechanisms.
2. **Adequate and Reliable Funding:** Consistent and sufficient funding streams available for the provision, maintenance, and expansion of WASH service delivery ensuring that services are not disrupted due to financial constraints.
3. **Targeted financing for Equitable Access:** Provision of targeted financing in place to reduce the disparity in access to WASH services among different socio-economic groups, with a particular focus on reaching marginalized and vulnerable communities.
4. **Financial Resilience:** Robust financial management systems in place, capable of withstanding economic shocks or funding fluctuations without compromising service quality or accessibility.
5. **Transparent and Accountable Financing:** Transparency and accountability is enhanced for better adsorption and utilization of WASH funds, with regular reporting on financial performance and outcomes.
6. **Partnership Synergy:** Collaboration and partnerships is strengthened among government agencies, civil society organizations, private sector entities, and development partners to maximize the impact of WASH financing efforts.
7. **Adaptability and Resiliency:** The ability to adapt financing strategies and mechanisms to changing circumstances are ensured to make WASH services resilient in the face of evolving challenges.

12.5 Strategic Approach and Interventions

Strategic Approach 1: Make sector ready to mobilize the available finances.

Interventions:

- **Investment in areas with high absorption capacity:** Allocate financing to areas with high absorption capacity and potential impact, optimizing resource utilization. Prioritize successful Water and Sanitation providers with strong financial performance and implement mechanisms for reinvesting revenue. Ensure proper regulatory implementation, KPIs, and result-based financing for success.

Strategic Approach 2: Diverse Funding Sources:

Interventions:

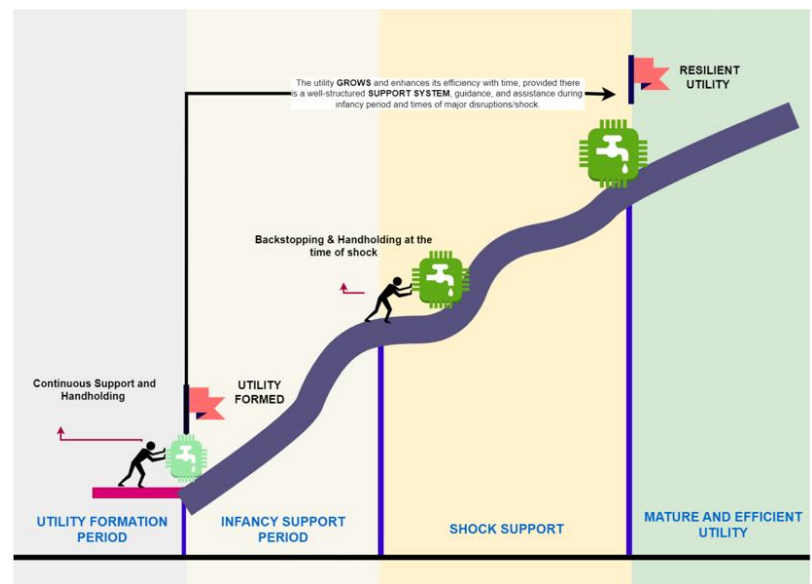
- **Sustainable Access to reliable funding source:** Work towards in gaining access to diverse and reliable funding sources, including public budgets, private investments, grants etc.

- **Attract more financing from the public funds:** Secure additional public funding by enhancing its competitiveness and effectively communicating its impacts in intersectoral forums. Conduct high-level political dialogues in this process which plays a crucial role. Identify key stakeholders, including the National Natural Resource and Fiscal Commission, Ministries of Finance, Health and Population, Education, Women, Children and Senior Citizen, Forest and Environment, and Federal Affairs and General Administration, to collaborate in attracting more financing.
- **Private Sector Engagement:** Engage the private sector in financing WASH projects to increased investment and innovation in the sector.

Strategic Approach 3: Focus on repayable financing

Interventions:

- **Gradually implementation of cost recovery¹⁴:** Achieve financial sustainability, assess creditworthy areas, and attract repayable financing.
- **Gradual transformation of Utility as credit worthy enterprises¹⁵:** Reduce reliance on government subsidies, increase user tariff reliance, and gain financial independence based on creditworthiness for long-term financial sustainability.



Strategic Approach 4: Innovative Financing Models:

Interventions:

- **Exploring Innovative Financing Models:** Explore and implement innovative financing models such as WASH bonds, public-private partnerships, challenge fund competitions, and impact investing to attract additional resources. This includes the least explored options like Climate financing, Corporate Social Responsibility, different form of bonds, environmental tax, private sector of companies' options such as use of share, trade etc.
- **Concessional Loans and Loan Restructuring:** Access the viability gap of this sector through concessional loans and restructuring the loan structures.

¹⁴ There comes a choice between adopting cost recovery tariffs and relying on public funding. A balanced approach, gradually implementing cost recovery while considering affordability, is adopted.

¹⁵ This transition aims to transform utilities from subsidy-dependent to creditworthy enterprises.

Strategic Approach 5: Financial Sustainability and Inclusivity

Interventions:

- **Equitable Resource Allocation:** Allocate resources based on needs, population size, and income distribution, with a focus on underserved regions and vulnerable communities.
- **Local Resource Mobilization:** Mobilize local resources and engage community contributions to sustain WASH services.
- **Resilience to Economic Shocks:** Make the sector financially resilient, able to withstand economic shocks and external pressures without compromising service delivery. Example is increase in energy cost.
- **Financial Inclusion:** Introduce financial mechanisms which considers the needs of low-income and marginalized populations, ensuring that they are not excluded from accessing and utilizing WASH services due to financial constraints.
- **Transparent Financial Reporting:** Ensure transparent financial reporting to enhance accountability and trust, allowing stakeholders to track the allocation and utilization of financial resources.
- **Incentives for Efficiency:** Introduce financial mechanisms which incorporates incentives for efficiency, encouraging responsible resource management and cost-effective service delivery.

12.6 Phase of Sector Advancement

Initiating a transformative journey, Nepal's WASH sector is strategically positioned to address current challenges and leverage emerging opportunities through a multi-phased timeline. This strategic roadmap outlines three distinct phases, thoughtfully designed to navigate the intricate landscape of political commitment, financial sustainability, and private sector engagement.

The initial phase (sorting out the foundational elements 2023-2030)

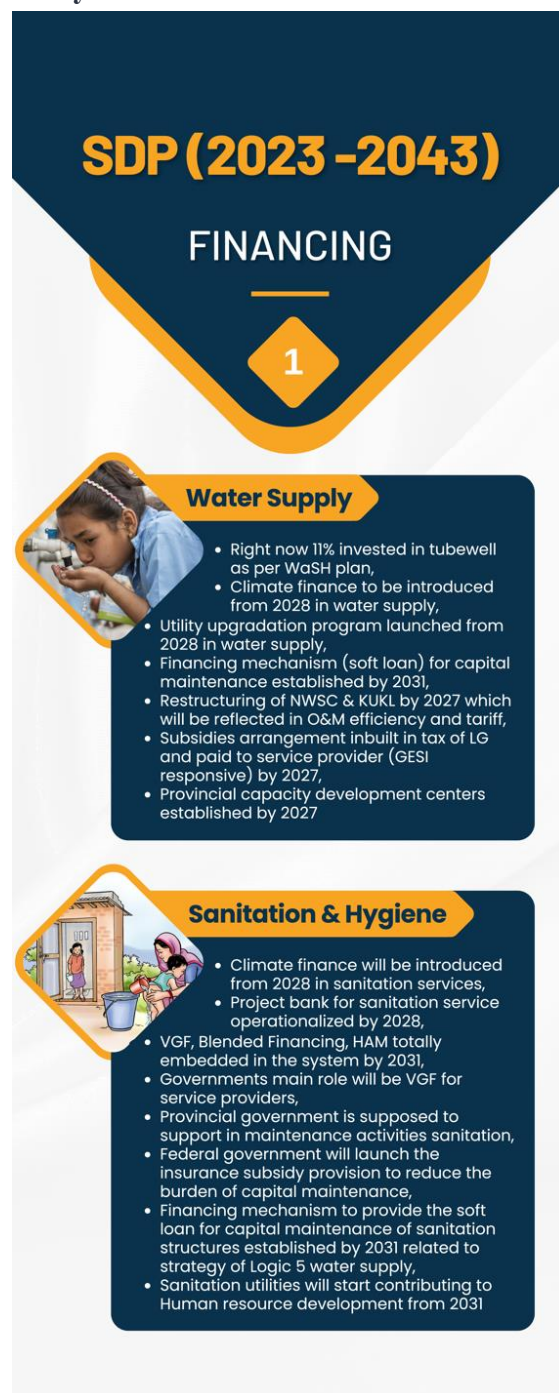


Figure 46 Financing strategy

Raising the political economy of the sector: To garner political commitment and elevate the political profile of the sector, several actions will be undertaken. This includes the preparation of impact briefs highlighting the sector's contributions. These impact briefs will be subjected to negotiation among various stakeholders, with the involvement of strategic negotiators. The overarching goal is to secure intersectoral commitments, including climate financing, leveraging local-level budgets, incorporating empowerment budgets for WASH through initiatives like employment generation and entrepreneurship support, and mitigating risks associated with private sector involvement. These efforts are aimed at strengthening the sector's standing and facilitating cross-sector collaboration and resource mobilization. Creating a facilitative environment by advocating mandatory mechanisms for the bank to provide soft loans in WASH sector is expected to boost the private sector involvement in WASH services.

Strengthening Regulatory Authorities: This involves enhancing the capabilities of regulatory bodies to generate additional revenues through tariffs, thereby reducing the fiscal burden on the federal government for financing these foundational elements.

Advocating for Diverse Funding Sources: A key objective is to promote diversity in funding sources, including Corporate Social Responsibility (CSR) contributions for WASH in institutions. This diversification of funding streams helps bolster financial support for Water, Sanitation, and Hygiene (WASH) initiatives.

Preparing Projects for Repayable Financing: During this phase, projects are prepared to be eligible for repayable financing. This entails assessing the capacity of financing institutions and fostering collaboration within the WASH market to facilitate access to financial resources. The government will build the capacities of Bank and Financial Institutions (BFIs) for their better understanding on how investments in WASH sector can match their long-term liabilities.

Mitigating Risks for Private Sectors and Service Providers: Efforts are made to reduce risks for private sector entities and service providers. This is achieved by incorporating mechanisms such as viability gap funding, blended financing, and system insurance into the financing landscape by the year 2030. These measures promote investor confidence and sustainability in the WASH sector. Methodological interventions will be provided for the market linkages as well.

Second Phase (Maturity 2031-2037):

Building on the foundational work undertaken in the first phase, the second phase will focus on refining and expanding these efforts. This includes deepening political commitments, broadening intersectoral negotiations, and fully implementing strategies to secure climate financing, tap into local-level budgets, allocate empowerment budgets for WASH through initiatives promoting employment generation and entrepreneurship, and effectively mitigate risks associated with private sector engagement. The second phase will facilitate the full realization of these initiatives, ensuring their robust integration into the overall framework of the project for maximum impact.

Third Phase (Close the gap 2038-2043):

During the third phase, a substantial shift in project dynamics is anticipated, with the private sector assuming a more substantial and extensive role in terms of responsibilities and investments. The government's focus will shift towards regulation, risk management, and facilitating viability gap funding to make private sector participation more appealing. This strategic shift is designed to capitalize on the strengths and capacities of both private sector entities and government bodies, ensuring the effective execution and long-term viability of project endeavors. The regulation of service providers through Key Performance Indicators (KPIs) will be instrumental in improving their creditworthiness, thereby making them more attractive to banks and other financial institutions for investment and financing opportunities.

12.7 Cost of theme

The costs presented in this section of the SDP are derived from a comprehensive analysis of the Key Action Points outlined in Annex 1.

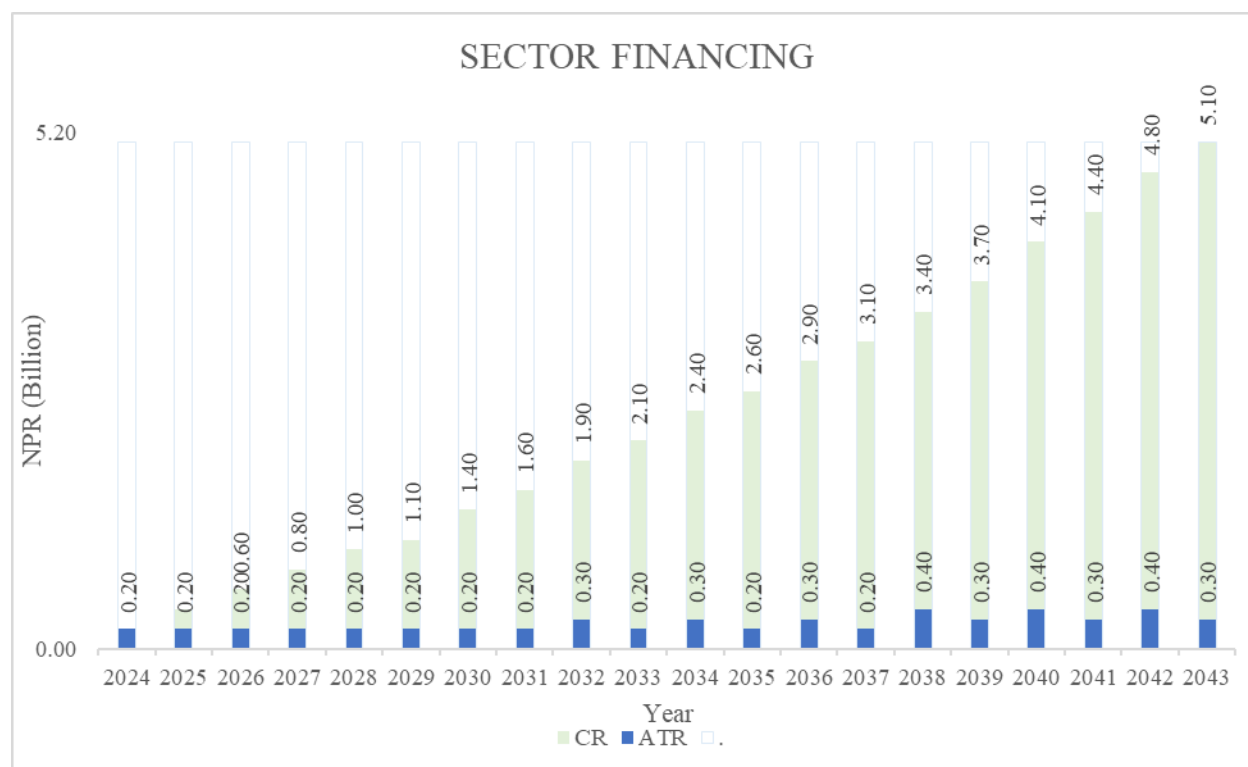


Figure 47 Annual Thematic Requirement of Financing theme

Total cost of this theme is NRs. **5078.62** Million (in 2023 price) for 20 years period. The breakdown of each period can be found in the Chapter 16.

12.8 Significance of theme

The financing chapter is relevant for this SDP as it underscores the critical role of financial resources, the need for comprehensive financial planning, the importance of balancing capital and operational costs, and the necessity of exploring innovative financing options to achieve SDG targets and beyond in the water supply, sanitation, and hygiene sector. It also stresses the synergy between financing and governance interventions and the value of targeted financial efforts.

12.9 Relevancy to the SDP

1. **Resource Allocation for Essential Services:** Financing is crucial to ensure that essential WASH services, including clean water supply, sanitation facilities, and hygiene education, are accessible to all. Adequate funding is necessary to build, maintain, and upgrade the infrastructure required for these services.
2. **Enabler of Sustainable Development:** Sustainable development goals, such as those outlined in the United Nations' 2030 Agenda, encompass various dimensions, including social, economic, and environmental. Adequate financing for WASH services contributes to social well-being by improving public health, economic development through increased productivity, and environmental sustainability by reducing pollution and resource wastage.
3. **Infrastructure Development:** Financing is essential for building and upgrading WASH infrastructure. This includes constructing safe and reliable water sources, treatment plants, distribution networks, sewage systems, and sanitation facilities. Without adequate funds, it's challenging to develop the necessary infrastructure to provide universal access to clean water and sanitation.
4. **Maintenance and Operation:** Sustainable access to WASH services requires regular maintenance and operation. This involves costs related to repairing infrastructure, ensuring water quality, and maintaining hygiene facilities. Adequate financing is needed to ensure the long-term functionality of these services.
5. **Innovation and Technology:** Financing plays a vital role in promoting innovation and the adoption of advanced technologies in the WASH sector. Innovations can lead to more efficient and cost-effective solutions for providing clean water and sanitation, contributing to SDP objectives.
6. **Capacity Building:** Funding is required for capacity building initiatives within local communities, institutions, and government agencies. This ensures that they have the knowledge and skills necessary to manage and sustain WASH services effectively.
7. **Data Collection and Research:** Financing supports data collection, research, and monitoring efforts related to WASH services. Accurate and up-to-date data are essential for evidence-based decision-making and the continuous improvement of WASH programs.
8. **Public-Private Partnerships (PPPs):** Financing can facilitate partnerships between the public and private sectors, which can bring additional resources, expertise, and innovation to the WASH sector. PPPs are increasingly recognized as a means to address funding gaps and improve service delivery.

9. **Equity and Inclusivity:** Adequate financing is essential to ensure that vulnerable and marginalized communities, often located in remote or underserved areas, have equal access to WASH services. This contributes to achieving the goal of leaving no one behind in the pursuit of sustainable development.
10. **Global Commitments:** Many international agreements and commitments, such as the Sustainable Development Goals and the Paris Agreement, emphasize the importance of financing sustainable development initiatives, including WASH. Meeting these commitments requires dedicated funding streams.

12.10 Theme Risks

Risks and Proposed Mitigations for the theme:

Risk	Mitigation measures
Political and Economic instability	Introduce Standard Operation Procedure to ensure that sensitization happens as soon as the political leadership changes. ¹⁶
Inefficient Resource Allocation/Inadequate data/Lack of transparency	Establish linkage with MIS/Creation of financial data including expenditure patterns/Access of data to advocating partners, CSO/Continuous dialogues to improve the accountability
User Fee challenges/Equity concerns	Introduce targeted financing mechanisms/indicators
Partnership challenges	Maintain sector wide approach/cross sectoral dialogues with action points.
Market risks	Establish provision of insurance/blended financing /viability gap fundings for risk sharing
Environmental factors	Introduce system insurance and other contingency provisions such as: stockpiling, vending agreements
Financial handling capacity	Ensure financing focused capacity building programs

¹⁶ This will be the arrangement not only for the MoWS but also other sectoral ministries affecting the sector performance.

13.THEME 6: GENDER EQUALITY AND SOCIAL INCLUSION

13.1 Background

Constitution of Nepal has guaranteed water and sanitation as the right and by that it means Government of Nepal should respect, protect and fulfil the human right.



Figure 48 States of obligation

The key elements to achieve human rights are Non-discrimination and Equity. These principles need ensuring that everyone, regardless of their gender, background or circumstances, has equal access to WASH services. It involves addressing systemic inequalities and disparities to guarantee equitable access for marginalized and vulnerable populations. For which adhering to the principles of

participation, transparency and accountability (PTA) is essential.

Participation: Participation means meaningful involvement of communities and diverse groups of individuals including women with diverse backgrounds, PwD, Dalits, and other marginalized groups in decision-making processes related to WASH. It empowers people to have a voice in shaping policies, projects, and services, leading to solutions that better suit their needs and preferences.

Transparency: Transparency involves making information related to WASH services, budgets, and processes readily accessible and understandable to the public. It ensures that people have access to clear and comprehensive data about how WASH resources are allocated and used, enabling informed decision-making, and fostering trust in the system.

Accountability: Accountability goes beyond transparency and involves holding responsible authorities and institutions answerable for their actions or inactions in providing WASH services. It includes mechanisms to investigate and address issues of mismanagement, corruption, or negligence in the delivery of WASH services. Accountability helps ensure that those responsible for providing services are held to high standards and can be held responsible if they fail to provide them.

Gender, background, and circumstances significantly influence access to WASH services, and capacity building initiatives. For instance, transgender have been facing challenges accessing public toilets due to lack of facilities that cater to their specific needs. Social taboos, such as untouchability, is one of the barriers to water supply provision, particularly for marginalized communities who are often subjected to discrimination based on caste or ethnicity. Additionally, sanitation workers, who often come from excluded communities, are not receiving proper occupational health and safety

measures, exposing them to various health risks, which is compounded during pandemics like COVID-19 due to their limited coping capacity. These examples highlight how gender, background, and circumstances are creating disparities in WASH service access and provision, emphasizing the need for inclusive and equitable approaches in addressing these challenges.

What does an ideal GESI look like?

1. Service provision components:
 - Targeted subsidies based upon the segregated data.
 - Special provisions for landless /slums. Making sure legal status is not creating the barrier to access the service.
 - Provisions for persons with disabilities, gender and sexual minorities in public places. Ensure that there are no barriers between service and the users.
2. Regulation components:
 - Targeted subsidies, Special provision for landless/slums are KPI's of the utilities to regulate.
 - Provisions for persons with disabilities, gender and sexual minorities part of KPI's of the public place WASH service provider
3. Empowerment components:
 - In built Positive discrimination, affirmative action such as mandatory representation in capacity building components.
 - Diverse groups of women, PwD, Dalits, and other marginalized and vulnerable groups' voices are heard and acted upon at all levels.
4. Cross sectoral components:
 - Leveraging the WASH outputs by using empowerment related budgets
 - Priority of WASH during GESI discussions/GESI audits

13.2 Thematic Scan

Nepal has seen significant progress in improving the service level in households, public places and institutions which has a positive trickle-down effect in GESI. Similarly, since rural water supply and sanitation policy has made the special provisions the representation of 33% has been assured in WUSC. The representation, however, is not reflected in all areas. Capacity building related information is not segregated, making capacity building a vicious cycle from GESI's perspective. Few informed piloted interventions were seen during this decade; however, the idea needs to be mandated in order to be impactful intervention. Mostly it has been noticed that the GESI problems are rarely reflected in monitoring and

- Enhancing Equity and Inclusion in WASH Sector:
1. Segregation- Data to understand the barriers.
 2. Service Access- Targeted action to remove the access barriers.
 3. Representation: From Tokenism to Consultations and finally co-decision
 4. Empowerment: Sector driven/Need based /breaking the structural barriers
 5. Consultation: Mechanisms to have voice recorded
 6. Leveraging: GESI funds channeled to WASH
 7. Occupational health and safety- Regulated as one of the key performance indicators.

evaluation in the form of segregated data and hence the improvement measures are too little too late and mostly perceptive, impractical and supply driven. Joint Sector Review highlighted that there are few major barriers that Nepal’s WASH sector needs to overcome.

The domains under the dimension of inclusion/exclusion may vary in different sectors. But the exclusion dimensions of GESI to WASH services are gender, caste/ethnic groups/religious minority (social), poverty and remoteness. Gender discrimination is one of the main features of Nepali society, where men continuing to dominate the socio-economic realm and exists every cast/ethnic group and location. The social dimension includes the prejudice and verbal abuse associated with the concept of "untouchable" and to discriminatory practice that occur due to prevailing social values and norms. Despite the economic growth, there is still poverty concentration in caste/ethnic groups and location/regions. Remoteness is another dimension of exclusion of access to WASH services. All dimensions of exclusion mentioned above are equally important, relevant and interlinked to each other.

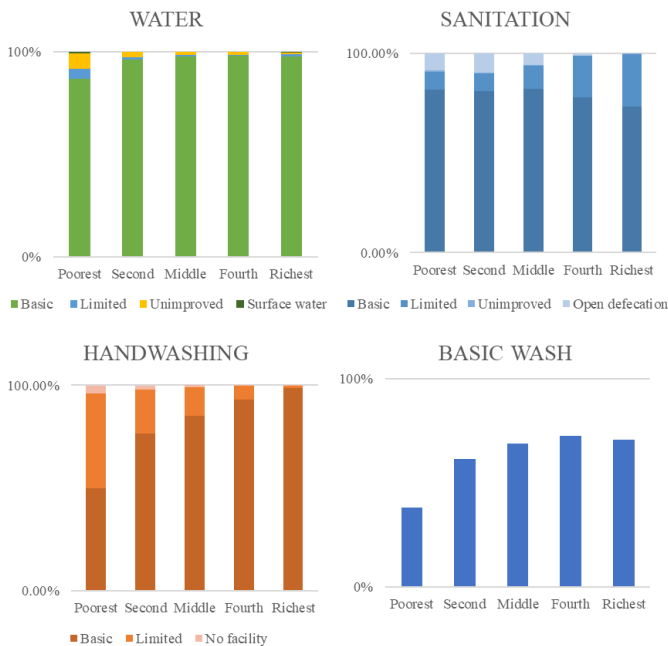


Figure 50 WASH in poorest to richest class

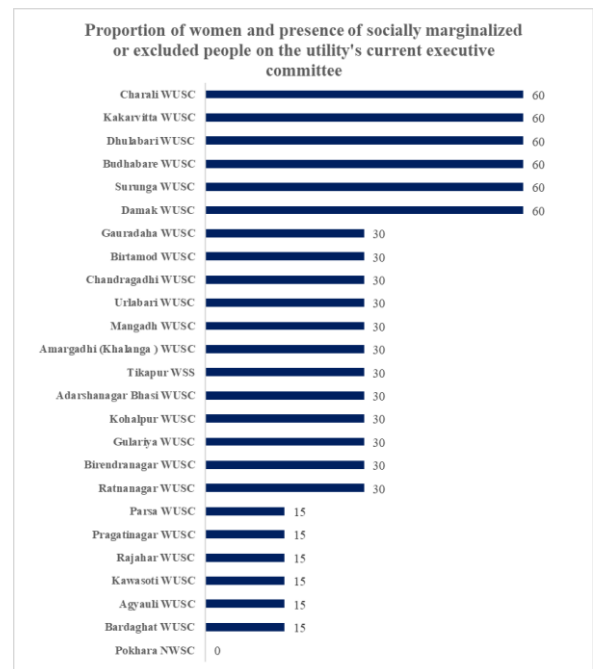


Figure 49 Women representation in WUSCs

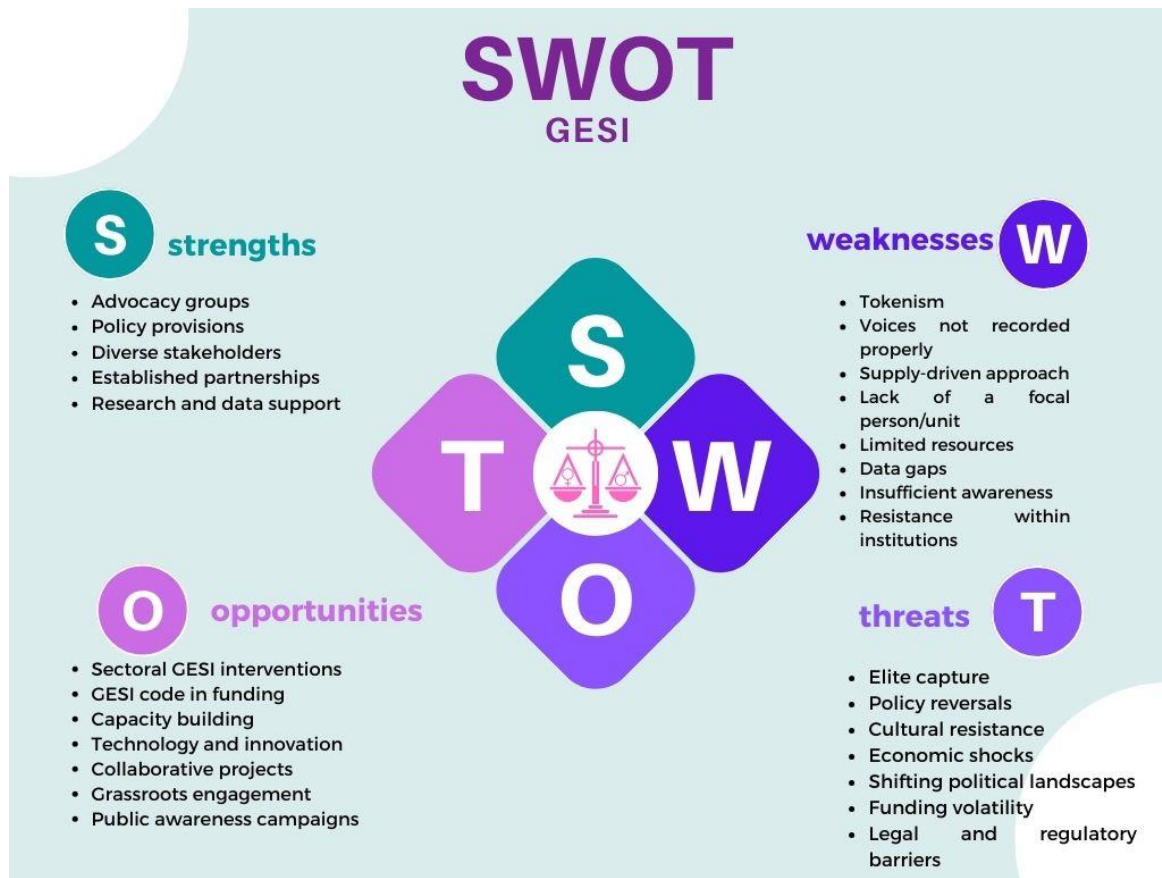


Figure 51 SWOT of GESI Landscape of sector

13.3 Guiding Principles

1. **Equity and Inclusion:** Ensure that all individuals and communities, regardless of gender, age, ethnicity, disability, socioeconomic status, or other characteristics, have equal access to and benefits from WASH services.
2. **Participation and Empowerment:** Promote active participation and empowerment of marginalized **groups** in decision-making processes related to WASH planning, implementation, and management.
3. **Non-Discrimination:** Uphold principles of non-discrimination and actively work to eliminate all forms of discrimination and bias within the WASH sector.
4. **Rights-Based Approach:** Recognize access to clean water, sanitation, and hygiene as a fundamental human right and ensure that WASH policies and programs respect and protect these rights.
5. **Intersectionality:** Acknowledge that individuals may experience multiple forms of marginalization simultaneously and tailor interventions to address these intersecting identities and vulnerabilities.
6. **Capacity Building:** Invest in building the capacity of local institutions, communities, and individuals to participate in and manage WASH initiatives effectively and actively. Prioritize

socially, economically, politically, and geographically excluded groups when investing in capacity-building activities.

7. **Collaboration and Partnerships:** Collaborate with diverse stakeholders, including civil society organizations, government agencies, international partners, and marginalized communities, to leverage resources, knowledge, and expertise in advancing GESI goals.
8. **Evidence-Based Decision-Making:** Base decisions and policies on accurate and up-to-date data and research to tailor interventions to the specific needs and priorities of marginalized groups.

13.4 Theme Goal

Long-term goal: To establish an inclusive and equitable WASH ecosystem that ensures access to services for all, actively engages marginalized communities in decision-making processes, strengthens legal and institutional frameworks, and safeguards the wellbeing of marginalized populations while achieving desired WASH outcomes.

Goal for the SDP period (2024-2043)

Outcome: Equity and Inclusion in WASH Services

Goal: Address disparities and ensure equitable access to WASH services, with a focus on vulnerable and marginalized groups, by 2043.

Desired Outcomes:

1. **Equitable Access to WaSH Services:** Access to clean water, sanitation facilities, and hygiene education is increased for marginalized and vulnerable communities, reducing disparities in service coverage.
2. **Marginalized Community Empowerment:** Participation and engagement of marginalized communities, including women, ethnic minorities, persons with disabilities, and other vulnerable groups, in decision-making processes related to WASH planning, implementation, and monitoring are enhanced.
3. **Strengthened Legal and Institutional Frameworks:** Legal and regulatory frameworks is improved that explicitly address the needs and rights of marginalized populations, including gender-responsive policies and anti-discrimination measures.
4. **Inclusive Infrastructure:** There is no barrier in accessing WASH infrastructure and services to be accessible and inclusive, taking into account the specific needs and requirements of marginalized communities, such as accessible sanitation facilities for persons with disabilities.
5. **Reduced Vulnerability:** Marginalized communities' resilience is enhanced and vulnerability is reduced to the impacts of climate change, natural disasters, and public health crises through the provision of sustainable WASH services.
6. **Segregated Monitoring and Reporting:** Segregated data are in place to influence the policy decisions ensuring accountability for meeting their WASH needs and rights.
7. **Inclusive Partnerships:** Partnerships and collaborations are strengthened with GESI-focused civil society organizations and advocates to leverage their expertise and resources for more inclusive and equitable WASH initiatives.

8. **Knowledge and Awareness:** Awareness and understanding is increased among stakeholders, including government agencies, development partners, and communities, about the importance of GESI considerations in WASH planning and programming.

13.5 Strategic Approach and Interventions

Strategic Approach 1: Community-Led Planning and Implementation:

Interventions:

- **Community-Driven Decision-Making:** Encourage marginalized communities to actively engage in decision-making, prioritize their specific needs, and oversee the execution of community-driven WASH planning and implementation.
- **Equity and Inclusion Promotion:** Ensure equitable access to WASH services by prioritizing the needs of marginalized communities, promoting community-driven decision-making, and overseeing the implementation of inclusive WASH plans.
- **One House, One Connection:** Achieve the sector vision of "accessible safe water and sanitation services for all" through the implementation of the "one house, one connection" principle.

Strategic Approach 2: Capacity Building and Awareness:

Interventions:

- **Targeted Capacity-Building:** Implement focused capacity-building initiatives for local stakeholders, including marginalized communities, to improve their competencies in WASH management, leadership, and advocacy.
- **GESI Awareness:** Increase awareness within the sector regarding Gender Equality and Social Inclusion (GESI) issues.
- **Empowerment for Financing Leverage:** Promote empowerment through WASH initiatives as a means to leverage financing opportunities in the sector.

Strategic Approach 3: Policy and Institutional Reform:

Interventions:

- **Policy and Institutional Reforms:** Advocate for and support policy, regulatory, and institutional reforms to integrate GESI principles into WASH programs, including the development and enforcement of anti-discrimination laws and policies.
- **Capacity Development for Marginalized Groups:** Address issues of marginalization and exclusion through targeted capacity development, with a focus on building the skills and capacities of Women, Poor, and Excluded (WPE) groups within WatSan systems. It also includes capacity development of men/boys as a way to reduce stigma and taboos and provide an enabling environment for GESI.
- **Cross-Subsidy Mechanism:** Implement a cross-subsidy mechanism within the community, particularly for WPE, covering aspects like installation and tariffs.
- **Mainstreaming GESI:** Prioritize the implementation of specially designed projects that mainstream GESI principles in large and medium-sized WASH systems.

Strategic Approach 4: Monitoring and Accountability Mechanisms:

Interventions:

- **Robust Monitoring and Accountability Mechanisms:** Develop and implement strong monitoring and accountability systems, with grievance handling mechanism to effectively track progress towards (GESI) objectives within the WASH sector.
- **Regular Reporting:** Promote and encourage regular reporting on key indicators related to access, participation, and outcomes, with a particular emphasis on the experiences and needs of marginalized communities.

Strategic Approach 5: Cross-Sectoral Collaboration:

Interventions:

- **Intersectoral Collaboration:** Promote collaboration between the WASH sector and other relevant sectors, including health, education, and women's empowerment, to comprehensively address the broader social and economic determinants impacting marginalized communities.
- **Constructive collaboration for Enhanced GESI Outcomes:** Establish synergistic approaches to achieve improved GESI outcomes by aligning efforts and resources across sectors.

13.6 Cost of the theme

The costs presented in this section of the SDP are derived from a comprehensive analysis of the Key Action Points outlined in Annex 1.

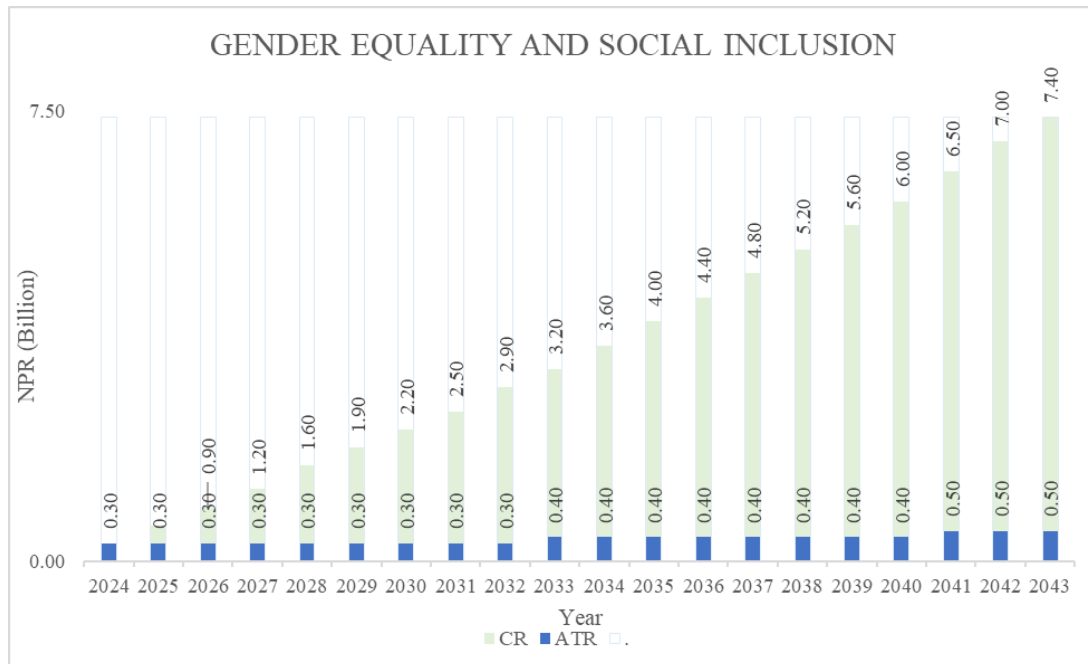


Figure 52 Annual Thematic Requirement of GESI them

Total cost of this theme is NRs. **7438.54** Million (in 2023 price) for 20 years period. The breakdown of each period can be found in the Chapter 16.

13.7 Significance of theme

The GESI theme holds profound relevance in the context of SDG Goals and beyond, which aims for universal access to clean water and sanitation. It underscores the imperative of addressing the root causes of exclusion and discrimination faced by marginalized communities, recognizing that without mitigating these barriers, achieving universal access is unattainable. By integrating GESI principles into the WASH SDP, inclusivity and equity have been prioritized, acknowledging that access to WASH is not solely about infrastructure but also about creating an equitable and inclusive environment where all individuals, regardless of their background, can exercise their WASH rights. This approach aligns with the interconnectedness of social justice and sustainable development, ultimately advancing progress while fostering a more just and sustainable future for all.

13.8 Relevancy to SDP

- **Equity and Inclusion:** GESI in WASH promotes equal access and benefits for all individuals and communities, regardless of their characteristics, aligning with sustainable development goals.
- **Empowerment:** GESI empowers marginalized groups to participate in WASH decision-making, enhancing their voice and agency in development.
- **Addressing Discrimination:** GESI aims to eliminate discrimination and bias within the WASH sector, ensuring dignity and rights protection.
- **Human Rights Perspective:** GESI recognizes WASH as a fundamental human right, aligning with SDGs and human development principles.
- **Intersectionality:** GESI considers multiple forms of marginalization, tailoring interventions to address intersecting identities and vulnerabilities.
- **Capacity Building:** GESI promotes capacity building in communities and institutions for sustainable WASH management and ownership.
- **Collaboration:** GESI encourages collaboration among stakeholders, including marginalized communities, for equitable and inclusive WASH initiatives.

13.9 Theme Risks

Risks and Proposed Mitigations for the theme

Risk	Mitigation strategies
Lack of inclusivity in decision making	Maintain dialogues with GESI advocates and their inclusion in participation. Ensure mandatory provision of representation in policy, program, project designs. Ensure GESI audit/mainstreaming GESI in service regulation
Cultural and social challenge	Ensure focused awareness/triggering programs

Risk	Mitigation strategies
Resource constraints	Leverage cross sectoral GESI empowerment budgets in WASH
Stigmatization	Ensure GESI provision in every program reporting including the status of participation, feedback.
Non GESI considered technical designs	Ensure that GESI considerations are integrated into all stages of WASH project planning, implementation, and evaluation. Empowerment of Designers. Awareness about GESI issue to designers

14.THEME 7: CLIMATE CHALLENGES AND CRISIS NAVIGATION

14.1 Background

Water solutions are climate solutions. Water security and sustainable sanitation services are at the crux of climate resilience and of a net zero greenhouse gas emission future. Systemic and targeted action is required to achieve climate resilient water security and sanitation that meets human economic and social goals.

As climate induced disaster occurrence is becoming more frequent the impact of those disasters on WASH system is becoming more prominent. The vulnerability associated with the frequent hazards can be categorized into the following categories.

1. **System Vulnerability:** Assets are prone to climate risks and multi hazards such as water sources, toilets, sewers, pipelines.
2. **Institutional Vulnerability:** Service providers and asset owners are not resilient enough to cope with the climate hazards.
3. **Cultural/Social Vulnerability:** The cultural and social norms making the community vulnerable to climate hazards.
4. **Data vulnerabilities:** The information is not adequate to predict or model the risk.

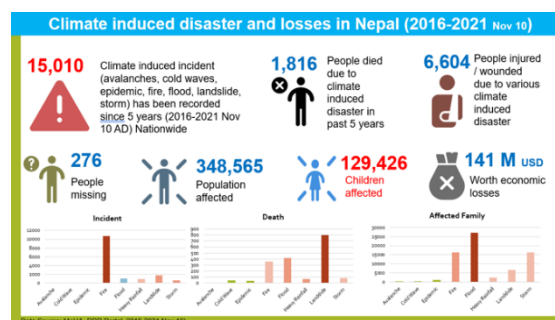


Figure 53 Climate induced disaster vs losses in Nepal (Source MoHA/UNICEF)

14.2 Thematic Scan

Climate-induced disasters have had a significant impact on the sustainability of WASH systems. Although there have been some pilot initiatives to address these risks, it's important to note that in 2020, guidelines for Climate Change Adaptation (CCA) and Disaster Risk Management (DRM) specific to WASH was developed. However, with the changing landscape post-federalization, there is an urgent need to revise these guidelines. Additionally, improving the resilience of water supply and sanitation systems requires updating technical standards and norms.

Various provincial and local governments have initiated pilot projects, such as recharge ponds in Lumbini Province and updates to contingency plans and vulnerability risk assessments in selected municipalities of Gandaki Province. However, these efforts are currently fragmented and lack a cohesive national approach. The Terai region, which is highly vulnerable to flood hazards, faces unique challenges, including a high rate of slippage in ODF and heavy reliance on shallow tube wells for water supply, which exacerbates cultural and social vulnerabilities. NWASH-MIS has conducted assessments of assets in terms of climate vulnerabilities. However, it is crucial to foster collaboration between WASH practitioners, DHM, WECS, NDRRMA, NSO and academia to analyze and model insights from this data effectively.

WASH Sector representatives during the Risk Informed WASH-BAT analysis have emphasized the importance of ensuring the adaptability of services in the face of climate change and the ability to maintain functionality amid increasing uncertainties and pressures. Central to this approach is the establishment of a clear climate rationale, underpinned by the

development and implementation of programs rooted in a comprehensive understanding of climate-related risks. Key climate risks that threaten the resilience of WASH service delivery have been identified. These include heightened exposure of water sources like river flows to contaminants during droughts, reduced raw water supply due to decreased surface and groundwater volumes, potentially leading to significant population displacement, particularly affecting vulnerable groups such as the elderly, women, children, and people with disabilities. Additionally, floods impact water source quality, quantity, and infrastructure reliability, exacerbated by limited financial resources, weak water governance, and the absence of reliable information like early warning systems. Vulnerabilities in WASH infrastructure due to landslides, caused by insufficient funding for robust systems, inadequate water governance, and a lack of critical information like geo-hazard mapping, further compound these risks. Importantly, these risks are intricately linked to the secondary risk of waterborne disease outbreaks, a prevalent issue in the country, which is exacerbated by the impacts of climate change.

The big disaster such as Earthquake, 2015; Melamchi Debris flow, Terai Floods as well as the COVID-19 pandemic has shown valuable lessons. The sector should compile a list of essential supplies for water treatment, maintain a steady supply of these items, and equip key workers with protective gear. It's crucial to establish networks of experts for emergency assistance and promote resource-sharing among utilities. Adopting technology for water

system management is essential. Streamlining funding, especially in areas with limited resources, is also necessary. Additionally, systematic contingency planning and budgeting for disasters of large scale, along with resource-sharing and leveraging both public and private sector resources for emergency preparedness and response, should be integrated into these



Figure 54 Lesson Learned in WASH: COVID-19 Pandemic

actions to enhance sector preparedness for emergencies. System insurance, accessing loss and damage funds are some areas of intervention.

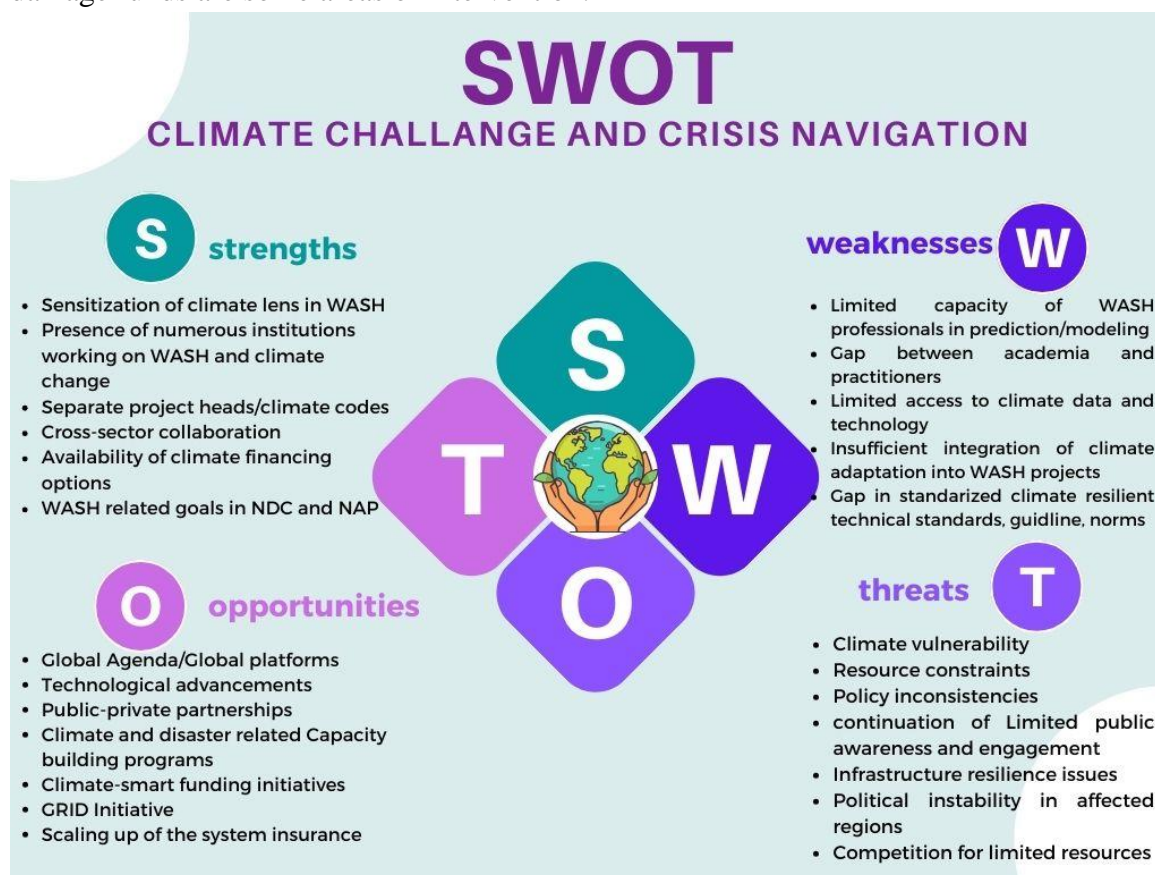


Figure 55 SWOT of thematic landscape (Climate Challenges and Crisis Navigation)

14.3 Guiding Principles

1. **Resilient WASH for All:** Prioritize resilience across all aspects of the WASH sector.
2. **GRID aligned Infrastructure:** Enhance infrastructure aligned with GRID principles.
3. **Community Engagement:** Empower communities for disaster risk reduction and adaptation.
4. **Integrated Policies:** Integrate climate resilience and disaster risk management into policies.
5. **Capacity Development:** Enhance skills and capacities for effective climate response.
6. **Data-Driven Decisions:** Use data and analysis for informed decision-making.
7. **Cross-Sectoral Collaboration:** Collaborate with other sectors for holistic resilience.
8. **Equitable Access:** Ensure vulnerable groups have equal access to resilient WASH services.
9. **Ecosystem and River Health:** Foster the regeneration and protection of ecosystems, enhancing water production while preserving biodiversity, natural flow regimes, and source water protection.

14.4 Theme Goal

Long-term goal: To strengthen the resilience of the WASH sector, including infrastructure, services, and communities, in the face of climate change-induced challenges and disaster risks, ensuring the continued provision of safe and sustainable WASH services for all.

Goal for the SDP period (2024-2043)

Outcome 1: Climate-Resilient WASH Infrastructure

Goal 1: By 2043, enhance the climate resilience of WASH infrastructure to withstand the impacts of climate change and extreme weather events.

Desired Outcomes:

1. **GRID aligned Infrastructure:** WASH infrastructure, including water sources, treatment facilities, and sanitation systems are upgraded and fortified to resist climate-related damages, ensuring continuous service delivery during extreme weather events. Desired service level is attained with minimum GHG emissions.
2. **Contingency Plans:** Robust contingency plans are in place to manage and respond effectively to climate-related emergencies, minimizing disruptions to WASH services. Local disaster response plan and contingency plan are harmonized resulting capacitated response team & efficient supply chain management.
3. **Innovative Technologies:** The integration of innovative technologies and engineering solutions are enabled the WASH sector to adapt and mitigate climate change impacts while optimizing resource utilization.

Outcome 2: Community-Centered Disaster Risk Reduction

Goal 2: By 2043, empower communities to actively participate in disaster risk reduction and climate change adaptation strategies, promoting community resilience in the WASH sector.

Desired Outcomes:

1. **Community Engagement:** Local communities are actively engaged in the development and implementation of disaster risk reduction and climate adaptation plans, tailoring strategies to their unique needs and vulnerabilities.
2. **Awareness and Capacity:** Local Governments and Communities are well-informed about climate change impacts and disaster risks, equipped with the knowledge and skills leveraging indigenous knowledge to mitigate and respond to WASH-related challenges.
3. **Community-Led Initiatives:** Community-led disaster risk reduction initiatives are established, encouraging bottom-up solutions, and enhancing the community's ability to manage and recover from climate-related disasters.
4. **Inclusivity:** Vulnerable and marginalized groups within communities, including women, children, and persons with disabilities, have equitable participation and representation in disaster risk reduction and adaptation efforts.

Outcome 3: Enhanced Policy and Governance for Resilience

Goal 3: By 2043, strengthen policy frameworks and governance structures to integrate climate change adaptation and disaster risk management into the WASH sector, ensuring long-term resilience.

Desired Outcomes:

1. **Policy Integration:** Climate change adaptation and disaster risk management considerations are fully integrated into national and local WASH policies, strategies, and regulations, guiding sector-wide resilience efforts.

2. **Capacity Building:** Capacities of government agencies, local authorities, and relevant stakeholders are enhanced to effectively plan, implement, and monitor climate-resilient WASH programs and projects.
3. **Resource Allocation:** Adequate financial resources are allocated to support climate-resilient WASH initiatives, including funding for research, infrastructure upgrades, and capacity-building activities.
4. **Institutional Coordination:** Enhanced coordination mechanisms are established between disaster management, climate change, and WASH sectors to facilitate a holistic and collaborative approach with environmental sector to resilience-building efforts.
5. **Knowledge Sharing:** A knowledge-sharing platform is developed to disseminate best practices, lessons learned, and research findings related to climate change adaptation and disaster risk management within the WASH sector, fostering continuous learning and improvement.

Outcome 4: Enhanced Ecosystems for Sustainable Water Production

Goal 4: Foster the regeneration and protection of ecosystems to ensure a sustainable increase in water production by 2043.

Desired Outcomes:

1. **Ecosystem Conservation:** Diverse ecosystems, regardless of their location are preserved and regenerated to serve as natural reservoirs and regulators of water resources. This contributes to environmental management, biodiversity enhancement and ecological resilience.
2. **Water Augmentation and Production:** Natural processes are optimized, leading to increased water availability health and vitality of ecosystems are simultaneously promoted. This ensures a sustainable and reliable water supply for communities.
3. **River Health Management:** River systems thrive, supporting diverse aquatic habitats and ecological functions. These healthy rivers continue to serve as vital water sources for various uses, including agriculture, industry, and domestic consumption.
4. **Source Protection and Recharge:** Freshwater sources are safeguarded, groundwater remains pristine, and natural groundwater recharge mechanisms are actively promoted. This ensures the long-term sustainability of water sources, even in the face of environmental challenges.
5. **Align WaSH infrastructure development and service delivery with IWRM principle:** The WASH infrastructure development and service delivery are aligned with IWRM principles aided with the tools such as Multiple Use of Sources (MUS), Demand Management, NRW reduction, Pay for Ecosystem & Wastewater Reuse.

14.5 Strategic Approach and Interventions

Strategic Approach 1: Climate-Resilient Infrastructure Development

Interventions:

- **Updated Guidelines and Standards:** Revise and update climate-resilient guidelines, technical standards, and norms for WASH infrastructure design, construction, and maintenance.

- **Scaled-Up Pilot Projects:** Expand the implementation of successful pilot projects that enhance the resilience of WASH infrastructure to a national scale.
- **Infrastructure Upgrades and Innovations:** Invest in climate-resilient infrastructure upgrades, including water source protection, flood-resistant sanitation facilities, and decentralized water treatment systems.
- **Early Warning Systems:** Develop and implement early warning systems for climate-related disasters, integrating them with WASH infrastructure management.
- **Budget Allocation:** Allocate up to 1% of the WASH sector budget for climate change and disaster management, ensuring timely reinstatement of projects affected by disasters.
- **WASH Response Stockpiles:** Establish stockpiles for WASH response and vendor agreements for emergency purposes in all municipalities as a preparedness measure.
- **Disaster Recovery Financing:** Allocate dedicated funding for post disaster recovery interventions within the WASH sector, separate from regular budgets.

Strategic Approach 2: Vulnerability Assessment and Risk Reduction

Interventions:

- **Expanded Vulnerability Assessments:** Conduct comprehensive vulnerability risk assessments in multiple municipalities and provinces to identify high-risk areas and prioritize interventions.
- **Community Awareness and Engagement:** Empower communities with knowledge and skills for climate resilience and disaster preparedness in the WASH sector, ensuring inclusivity and equity.
- **Risk Assessment and Mapping:** Implement GIS, AI, and ML tools for better risk analysis and decision-making, integrating data with N-WASH-MIS for improved planning.

Strategic Approach 3: Policy Development and Interagency Collaboration

Interventions:

- **Policy Development:** Develop and update national and regional policies that prioritize climate resilience and disaster risk management in WASH, enforcing regulations and standards.
- **Interagency Collaboration:** Strengthen collaboration and coordination among provincial governments, local governments, NGOs, and other stakeholders to ensure a cohesive approach to risk management.
- **Capacity Building:** Provide training and capacity-building programs for WASH practitioners, local authorities, and communities on climate change adaptation and disaster preparedness.
- **Data Sharing and Collaboration:** Establish data-sharing mechanisms between WASH stakeholders, government agencies, and academia, fostering collaboration platforms for joint research and data analysis.

Strategic Approach 4: Resilient Community Empowerment and Engagement

Interventions:

- **Community Resilience Enhancement:** Enhance the resilience of communities in high-risk areas through improved water supply, sanitation, and disaster preparedness.
- **Community-Led Disaster Risk Reduction:** Empower communities to take the lead in disaster risk reduction efforts, including the development of local contingency plans and disaster response teams.
- **Local Resource Mobilization:** Support communities in mobilizing local resources for climate-resilient WASH infrastructure and disaster preparedness.
- **Integrated Adaptation and Contingency Plans:** Ensure that all three tiers of government, WASH agencies and utilities have integrated adaptation and contingency plans.

Strategic Approach 5: Improving Ecosystem and River health.

Interventions:

- **Biodiversity Conservation:** Implement measures to protect and restore biodiversity-rich ecosystems, recognizing their role in stabilizing water cycles.
- **Wetland Preservation:** Prioritize the conservation of wetlands as natural water storage systems that regulate water flow and quality.
- **Manage Aquifer Recharge:** Develop and employ aquifer recharge strategies to store excess surface water in aquifers for future use.
- **Rainwater Harvesting:** Promote rainwater harvesting systems at various scales to augment local water resources.
- **Natural Flow Preservation:** Implement river flow management strategies that maintains natural flow regimes to support aquatic ecosystems.
- **Pollution Control:** Strengthen water quality monitoring and pollution control measures to safeguard river health.
- **Source Water Protection:** Enforce regulations and community engagement programs to protect surface water and groundwater sources from contamination.
- **Groundwater Recharge Initiatives:** Implement permeable surface solutions and reforestation in recharge zones to facilitate groundwater replenishment.
- **Environmental Management:** Align environmental management plan within the project cycle & service delivery framework.

14.6 Cost of the theme

The costs presented in this section of the SDP are derived from a comprehensive analysis of the Key Action Points outlined in Annex 1.

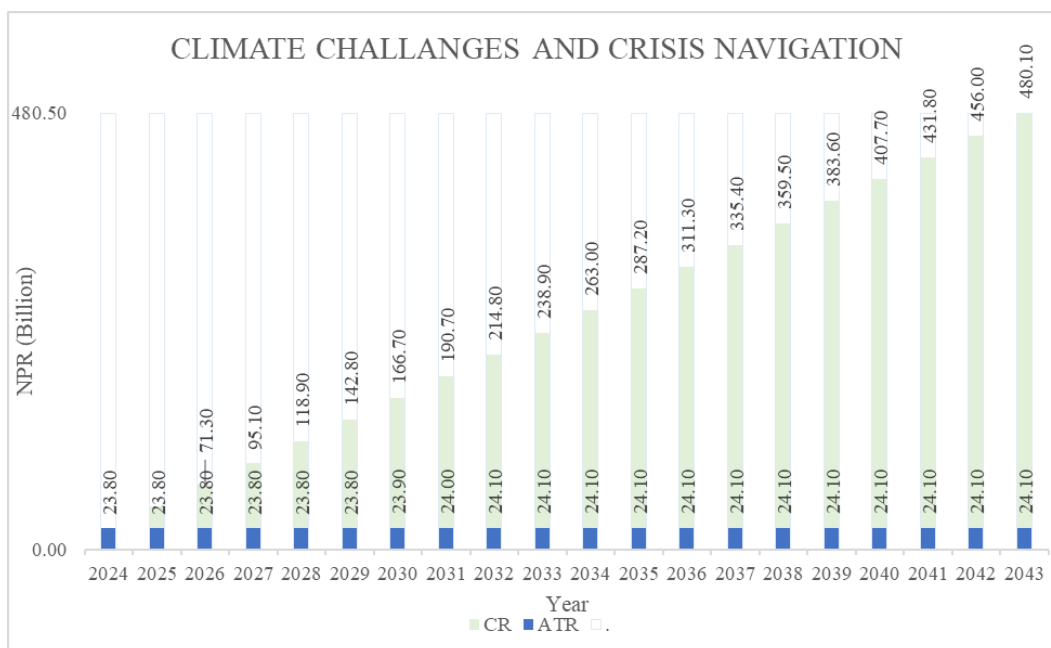


Figure 56 Annual thematic requirement for climate challenge and crisis navigation theme

Total cost of this theme is NRs. **480071** Million (in 2023 price) for 20 years period. The breakdown of each period can be found in the Chapter 16.

14.7 Significance of theme

The theme of climate change and disaster risk management in the context of WASH (Water, Sanitation, and Hygiene) is critically relevant due to the escalating impacts of climate change, which include more frequent and severe weather events, posing a direct threat to the sustainability of WASH systems. Nepal's commitments to national/global frameworks like NAP, NDC, COP, Sendai, and the Paris Agreement align with WASH goals. National policies reinforce Nepal's dedication to climate resilience and environmental sustainability.

Vulnerable communities are disproportionately affected, as climate-induced disasters disrupt access to clean water and sanitation, leading to health risks and economic burdens. Enhancing climate resilience in WASH is imperative to ensure continuous access to these essential services, aligning with global Sustainable Development Goals (SDGs) and contributing to community well-being, public health, and overall resilience. Integrating climate adaptation into WASH policies and governance is pivotal for addressing these interconnected challenges effectively. On the other hand, climate financing can be taken as one opportunity to overcome the financing gap of this sector as well.

14.8 Relevancy to SDP

1. **Increasing Climate Vulnerabilities:** Climate change has intensified the frequency and severity of extreme weather events such as hurricanes, floods, droughts, and wildfires. These events can disrupt water sources, sanitation systems, and hygiene services, making communities vulnerable to waterborne diseases and inadequate sanitation. By integrating CC and DRR into WASH programs, resilience can be built to withstand and respond to these climate-related challenges effectively.

2. **Protecting Human Health:** Access to safe and clean water, sanitation, and hygiene are fundamental to public health. Climate change can compromise the quality and availability of these services, posing significant health risks. Effective CC and DRR strategies in the WASH sector can protect human health by ensuring that communities have continuous access to safe drinking water, sanitation facilities, and hygiene practices, even in the face of climate-induced disasters.
3. **Sustainable Development Goals (SDGs):** The SDGs, particularly Goal 6 (Clean Water and Sanitation) and Goal 13 (Climate Action), emphasize the interconnection between WASH and climate change. Achieving these goals requires addressing climate vulnerabilities in the WASH sector. Integrating CC and DRR into SDP aligns with the broader global agenda of sustainable development and climate action.
4. **Resilience-Building:** CC and DRR in WASH programs focus on building resilience at multiple levels, including infrastructure, communities, and institutions. This approach ensures that WASH services can continue functioning during and after climate-related disasters, reducing vulnerabilities and safeguarding livelihoods.
5. **Community Empowerment:** CC and DRR strategies often involve active community participation and engagement. Empowering communities to be part of decision-making processes, disaster preparedness, and mitigation efforts enhances their ability to adapt to changing climate conditions and reduce risks effectively.
6. **Resource Optimization:** Integrating CC and DRR into WASH programs encourages the adoption of innovative technologies and sustainable practices that optimize resource utilization. This can lead to more efficient and environmentally friendly solutions in the provision of WASH services.
7. **Financial Sustainability:** Climate-resilient WASH infrastructure and disaster preparedness efforts can reduce the financial burden associated with post-disaster recovery and reconstruction. By allocating resources to resilience-building upfront, long-term financial sustainability can be ensured.

14.9 Theme Risks

Risks and Proposed Mitigations for the theme:

Risk	Mitigation measures
water source contamination, source vulnerabilities, drying spring sources, landslides, deforestation, wildfires, chemical hazards	Align WASH intervention with IWRM principles aided with tools such as Multiple Use of Sources (MUS), Demand Management, NRW reduction & wastewater reuse. Adopt Early Warning System for the natural/chemical hazards.
Funding constraints	Diversify the funds/Use of funding instruments such as insurance/political sensitization by making an impact brief by climate inaction in WASH
Technical complexity	Establish R&D/linkage with academia to climate proof the infrastructure/linkage with global platforms to have awareness in cutting age technologies to combat with climate change and disaster risks/WASH expo's

Data availability and quality	Establish cross sectoral data sharing/Multi hazard analysis
Market and supply chain risks	Make a sectoral ministry facilitating agency for private sectors empowerment and mitigating the hurdle/regular dialogues to assess the situation
Resilience trade-offs	Ensure proper economic analysis with sensitivity of each programs/project
Social and cultural factors	Promote awareness/empowerment and engagement of communities
Interagency coordination	Operationalize all the coordination platforms/preparation of climate brief/action points-oriented dialogues and integration in the monitoring loop

15.IMPLEMENTATION PLAN

15.1 Introduction

This SDP is a comprehensive plan aimed at addressing the pressing challenges related to water, sanitation, and hygiene. Ensuring equitable access to safe water and sanitation services for all is not merely a goal but a fundamental human right and an imperative for national development. Achieving these objectives necessitates a well-structured and phased implementation approach that recognizes the evolving nature of the challenges and opportunities within the sector.

15.2 Phases

The multifaceted nature of these challenges and the finite availability of resources underscore the importance of implementing the SDP in three distinct phases. Phase-wise implementation offers a strategic advantage, allowing for adaptability, focus, and effectiveness in addressing the unique demands of each period. These three phases provide a structured approach to implementing the SDP, allowing for focused efforts, adaptability, and long-term sustainability.

15.2.1 Foundation and Acceleration

Phase I: 2024-2030

The first phase, spanning from 2024 to 2030, will have the primary focus on achieving significant milestones, including universal access to basic WASH services, promoting climate resilience, and strengthening the sector's institutional capacity. This Phase is characterized by concerted efforts to meet international benchmarks and commitments, placing Nepal on the path towards sustainable development.

- This initial phase focuses on establishing the foundation for sustainable development within the WASH sector.
- Key objectives include improving basic access to clean water and sanitation, initiating capacity-building programs, and implementing foundational governance reforms.
- Priority areas include rural and urban infrastructure development, community engagement, and capacity building for sector stakeholders.
- Monitoring and evaluation systems are established to track progress towards SDP goals by 2030.

15.2.2 Consolidation and Innovation

Phase II: 2030-2037

The second phase, extending from 2030 to 2037, represents a critical juncture in the SDP's implementation. With the foundation laid in Phase I, the Consolidation Phase prioritizes sustainability, system optimization, and the refinement of service delivery mechanisms. It involves consolidating gains made in the previous phase, fine-tuning strategies, and addressing emerging challenges. During this period, the focus extends beyond basic access to encompass service quality, coverage expansion, and the enhancement of monitoring and evaluation systems.

- Phase II builds upon the achievements of Phase I and aims to consolidate gains while introducing innovations.

- The emphasis is on enhancing service quality, embracing new technologies, and expanding access to vulnerable and remote areas.
- Capacity development continues with a focus on research, innovation, and advanced training for sector professionals.
- Governance reforms evolve to promote greater transparency, accountability, and participatory decision-making.
- Sustainable financing mechanisms are further developed to ensure long-term sector sustainability.

15.2.3 Sustainability and Beyond

Phase III: 2037-2043

The final phase, from 2037 to 2043, marks the culmination of the SDP's implementation journey. Building on the achievements of the previous phases, the Transformation Phase aims to drive the WASH sector to new heights. This phase is characterized by innovation, advanced technologies, and transformative approaches. It envisions a sector that not only meets basic needs but also contributes significantly to economic growth, environmental sustainability, and social well-being. The Transformation Phase seeks to position Nepal as a regional leader in WASH innovation and best practices.

- Phase III is characterized by a strong focus on sustainability and long-term impact.
- The plan aims to ensure that the benefits of improved WASH services are maintained and expanded well beyond the initial phases.
- Efforts are directed towards achieving universal access, addressing emerging challenges, and promoting cross-sectoral integration.
- A robust monitoring and evaluation framework continues to inform decision-making, with a strong emphasis on data-driven governance.
- The plan looks ahead to the next generation of WASH initiatives, envisioning a future where access to clean water and sanitation is a fundamental and enduring reality for all.

15.3 Water Supply in SDP horizon

Following the prevailing trend, it is anticipated that by 2029, full-service coverage will be achieved for the entire population. However, if business continues as usual, the proportion of the population receiving service from operational taps is not projected to reach 100% even during the SDP horizon. The implementation of the SDP is expected to bring about enhancements in water supply coverage, functionality, and service levels compared to the current trend.

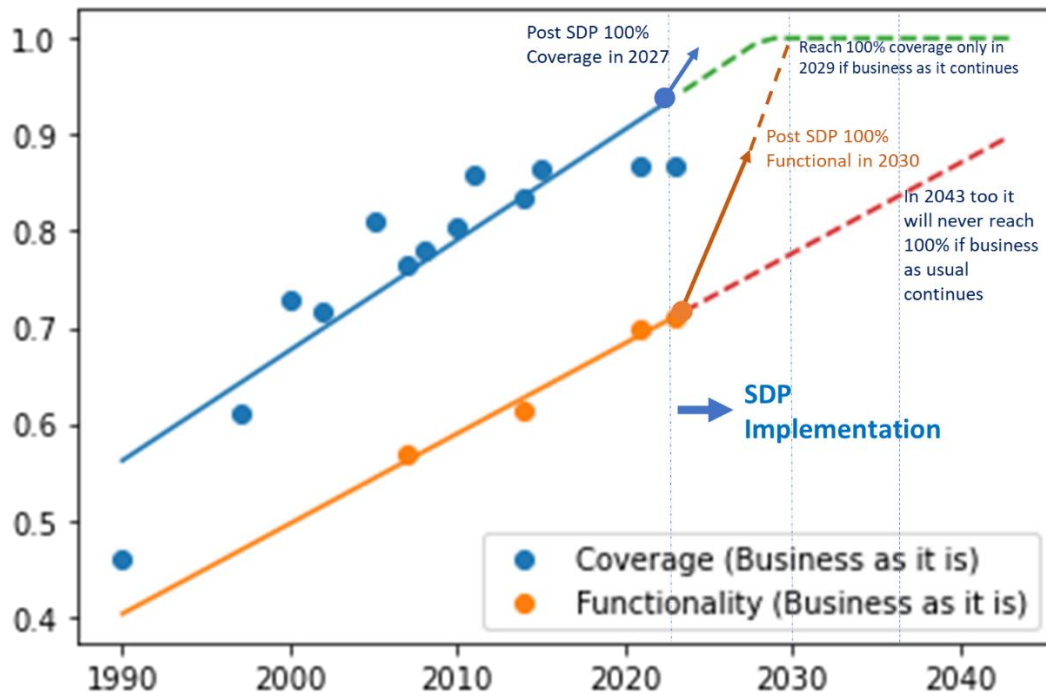


Figure 57 Current Trend vs post SDP forecast

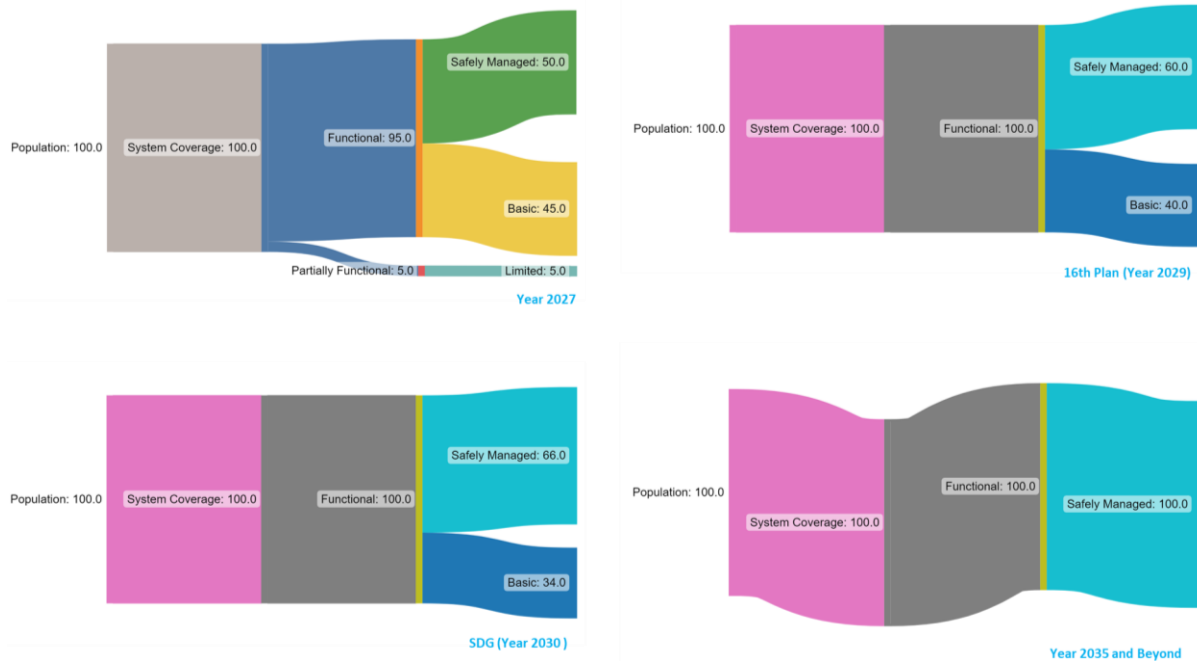


Figure 58 Forecasted Water Supply coverage, functionality and Service level at year 2027, 2029, 2030, 2035 and beyond

15.4 Sanitation in SDP horizon

After the implementation of the SDP, substantial improvements in the country's sanitation coverage have been projected. The following are the forecasted SFD for the years 2030, 2037, and 2043.

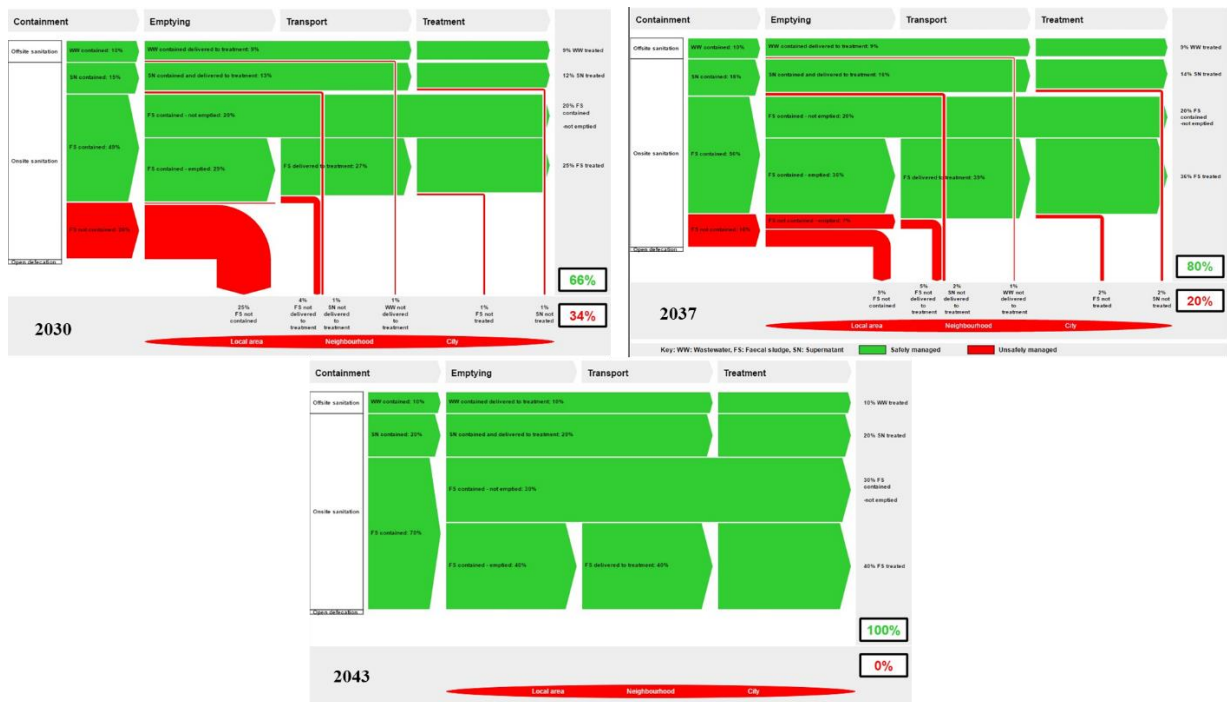
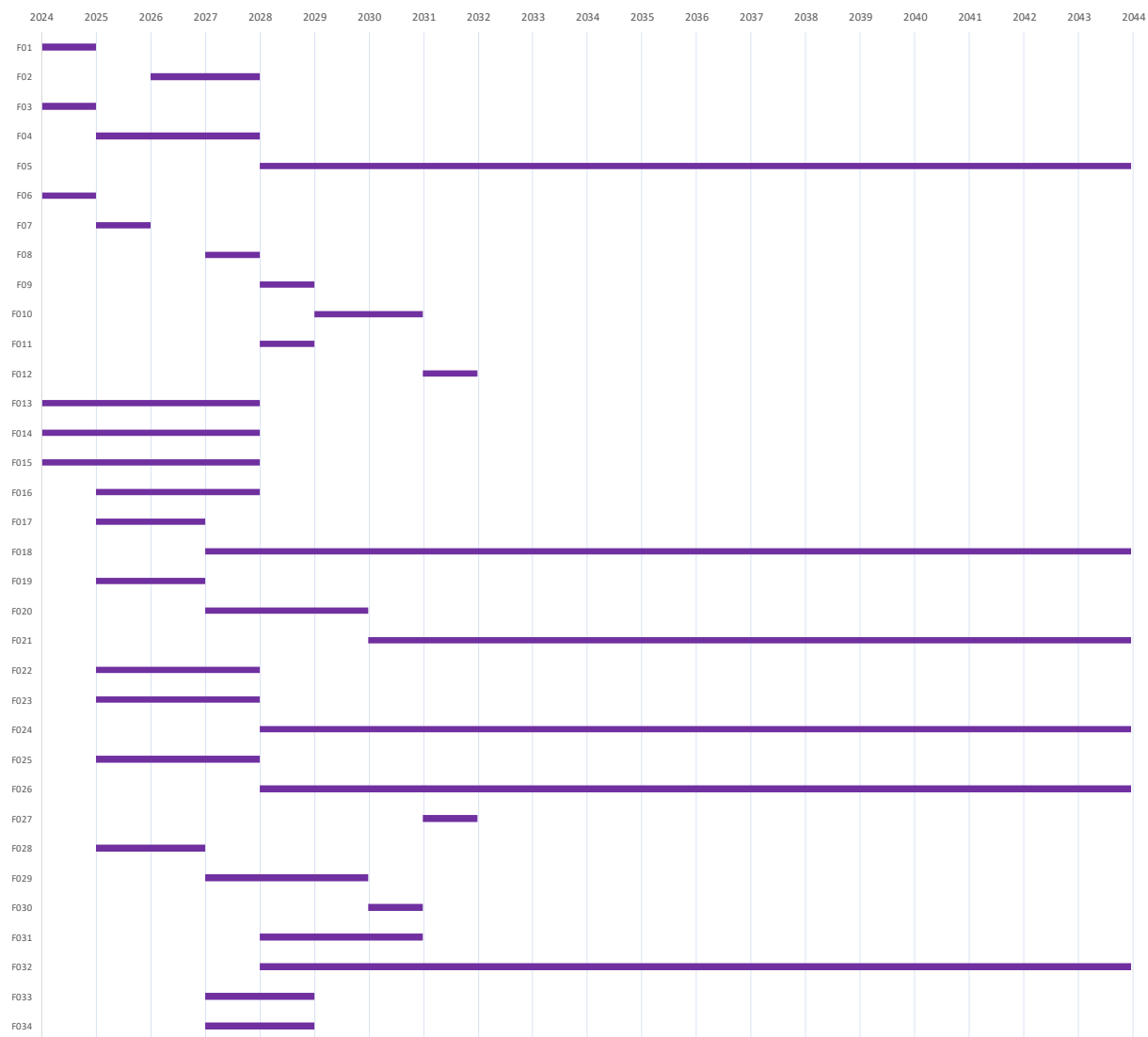


Figure 59 Forecasted SFD for year 2030, 2037 and 2043

15.5 Restructuring of foundational elements to leverage WASH financing.

To secure the necessary funding in the upcoming years, SDP has established specific key milestones. It has become evident on a global scale that relying solely on public finance will not be adequate, and, therefore, the implementation of various strategies, coordination efforts, and a sensitization process is imperative to facilitate access to funding. To optimize the utilization of available funds and expand the range of funding sources, the sector must meet several essential prerequisites, which are outlined below.

Activity Code	Activity
F01	Financing Strategy Approved
F02	Tubewell replacement strategy with targeted financing and appropriate financing mechanisms
F03	Discussion with MoF/MoFE on Climate financing concretized
F04	Pilot Programs which has more selling point in Climate lens selected in line with NAP and NDC's/Collaboration partners identified/ Briefs made/Continuous discussions/Current programs guidelines changed and data such as Adaptation ratings/Carbon footprints/Energy ratings will be created
F05	Climate financing will be integral part of the financing mechanisms
F06	Regular benchmarking of utilities
F07	Business plan of pilot utilities
F08	Business plan integrated in the project cycles along with the operation modalities/Intermediary strengthening to assess the creditworthiness
F09	Intermediary strengthening to assess the creditworthiness
F10	Creditworthiness of Utilities checked through intermediaries
F11	Utility Upgradation Program launched
F12	Soft loans for capital maintenance launched
F13	Additional Financing for MWSP ensured
F14	Restructuring of NWSC and KUKL
F15	Subsidy Arrangements for reaching the unreached/affordability for the propoos embedded in the tax of local governments
F16	Project Bank to identify the projects for VGF/Blended Financing/HAM identified through financing strategy
F17	Insurance guidelines approved
F18	Insurance provision for reducing the capital maintenance cost integrated in the sector
F19	CDMP approved
F20	HRD Plan of the service providers facilitated
F21	Contribution from service providers in HRD
F22	Political sensitization of WASH through Advocacy programs
F23	Dialogues with political leaders,private sectors and ministry of education to bring CSR in WINS and WASH in HCFs/Public Places/Guidelines and possible options finalized
F24	Use of CSR in WASH in Shools/HCF/Public places introduced
F25	CSR related guidelines for the well performing utilities prepared
F26	CSR made mandatory for the WASH utilities with operation ratio less than 0.7
F27	Insurance fund for WINS/HCF/Public places
F28	Impact brief in health sector identified/possible GDP contribution identified
F29	Data sharing /Joint analysis performed/ Joint Program formulated from two ministries
F30	Health impact fund introduced
F31	Tax incentives mechanisms for the public toilet capital investment shearers will be proposed locally/provincially/federally
F32	Public toilet related loans from Micro cooperatives/and other financing institutions Water utility integration (Ex. WUSC taking loan from TDF to build public toilet)/Resource recovery will be promoted
F33	Public toilets related SOP and other trainings launched
F34	Capacity development programs for all 3 layers of regulatory bodies will be launched



16.FINANCIAL RESOURCE ALLOCATION AND MOBILIZATION

16.1 Background

This section outlines the detail process for allocation of financial resources to critical program areas and priority within the WASH sector, including both rural and urban contexts as well as specific interventions in schools, healthcare facilities, public places, and governance enhancement. It ensures that each aspect of the sector's development receives the necessary funding to drive progress, improve access, and promote sustainable practices throughout Nepal over the 20-year SDP period.

Here, the methodology used to calculate the financial needs of the WASH sector, explore the various sources of funding, and outline strategies aimed at mobilizing these resources efficiently. The goal is to ensure that the WASH sector in Nepal is adequately resourced to address its pressing challenges and to provide equitable access to safe water and sanitation services for all.

16.2 Overview of Financial Need Calculation

In this section a comprehensive overview of the how financial requirements for the SDP is estimated, utilizing available data and projections.

Resource Needs Assessment

- **Baseline Data Analysis:** The current financial status of the WASH sector, including budgets, expenditures, and funding sources, is reviewed to establish a foundation for estimating future financing needs.

Guiding data: NWASH-MIS, Track-fin WASH account

- **Demand area identification:** Demographic trends, population growth, the condition of existing WASH infrastructure, including repair and replacement needs and anticipated changes in water and sanitation requirements are analyzed to understand the evolving demand area of the WASH sector.

Guiding data: NWASH-MIS, Population Census, MICS-2019, SDP goals

Estimation of Financing Needs

- **Prioritization:** Clear priorities are established by categorizing areas and interventions depending upon the urgency, impact, and alignment with JSR resolutions and sector objectives, enabling a systematic approach to resource allocation.

Guiding data: NWASH-MIS/JSR/sectoral policy/Act/Regulation (draft)/SDP goals

- **Cost Estimation incorporating GESI responsiveness and Climate Resilience:** A detailed cost estimation for each project is conducted, encompassing construction costs, operational expenses, maintenance requirements, and potential contingencies.

Guiding data: NWASH-MIS/NAP/NDC/Experts consultation

Resource Allocation

- **Annual Allocation:** A detailed budget plan for each year of the 20-year SDP is developed, in 2023 price, economic trends, and evolving needs.

Guiding data: NRB index/Trackfin WASH account/JSR

Risk Mitigation

- **Unforeseen financial emergencies:** Contingency funds are established to address unforeseen financial challenges or emergencies.

Guiding data: Experts consultation

16.3 Sources of Funding

This section presents the pivotal aspect of securing financial resources and formulating strategies for their effective mobilization and sustainability are described.

Identification and resource allocation of Funding Sources

- **Funding source Mapping:** A comprehensive exploration of diverse sources of funding is conducted, encompassing government allocations, donor contributions, grants, loans, and innovative financing mechanisms.

Guiding data: SWA financial handbook

- **Evaluation of Viability:** Each identified funding source is evaluated to determine its feasibility and potential for addressing the financial needs of the SDP.

Guiding data: JSR/Experts judgement

- **Allocation:** Based upon the financial viability, legal instruments properly placed or not, policy environment and evolving needs.

Guiding data: Legal documents/SWA financial handbook/Financial bottleneck analysis recommendations/JSR/SDG/SDP goals

17.COST OF SDP IMPLEMENTATION

17.1 Overview

This chapter provides a dual perspective on financial planning within the WASH sector in Nepal. It outlines the costs associated with the resolutions arising from the JSR, which address sector-specific challenges, and the costs associated with the broader strategic actions outlined in the SDP, which aim to transform the sector over a 20-year horizon. Both aspects contribute to comprehensive financial planning and resource allocation within the sector, promoting transparency, efficiency, and accountability.

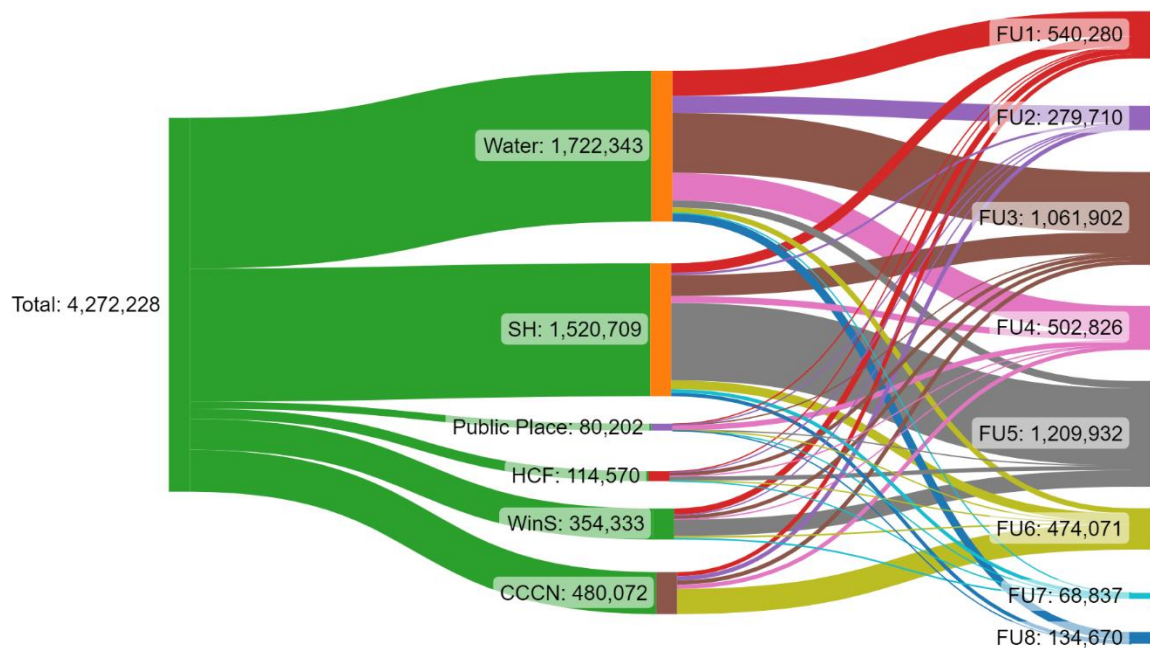


Figure 60 SDP Cost Breakdown

- FU1:Local Government Tax
- FU2:Provincial Tax
- FU3:Federal Tax
- FU4:Tariff
- FU5:Self Supply
- Fu6:Transfer including Climate funds
- FU7:Trade options(share,equity,bond,CSR)
- FU8:Repayable Financing

In evaluating the trend of federal budgeting, it's clear that the current budget must double up to 2035. Once the target set for 2035 are achieved, maintaining them will require a budget that is around 1.5-fold the current allocation. If the current trend continues without increasing the budget, federal MoWS budget alone will face a cumulative shortfall of 139 billion (in 2023

prices) by 2030. This gap is projected to increase to 206 billion by 2037 and 211 billion by 2043

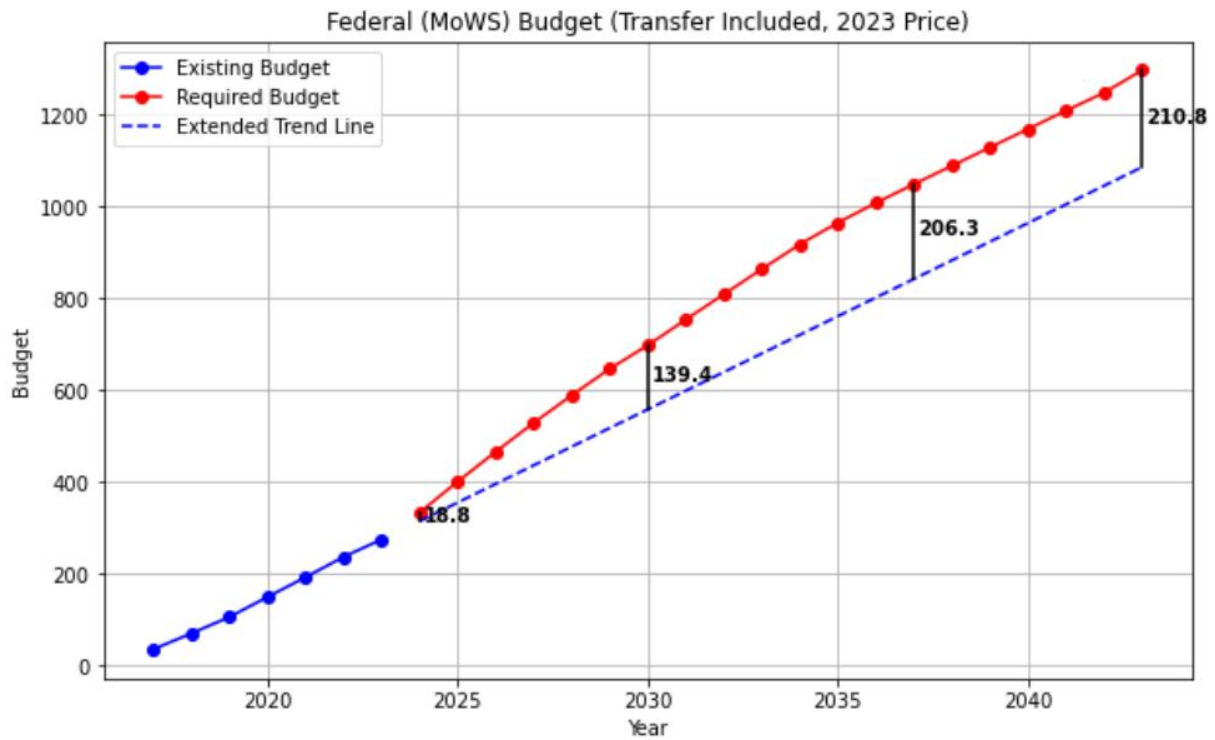


Figure 61 MoWS budget Allocation trend vs. Requirement

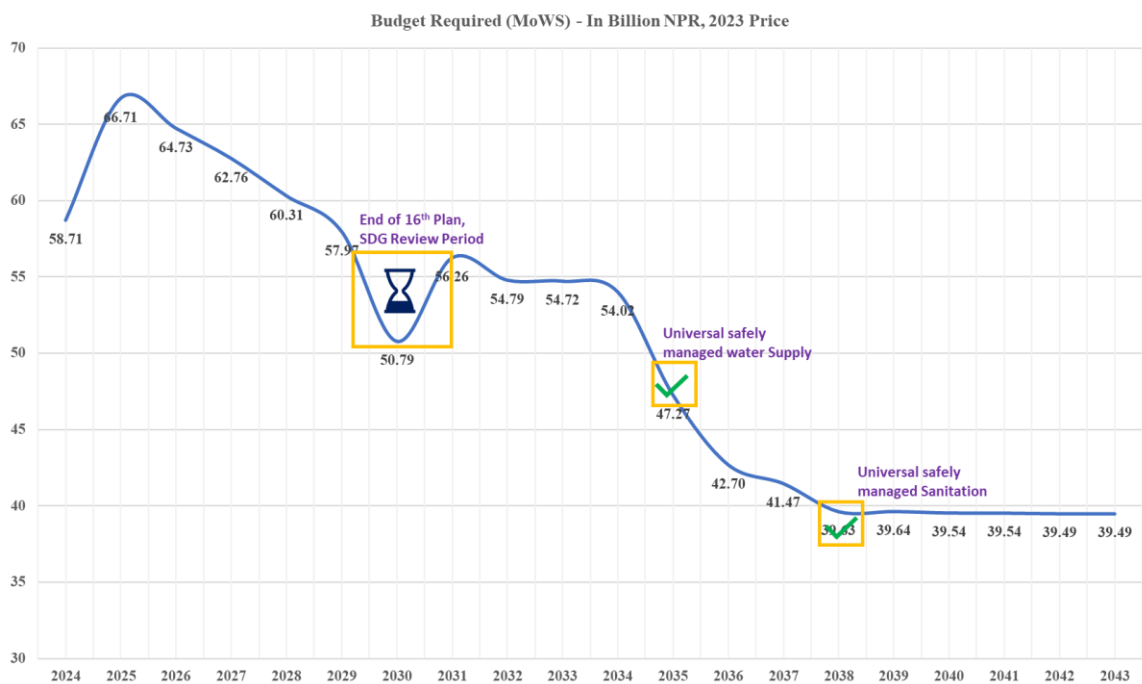


Figure 62 MoWS Budget Requirement

All cost in NPR Million, 2023 prices	
JSR Implementation cost (3 Years)	657543.41
SDP Implementation cost (20 Years), JSR cost included	4272227.85

17.2 JSR Resolutions Implementation Cost

- **Overview:** The first part of this chapter is dedicated to outlining the implementation cost associated with the Joint Sector Review (JSR). The JSR is a comprehensive evaluation and planning process that plays a crucial role in Nepal's Water, Sanitation, and Hygiene (WASH) sector. It serves as a platform for collaboration, progress assessment, and priority setting among various stakeholders involved in the sector. The JSR identifies key challenges, reviews sector performance, and lays out resolutions to address WASH-related issues.
- **Implementation Cost:** This section of the chapter details the financial requirements for executing the resolutions identified during the JSR process. These resolutions include a wide range of sector-specific initiatives and interventions aimed at improving access to clean water, sanitation, and hygiene services, as well as enhancing climate resilience and disaster risk management within the WASH sector. The costs associated with each resolution are calculated based on the activities and strategies needed for their successful implementation. These resolutions may span over a 20-year horizon, reflecting both short-term and long-term objectives.
- **Objective:** The primary objective of delineating the implementation cost of JSR resolutions is to provide transparency and clarity regarding the financial commitments required to achieve the outlined goals and objectives of the WASH sector in Nepal. It serves as a strategic roadmap for resource allocation, budget planning, and fundraising efforts to ensure the successful execution of the resolutions.

The process of estimating the cost of JSR resolutions involves a meticulous alignment of these resolutions with the activities outlined in the various themes of Nepal's Sector Development Plan (SDP). By connecting these resolutions with purpose-driven activities, the cost estimation becomes closely tied to achieving the overarching goals of the SDP. Here are the key steps in this calculation process:

1. **JSR Resolution - SDP Activity Alignment:** The foundation of the JSR cost calculation lies in the careful alignment of each JSR resolution with the specific activities detailed within the SDP's thematic areas. This alignment ensures that every resolution directly contributes to fulfilling the objectives set forth in the SDP.
2. **Identification of Relevant Activities:** Within the SDP, a comprehensive list of activities is identified for each thematic area that corresponds to the resolutions of the JSR. These activities include a broad spectrum, covering infrastructure development, capacity building, policy integration, and more, all aimed at strengthening the performance and resilience of Nepal's WASH sector.
3. **Timeframe Consideration:** The JSR cost calculation extends over a 20-year time, providing a long-term perspective on funding requirements. This extended horizon enables holistic planning and sustainable resource allocation.
4. **Priority on Initial Years:** Recognizing the significance of the initial years of JSR implementation, particular attention is given to calculating the cost for the first three

years. This phased approach facilitates prioritization and effective budget allocation for the critical early stages of JSR.

5. **Aggregation of Costs:** The costs associated with individual activities are aggregated to determine the overall cost of implementing each JSR resolution. This cumulative cost represents the financial resources required to execute all relevant activities aligned with the resolutions.

Table 1 offers a summarized overview of the implementation cost associated with the Joint Sector Review (JSR).

Table 1: Summary of JSR implementation cost

S.N.	JSR Resolutions	20 Year	3 Year
1	Update and operationalize the Sector Development Plan (SDP) aligning with the Constitution of Nepal, National WASH policy, 2023 and Water Supply and Sanitation Act, 2022 and key recommendation of the third JSR, 2023	10.0	0.00
2	Catalyse Political Commitment and Enhance Mutual Accountability Mechanism among stakeholders to accelerate actions towards achieving universal, equitable, sustainable WASH services meeting SDG targets	2400.1	335.01
3	Realign institutional and governance set up for WASH system strengthening with appropriate intergovernmental coordination mechanism to backstop the service providers, including WSUCs, for improved service reliability and operational management efficiency	144295.4	21364.53
4	Undertake actions for Mapping, Facilitating, Licensing, Regulating and Standardizing water and sanitation services across the sanitation value chain for both onsite and offsite sanitation services	220.00	33.00
5	Operationalize institutions established for the regulation of WASH services as mandated in the Water Supply and Sanitation Act at all levels and build appropriate capacities of regulatory institutions	443.34	40.00
6	Work towards achieving access to safely managed water supply services adopting a programmatic and system thinking approach ensuring people live in water and hygiene safe communities where no one is left behind	1366976.80	221076.84
7	Enhance capacity of local governments and other service providers in water quality monitoring and surveillance and ensure service compliance with national drinking water quality standard	241231.20	39013.56
8	Adopt municipality wide inclusive sanitation approach for implementing a national sanitation and hygiene mission and accelerate actions to capture, transport, treat and safely dispose domestic wastewater, safely manage Faecal Sludge and Solid Waste considering circular economy principles to contribute to clean health of water bodies and the environment	1418662.52	212791.62
9	Prepare information briefs and strategic negotiators for education and advocacy to targeted intersectoral dialogues/coordination/collaboration for better sector positioning	95.50	2.00
10	Establish system support services and a federal level setup to aid provincial and local governments in creating resilient assets, improving service delivery and enhancing regulation	101.00	40.00
11	Prepare and operationalize capacity development master plan of three tiers of the government for universal, equitable, inclusive, and sustainable service delivery	42730.62	6064.85
12	Establish the WASH plan as the foundational framework for planning, programming and executing all local level WASH related initiatives from three tiers of government	19398.83	2056.46
13	Strengthen, Optimize and Scale up NWASH MIS, establish connections with other Sectoral MIS for informed actions	21317.85	2489.59
14	Strengthen SEIS for efficient, collaborative, and inclusive WASH Sector Progress by operationalizing the business plan and establish linkage with academia and research institutions for R&D and learnings	3237.43	501.56
15	Leverage private sector expertise and investments and create an enabling environment for public private partnerships to enhance service delivery by creating opportunities for their meaningful engagement in sector advancement including transformative technologies in infrastructure and services	36.00	15.00
16	Prepare and Operationalize WASH financial strategy, clearly presenting a strong economic case to secure investments for achieving the SDG targets	4337.05	498.67
17	Develop Climate Resilient WASH service delivery frameworks, Climate Rationale for WASH, capacity building training module, technical guidelines, and standards to support all three tiers of government and sector stakeholders aligning WASH investment with Green, Resilient and Inclusive Development (GRID) for inclusive, climate and disaster resilient WASH plans and programs	480088.51	71348.60

S.N.	JSR Resolutions	20 Year	3 Year
18	Mainstream Gender Equality and Social Inclusion (GESI) in WASH sector to ensure equitable access, meaningful participation and empowered decision making including for ensuring Occupational Health and Safety for frontline sanitation workers	13261.51	1259.39
19	Improve inter sectoral collaboration among three tiers of government and strengthen partnerships with MUAN, NARMIN, FEDWASUN, Sanitation Advocacy Organization/Associations and other CSOs for harmonization and informed advocacy through use of appropriate IEC materials and leveraging mass media	1000.036	150.01
20	Promote cross sectoral/inter sectoral collaboration and cooperation for implementation and delivery of WASH services both in communities and institutions (WinS, HCF, Public Places); implement programs for the protection of water source, recharge of underground water, developing early warning system on WASH sector and their watersheds through Integrated Water Resource Management (IWRM)	512394.04	78462.72
	Total requirement	4272227.85	657543.41

The table below (Table2) provides a comprehensive breakdown of the costs associated with the implementation of resolutions derived from the Joint Sector Review (JSR) over a 20-year period. The detailed cost breakdown serves as a strategic roadmap, offering transparency and clarity in resource allocation, budget planning, and fundraising efforts to ensure the successful realization of the JSR's outlined objectives and commitments within the sector.

- **Phase I: 2023-2030**, the estimated cost allocation is directed towards initiating critical activities aligned with JSR resolutions and setting a strong foundation for long-term objectives.
- **Phase II: 2030-2037**, focuses on consolidating and expanding efforts initiated in Phase I to achieve intermediate milestones and foster resilience.
- **Phase III: 2037-2043**, represents the culmination of the 20-year strategy, with a focus on achieving the final objectives of JSR resolutions.

This phased approach to cost allocation ensures that financial resources are optimally distributed to support the evolving needs and priorities of Nepal's WASH sector.

Table2: Detail of JSR implementation cost

Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total		
JSR 01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
JSR 02	95.0	145.0	95.0	145.0	95.0	145.0	95.0	145.0	95.0	145.0	95.0	145.0	95.0	145.0	95.0	145.0	95.0	145.0	95.0	145.0	95.0	145.0	2400.1
JSR 03	7096.9	7107.0	7160.6	7220.7	7225.3	7220.4	7270.5	7236.1	7238.7	7219.8	7217.5	7220.1	7217.8	7272.9	7220.6	7218.2	7220.9	7221.1	7218.8	7271.5	7271.5	144295.4	
JSR 04	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	220.0
JSR 05	10.0	13.3	16.7	20.0	23.3	26.7	30.0	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	443.3
JSR 06	66323.1	77376.9	77376.9	77376.9	77376.9	77376.9	66323.1	77376.9	77376.9	77376.9	77376.9	66323.1	58923.3	58923.3	58923.3	58923.3	58923.3	58923.3	58923.3	58923.3	58923.3	58923.3	1366977.0
JSR 07	11704.1	13654.8	13654.8	13654.8	13654.8	13654.8	11704.1	13654.8	13654.8	13654.8	13654.8	11704.1	10398.2	10398.2	10398.2	10398.2	10398.2	10398.2	10398.2	10398.2	10398.2	10398.2	241231.2
JSR 08	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	70930.5	1418662.5
JSR 09	0.5	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	9.5	95.5	
JSR 10	13.5	13.5	13.0	13.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	101.0
JSR 11	2062.6	1998.2	2004.1	2017.2	1981.3	1927.9	2019.5	2018.1	2050.1	2121.4	2094.5	2107.2	2209.7	2164.7	2209.9	2295.6	2284.6	2314.9	2436.6	2412.7	2412.7	42730.6	
JSR 12	441.5	685.5	929.5	1045.0	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	19398.8
JSR 13	511.9	770.7	1207.0	1132.9	1098.2	1102.5	1102.9	1094.8	1098.6	1099.9	1098.9	1103.0	1102.2	1109.1	1108.7	1108.4	1113.4	1116.1	1116.5	1122.3	1122.3	21317.9	
JSR 14	145.5	172.7	183.4	169.4	154.1	163.3	164.3	160.7	154.1	161.8	153.8	162.2	154.2	171.0	155.5	162.6	156.2	164.0	156.2	172.4	172.4	3237.4	
JSR 15	5.0	5.0	5.0	5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	36.0
JSR 16	187.0	130.3	181.4	131.2	182.9	127.1	186.3	180.1	239.5	183.9	243.4	188.0	247.6	192.3	311.9	256.8	316.7	261.8	321.9	267.1	267.1	4337.1	
JSR 17	23772.9	23782.9	23792.9	23795.9	23805.9	23815.9	23915.9	24015.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	24115.9	480088.5
JSR 18	405.6	419.3	434.6	451.4	469.9	490.3	512.6	537.2	564.2	593.9	626.6	662.5	701.9	745.3	793.0	845.5	903.2	966.6	1036.3	1101.8	1101.8	13261.5	
JSR 19	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	1000.0
JSR 20	25915.1	26153.5	26394.1	26636.9	26882.0	27129.3	27378.9	27630.8	27885.0	28141.5	23238.6	23452.4	23668.2	23885.9	24105.7	24327.4	24551.3	24777.1	25005.1	25235.1	25235.1	512394.0	
Total	230800.0	233099.1	235698.3	237658.8	239424.4	241278.2	243444.2	245463.9	247555.0	249581.1	180287.3	181666.6	183140.0	184557.2	186009.1	187516.8	188957.5	190452.4	192052.6	193585.3	193585.3	4272227.85	

17.3 Costing of SDP Implementation Over 20 Years

- **Overview:** The second part of this chapter focuses on the implementation cost associated with the Sector Development Plan (SDP) for Nepal's WASH sector. The SDP serves as a comprehensive framework that outlines the sector's development goals, strategies, and actions over a 20-year period. It aims to address the critical challenges and opportunities within the WASH domain, aligning with international commitments, national priorities, and the constitutional right to water and sanitation.
- **Implementation Cost:** Within this section, a breakdown of the financial requirements for executing the various components of the SDP is provided. These components encompass a diverse range of themes, including water supply, sanitation and hygiene, healthcare facilities, schools, public places, climate change adaptation, and disaster risk management. The costs are further categorized by expenditure type (capital investment, capital maintenance expenditure, operational expenditure, and disaster response) to facilitate effective financial planning.
- **Objective:** The key objective of detailing the SDP implementation cost is to offer a comprehensive financial perspective on the strategic actions and initiatives outlined in the SDP. It aids in quantifying the resources needed to achieve the SDP's overarching vision of providing safe and well-managed water and sanitation services for all in Nepal by 2043. Moreover, it assists in resource mobilization efforts, budget allocation, and donor coordination to ensure the successful realization of SDP objectives.

This chapter provides a detailed and structured analysis of the implementation costs associated with the Sector Development Plan (SDP) for WASH sector over a 20-year period. Unlike the Joint Sector Review (JSR), which is a periodic review and planning process, the SDP serves as a comprehensive and long-term strategic roadmap for advancing the WASH sector's development.

Cost Breakdown for SDP Implementation

The costing analysis for the SDP is organized into several key dimensions, offering a comprehensive understanding of how financial resources will be allocated over the 20-year horizon:

1. **Identification of Relevant Activities:** Within the SDP, a comprehensive list of activities is identified (Key activities are listed in Annex I) for each thematic area. These activities include a broad range, covering infrastructure development, capacity building, policy integration, and more, all aimed at strengthening the performance and resilience of Nepal's WASH sector.
2. **Sector-wise Costs:** Costs are categorized by specific sectors within the WASH domain. This categorization includes the Water Supply sector, Sanitation & Hygiene sector, Healthcare Facilities (HCF), Schools, Public Places, and Climate Change Adaptation and Disaster Risk Management (CC and DRM). Each sector's financial requirements for SDP implementation are outlined, providing insights into sector-specific investment needs.

3. **Expenditure-wise Costs:** Within each sector, costs are further classified based on expenditure types. This categorization comprises Capital Expenditure (CapEx), Capital Maintenance Expenditure (CapManEx), Operational Expenditure (OpEx), and Disaster Response (DS). These categories detail how financial resources will be allocated across different types of expenses during the SDP's implementation.
4. **Theme-wise Costs:** The costing analysis aligns with the core thematic areas of the SDP. These thematic categories encompass Population-related costs, Access-related costs, Monitoring and Evaluation (M&E), Capacity Building, Governance, Financing, GESI, and Disaster Risk Management (DRM). This thematic breakdown ensures that financial resources are strategically allocated to achieve the SDP's specific goals and objectives within each thematic area.
5. **Funding Unit wise Costs:** This section outlines the various financing sources and mechanisms that will fund the SDP implementation. It includes cost categories such as Local Government Tax, Provincial Tax, Federal Tax, Tariff, Self-Supply, Transfers (including Climate Funds), Trade Options (such as shares, equity, bonds, and Corporate Social Responsibility), and Repayable Financing. Understanding these financing options is crucial for effective resource mobilization and utilization throughout the 20-year SDP horizon.

Table3: Sector-wise cost

SN	Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total	
1	Water	82964.3	96620.6	96987.0	97038.2	96975.3	96956.4	83553.3	97031.9	97056.8	97089.9	97252.4	83781.4	74758.2	74781.6	74814.2	74865.0	74882.0	74916.4	74989.4	75028.4	1722342.6	
2	Sanitation & Hygiene	75418.7	75285.4	75570.9	75610.8	75561.8	75547.0	75954.1	75605.9	75625.3	75651.1	75777.7	76161.5	76493.4	76517.3	76550.7	76602.6	76620.1	76655.2	76729.9	76769.9	1520709.1	
3	WinS	17387.6	17516.6	17744.8	17917.5	18070.6	18233.3	18500.2	18584.8	18760.6	18939.6	16409.7	16644.5	16870.9	17031.4	17195.6	17365.6	17529.3	17698.7	17878.9	18052.8	354332.9	
4	HCF	5963.6	6007.8	6086.1	6145.3	6197.8	6253.6	6345.2	6374.2	6434.5	6495.9	4966.9	5038.0	5106.5	5155.1	5204.8	5256.2	5305.8	5357.1	5411.6	5464.2	114570.2	
5	Public Place	4202.6	4233.8	4289.0	4330.7	4367.7	4407.0	4471.5	4492.0	4534.5	4577.8	3449.2	3498.5	3546.1	3579.9	3614.4	3650.1	3684.5	3720.1	3758.0	3794.6	80202.0	
6	CC & DRM	23772.0	23782.0	23792.0	23795.0	23805.0	23815.0	23915.0	24015.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	480071.0
	Total	209708.9	223446.1	224469.7	224837.5	224978.2	225212.3	212739.3	226103.8	226526.7	226869.3	221970.8	209239.0	200890.1	201180.2	201494.7	201854.5	202136.7	202462.5	202882.8	203224.9	4272227.8	

Table4: Expenditure-wise cost

SN	Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total
1	CapEx	91315.6	104461.4	103703.8	102972.7	102251.1	101518.0	86891.6	100099.1	99379.9	98608.9	92315.6	77478.3	67166.1	66304.7	65434.7	64555.4	63671.8	62778.8	61874.3	60965.3	1673747.0
2	CapManEx	31546.3	31589.8	31864.7	32152.1	32447.2	32743.3	33292.8	33366.0	33682.1	33985.9	34388.8	34964.5	35478.2	35797.6	36119.2	36442.7	36771.0	37101.2	37432.1	37767.9	688933.3
3	OpEx	64122.7	64211.2	64769.9	65354.1	65953.8	66555.7	67672.7	67821.4	68464.0	69081.4	69900.4	71070.6	72114.9	72764.0	73417.8	74075.3	74742.7	75413.9	76086.3	76768.9	1400361.8
4	DS	22724.3	23183.7	24131.2	24358.5	24326.1	24395.3	24882.2	24817.3	25000.7	25193.1	25366.0	25725.6	26130.8	26313.9	26522.9	26781.1	26951.2	27168.6	27490.2	27722.8	509185.7
	Total	209708.9	223446.1	224469.7	224837.5	224978.2	225212.3	212739.3	226103.8	226526.7	226869.3	221970.8	209239.0	200890.1	201180.2	201494.7	201854.5	202136.7	202462.5	202882.8	203224.9	4272227.8

Table5: Theme-wise cost

SN	Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total	
1	Access	174871.8	188114.7	188355.3	188598.2	188843.2	189090.5	176335.6	189592.0	189846.2	190102.7	185199.9	172409.2	163919.4	164137.1	164356.9	164578.6	164802.4	165028.3	165256.2	165486.3	3538924.5	
2	M&E	694.0	902.2	984.0	877.3	760.0	830.0	837.9	810.4	759.9	818.8	757.1	822.0	760.6	889.1	770.6	824.7	775.6	836.0	775.9	900.1	16386.1	
3	Capacity	2062.5	1998.1	2004.0	2017.1	1981.2	1927.8	2019.4	2018.0	2050.1	2121.3	2094.5	2107.1	2209.6	2164.6	2209.8	2295.5	2284.6	2314.8	2436.5	2412.6	42729.1	
4	Institutional	7782.3	8180.5	8809.8	9070.1	9055.4	9065.1	9081.2	9116.9	9136.4	9138.8	9162.4	9188.3	9216.8	9248.2	9282.7	9320.7	9362.5	9408.4	9459.0	9514.6	181600.0	
5	Financing	220.8	164.3	216.0	166.6	214.9	159.8	219.8	214.3	274.4	219.6	279.8	225.2	285.6	231.1	351.5	297.2	358.0	303.9	364.9	311.1	5078.6	
6	GESI	305.6	304.2	308.6	313.3	318.5	324.2	330.4	337.3	344.8	353.1	362.2	372.1	383.1	395.1	408.3	422.7	438.6	456.1	475.3	485.2	7438.5	
7	CCCN	23772.0	23782.0	23792.0	23795.0	23805.0	23815.0	23915.0	24015.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	24115.0	480071.0
	Total	209708.9	223446.1	224469.7	224837.5	224978.2	225212.3	212739.3	226103.8	226526.7	226869.3	221970.8	209239.0	200890.1	201180.2	201494.7	201854.5	202136.7	202462.5	202882.8	203224.9	4272227.8	

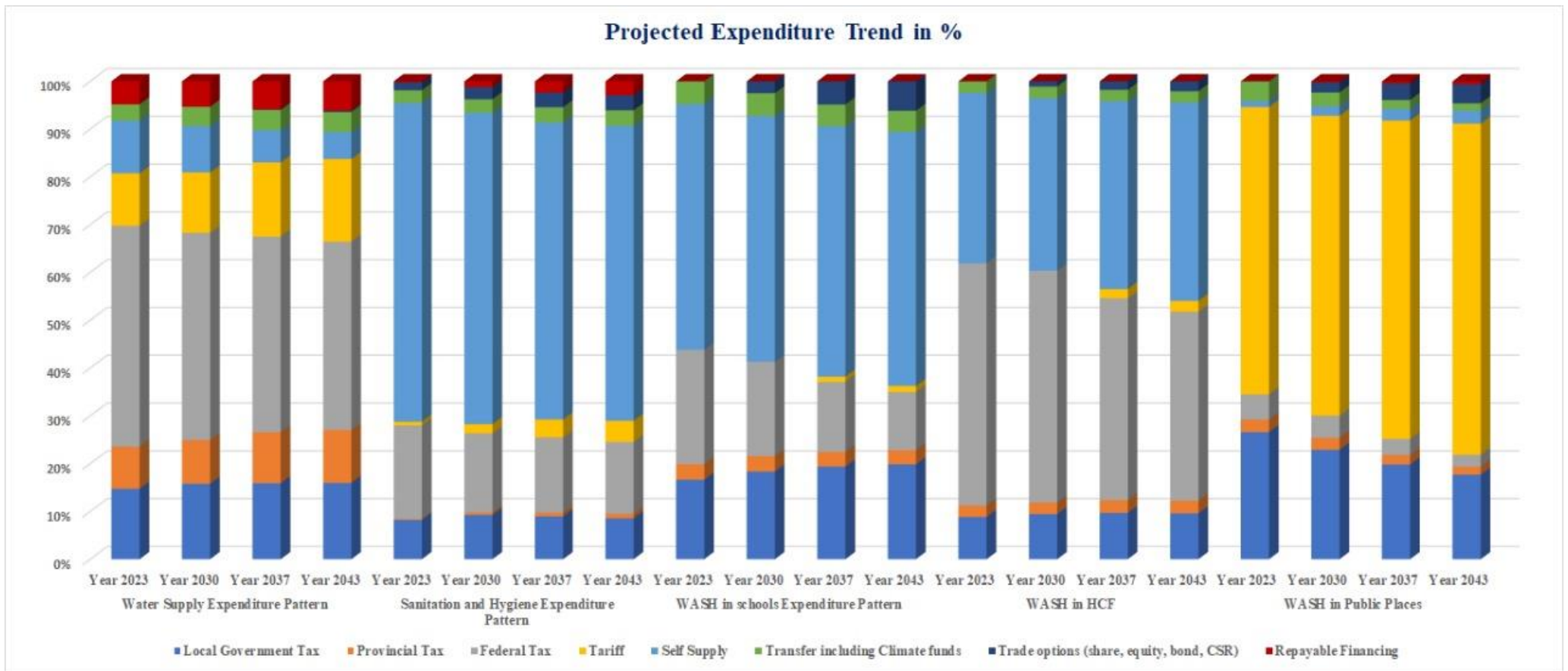


Figure 63 Projected Expenditure Trend (in %)

S.N.	Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total
2	Sanitation & Hygiene	75418.7	75285.4	75570.9	75610.8	75561.8	75547.0	75954.1	75605.9	75625.3	75651.1	75777.7	76161.5	76493.4	76517.3	76550.7	76602.6	76620.1	76655.2	76729.9	76769.9	1520709.1
2.1	CapEx	26666.1	26258.9	25847.9	25433.1	25014.5	24592.1	24165.8	23735.6	23301.4	22863.2	22421.0	21974.7	21524.3	21069.7	20611.0	20148.1	19680.9	19209.4	18733.6	18253.3	451504.4
a	Local Government Tax	4533.2	4464.0	5169.6	5086.6	5002.9	4918.4	4833.2	4747.1	4660.3	4572.6	4484.2	4394.9	4304.9	4213.9	4122.2	4029.6	3936.2	3841.9	3746.7	3650.7	88713.1
b	Provincial Tax	133.3	131.3	129.2	127.2	125.1	123.0	120.8	237.4	233.0	228.6	448.4	439.5	430.5	421.4	515.3	503.7	492.0	480.2	468.3	456.3	6244.6
c	Federal Tax	5199.9	5120.5	3360.2	3306.3	2001.2	1598.5	1208.3	3323.0	3262.2	3200.8	2914.7	2856.7	2798.2	1580.2	1442.8	1410.4	1377.7	1344.7	1311.3	1277.7	49895.2
d	Tariff	133.3	131.3	258.5	254.3	375.2	368.9	362.5	474.7	466.0	457.3	448.4	439.5	430.5	526.7	515.3	503.7	492.0	480.2	468.3	456.3	8043.1
e	Self Supply	14666.3	14442.4	14216.3	13988.2	13758.0	13525.7	13291.2	9494.2	9320.5	9145.3	8968.4	8789.9	8609.7	8427.9	8244.4	8059.2	7872.4	7683.8	7493.4	7301.3	207298.5
f	Transfer including Climate funds	800.0	787.8	775.4	763.0	1250.7	1229.6	1208.3	1898.8	1864.1	1829.1	1793.7	1758.0	1721.9	1685.6	1648.9	1611.8	1574.5	1536.8	1498.7	1460.3	28696.9
g	Trade options (share, equity, bond, CSR)	1066.6	1050.4	1421.6	1398.8	1751.0	1967.4	2174.9	2373.6	2330.1	2286.3	2242.1	2197.5	2152.4	2528.4	2473.3	2417.8	2361.7	2305.1	2248.0	2190.4	40937.5
h	Repayable Financing	133.3	131.3	517.0	508.7	750.4	860.7	966.6	1186.8	1165.1	1143.2	1121.0	1098.7	1076.2	1685.6	1648.9	1611.8	1574.5	1536.8	1498.7	1460.3	21675.5
2.2	CapManEx	10456.6	10552.8	10649.9	10747.8	10846.7	10946.5	11047.2	11148.9	11251.4	11354.9	11459.4	11564.8	11671.2	11778.6	11887.0	11996.3	12106.7	12218.1	12330.5	12443.9	228459.3
a	Local Government Tax	209.1	211.1	213.0	215.0	271.2	273.7	276.2	278.7	281.3	283.9	286.5	289.1	291.8	294.5	297.2	299.9	302.7	305.5	308.3	311.1	5499.4
b	Provincial Tax	0.0	52.8	53.2	53.7	54.2	54.7	55.2	55.7	56.3	56.8	57.3	57.8	58.4	58.9	59.4	60.0	60.5	61.1	61.7	62.2	1090.0
c	Federal Tax	2091.3	2110.6	2130.0	2149.6	2169.3	2189.3	2209.4	2006.8	1687.7	1703.2	1718.9	1734.7	1750.7	1766.8	1783.0	1799.4	1816.0	1832.7	1849.6	1866.6	38365.7
d	Tariff	104.6	105.5	213.0	215.0	325.4	437.9	552.4	668.9	900.1	908.4	916.8	925.2	933.7	942.3	951.0	959.7	968.5	977.4	986.4	995.5	13987.6
e	Self Supply	8051.6	8072.9	7987.4	8060.9	7918.1	7936.2	7898.8	7915.7	7988.5	8062.0	8136.2	8211.0	8286.6	8362.8	8439.7	8517.4	8595.8	8674.8	8754.6	8835.2	164706.2
f	Transfer including Climate funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
g	Trade options (share, equity, bond, CSR)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
h	Repayable Financing	0.0	0.0	53.2	53.7	108.5	54.7	55.2	223.0	337.5	340.6	343.8	346.9	350.1	353.4	356.6	359.9	363.2	366.5	369.9	373.3	4810.3
2.3	OpEx	32664.2	32964.8	33268.0	33574.1	33883.0	34194.7	34509.3	34826.8	35147.2	35470.5	35796.9	36126.2	36458.6	36794.0	37132.5	37474.1	37818.9	38166.8	38517.9	38872.3	713660.8
a	Local Government Tax	653.3	659.3	665.4	671.5	847.1	854.9	862.7	870.7	878.7	886.8	894.9	903.2	911.5	919.8	928.3	936.9	945.5	954.2	962.9	971.8	17179.2
b	Provincial Tax	0.0	164.8	166.3	167.9	169.4	171.0	172.5	174.1	175.7	177.4	179.0	180.6	182.3	184.0	185.7	187.4	189.1	190.8	192.6	194.4	3405.0
c	Federal Tax	6532.8	6593.0	6653.6	6714.8	6776.6	6838.9	6901.9	6268.8	5272.1	5320.6	5369.5	5418.9	5468.8	5519.1	5569.9	5621.1	5672.8	5725.0	5777.7	5830.8	119846.8
d	Tariff	326.6	329.6	665.4	671.5	1016.5	1367.8	1725.5	2089.6	2811.8	2837.6	2863.7	2890.1	2916.7	2943.5	2970.6	2997.9	3025.5	3053.3	3081.4	3109.8	43694.6
e	Self Supply	25151.5	25218.0	24951.0	25180.6	24734.6	24791.2	24674.1	24727.0	24954.5	25184.1	25415.8	25649.6	25885.6	26123.7	26364.1	26606.6	26851.4	27098.4	27347.7	27599.3	514508.9
f	Transfer including Climate funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
g	Trade options (share, equity, bond, CSR)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
h	Repayable Financing	0.0	0.0	166.3	167.9	338.8	171.0	172.5	696.5	1054.4	1064.1	1073.9	1083.8	1093.8	1103.8	1114.0	1124.2	1134.6	1145.0	1155.5	1166.2	15026.4
2.4	DS	5631.8	5509.0	5805.1	5855.7	5817.5	5813.7	6231.8	5894.7	5925.3	5962.4	6100.4	6495.8	6839.3	6875.0	6920.2	6984.1	7013.6	7061.0	7147.9	7200.3	127084.6
a	Local Government Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
b	Provincial Tax	0.0	0.0	0.0	0.0	290.9	290.7	623.2	589.5	888.8	894.4	915.1	974.4	1025.9	1031.2	1038.0	1047.6	1052.0	1059.1	1072.2	1080.0	13873.0
c	Federal Tax	281.6	275.4	290.3	292.8	1745.3	1744.1	1869.5	1768.4	1777.6	1788.7	1830.1	1948.7	2051.8	2062.5	2076.1	2095.2	2104.1	2118.3	2144.4	2160.1	32425.0
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	589.5	592.5	596.2	610.0	649.6	683.9	687.5	692.0	698.4	701.4	706.1	714.8	720.0	8642.0
e	Self Supply	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
f	Transfer including Climate funds	5350.2	5233.5	5514.8	5562.9	3781.4	3778.9	3739.1	2947.3	2666.4	2683.1	2745.2	2923.1	3077.7	3093.7	3114.1	3142.9	3156.1	3177.4	3216.6	3240.1	72144.6
g	Trade options (share, equity, bond, CSR)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2.5	Total Sanitation	75418.7	75285.4	75570.9	75610.8	75561.8	75547.0	75954.1	75605.9	75625.3	75651.1	75777.7	76161.5	76493.4	76517.3	76550.7	76602.6	76620.1	76655.2	76729.9	76769.9	1520709.1
a	Local Government Tax	5395.7	5334.4	6047.9	5973.1	6121.2	6047.0	5972.1	5896.5	5820.2	5743.3	5665.6	5587.2	5508.1	5428.3	5347.7	5266.4	5184.3	5101.5	5017.9	4933.6	111391.7
b	Provincial Tax	133.3	348.9	348.8	348.8	639.6	639.3	971.8	1056.7	1353.8	1357.1	1599.8	1652.3	1697.0	1695.5	1798.4	1798.7	1793.7	1791.3	1794.8	1793.0	24612.6
c	Federal Tax	14105.6	14099.4	12434.1	12463.5	12692.4	12370.8	12189.1	13367.0	11999.6	12013.4	11833.3	11959.1	12069.4	10928.6	10871.8	10926.2	10970.6	11020.7	11083.0	11135.3	240532.8
d	Tariff	564.5	566.5	1136.8	1140.8	1717.1	2174.5	2640.3	3822.7	4770.4	4799.5	4839.0	4904.4	4964.8	5100.0	5128.9	5159.7	5187.4	5217.1	5251.0	5281.7	74367.3
e	Self Supply	47869.4	47733.3	47154.8	47229.7	46410.7	46253.0	45864.1	42136.9	42263.6	42391.4	42520.3	42650.5	42781.9	42914.4	43048.2	43183.2	43319.5	43457.0	43595.8	43735.9	886513.6
f	Transfer including Climate funds	6150.2	6021.3	6290.3	6325.9	5032.1	5008.5	4947.4	4846.2	4530.5	4512.1	4538.9	4681.1	4799.6	4779.3	4763.0	4754.7	4730.6	4714.2	4715.3	4700.4	100841.4
g	Trade options (share, equity, bond, CSR)	1066.6	1050.4	1421.6	1398.8	1751.0	1967.4	2174.9	2373.6	233												

S.N.	Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total
3	WASH in Schools	17387.6	17516.6	17744.8	17917.5	18070.6	18233.3	18500.2	18584.8	18760.6	18939.6	16409.7	16644.5	16870.9	17031.4	17195.6	17365.6	17529.3	17698.7	17878.9	18052.8	354332.9
3.1	CapEx	2938.0	2965.0	2992.3	3019.8	3047.6	3075.7	3104.0	3132.5	3161.3	3190.4	658.6	664.7	670.8	676.9	683.2	689.5	695.8	702.2	708.7	715.2	37492.2
a	Local Government Tax	293.8	296.5	299.2	604.0	609.5	615.1	620.8	626.5	632.3	638.1	131.7	132.9	134.2	135.4	136.6	137.9	139.2	140.4	141.7	143.0	6608.9
b	Provincial Tax	293.8	296.5	299.2	302.0	304.8	307.6	310.4	313.3	316.1	319.0	65.9	66.5	67.1	67.7	68.3	68.9	69.6	70.2	70.9	71.5	3749.2
c	Federal Tax	1380.9	1393.6	1406.4	815.4	822.9	676.6	682.9	219.3	221.3	223.3	46.1	46.5	47.0	47.4	47.8	48.3	48.7	49.2	49.6	50.1	8323.0
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	313.3	316.1	319.0	65.9	66.5	67.1	67.7	68.3	68.9	69.6	70.2	70.9	71.5	1635.0
e	Self Supply	881.4	889.5	897.7	906.0	914.3	922.7	931.2	939.8	948.4	957.1	197.6	199.4	201.2	203.1	205.0	206.8	208.7	210.7	212.6	214.6	11247.7
f	Transfer including Climate funds	88.1	89.0	89.8	90.6	91.4	92.3	93.1	94.0	94.8	95.7	19.8	19.9	20.1	20.3	20.5	20.7	20.9	21.1	21.3	21.5	1124.8
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	302.0	304.8	461.3	465.6	626.5	632.3	638.1	131.7	132.9	134.2	135.4	136.6	137.9	139.2	140.4	141.7	143.0	4803.6
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	CapManEx	1736.1	1752.0	1768.2	1784.4	1800.8	1817.4	1834.1	1851.0	1868.0	1885.2	1902.6	1920.1	1937.7	1955.6	1973.6	1991.7	2010.0	2028.5	2047.2	2066.0	37930.4
a	Local Government Tax	347.2	350.4	353.6	446.1	450.2	545.2	550.2	647.9	653.8	659.8	665.9	672.0	678.2	684.4	789.4	796.7	804.0	811.4	818.9	826.4	12551.9
b	Provincial Tax	17.4	17.5	17.7	17.8	18.0	18.2	18.3	18.5	18.7	18.9	19.0	19.2	19.4	19.6	19.7	19.9	20.1	20.3	20.5	20.7	379.3
c	Federal Tax	798.6	805.9	813.4	678.1	684.3	599.7	605.3	333.2	336.2	339.3	342.5	345.6	348.8	352.0	256.6	258.9	261.3	263.7	266.1	268.6	8958.2
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	185.1	186.8	188.5	190.3	192.0	193.8	195.6	197.4	199.2	201.0	202.9	204.7	206.6	2543.7
e	Self Supply	520.8	525.6	530.4	535.3	540.3	545.2	550.2	555.3	560.4	565.6	570.8	576.0	581.3	586.7	592.1	597.5	603.0	608.6	614.2	619.8	11379.1
f	Transfer including Climate funds	52.1	52.6	53.0	53.5	54.0	54.5	55.0	55.5	56.0	56.6	57.1	57.6	58.1	58.7	59.2	59.8	60.3	60.9	61.4	62.0	1137.9
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	53.5	54.0	54.5	55.0	55.5	56.0	56.6	57.1	57.6	58.1	58.7	59.2	59.8	60.3	60.9	61.4	62.0	980.2
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3	OpEx	9990.0	10081.9	10174.6	10268.2	10362.7	10458.1	10554.3	10651.4	10749.4	10848.3	10948.1	11048.8	11150.4	11253.0	11356.5	11461.0	11566.5	11672.9	11780.3	11888.6	218264.8
a	Local Government Tax	1998.0	2016.4	2034.9	2053.6	2072.5	2091.6	2110.9	2130.3	2149.9	2169.7	2189.6	2209.8	2230.1	2250.6	2271.3	2292.2	2313.3	2334.6	2356.1	2377.7	43653.0
b	Provincial Tax	199.8	201.6	203.5	205.4	207.3	209.2	211.1	213.0	215.0	217.0	219.0	221.0	223.0	225.1	227.1	229.2	231.3	233.5	235.6	237.8	4365.3
c	Federal Tax	1498.5	1512.3	1526.2	1540.2	1243.5	1255.0	1161.0	1171.7	1074.9	1084.8	985.3	994.4	892.0	900.2	795.0	802.3	694.0	700.4	589.0	594.4	21015.1
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
e	Self Supply	5994.0	6049.1	6104.8	6160.9	6217.6	6274.8	6332.6	6390.8	6449.6	6509.0	6568.8	6629.3	6690.3	6751.8	6813.9	6876.6	6939.9	7003.7	7068.2	7133.2	130958.9
f	Transfer including Climate funds	299.7	302.5	305.2	308.0	310.9	313.7	316.6	319.5	322.5	325.4	328.4	331.5	334.5	337.6	340.7	343.8	347.0	350.2	353.4	356.7	6547.9
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	0.0	310.9	313.7	422.2	426.1	537.5	542.4	656.9	662.9	780.5	787.7	908.5	916.9	1041.0	1050.6	1178.0	1188.9	11724.6
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.4	DS	2723.6	2717.6	2809.6	2845.0	2859.4	2882.1	3007.8	2949.9	2981.9	3015.7	2900.5	3011.0	3111.9	3145.9	3182.3	3223.4	3257.0	3295.1	3342.8	3383.0	60645.4
a	Local Government Tax	136.2	135.9	140.5	227.6	228.8	230.6	240.6	383.5	387.6	392.0	377.1	391.4	404.5	409.0	509.2	515.7	586.3	593.1	668.6	676.6	7634.7
b	Provincial Tax	27.2	27.2	28.1	28.4	28.6	28.8	30.1	29.5	29.8	30.2	29.0	30.1	31.1	31.5	31.8	32.2	32.6	33.0	33.4	33.8	606.5
c	Federal Tax	381.3	380.5	393.4	256.0	257.3	259.4	270.7	236.0	238.5	241.3	203.0	210.8	217.8	188.8	190.9	193.4	130.3	131.8	66.9	67.7	4515.7
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
e	Self Supply	1634.1	1630.6	1685.8	1707.0	1715.6	1729.3	1804.7	1769.9	1789.1	1809.4	1740.3	1806.6	1867.2	1887.5	1909.4	1934.0	1954.2	1977.1	2005.7	2029.8	36387.3
f	Transfer including Climate funds	544.7	543.5	561.9	569.0	571.9	576.4	601.6	442.5	447.3	452.4	435.1	451.7	466.8	471.9	381.9	386.8	390.8	395.4	401.1	406.0	9498.6
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	56.9	57.2	57.6	60.2	88.5	89.5	90.5	116.0	120.4	124.5	157.3	159.1	161.2	162.9	164.8	167.1	169.1	2002.7
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
3.5	Total WASH in School	17387.6	17516.6	17744.8	17917.5	18070.6	18233.3	18500.2	18584.8	18760.6	18939.6	16409.7	16644.5	16870.9	17031.4	17195.6	17365.6	17529.3	17698.7	17878.9	18052.8	354332.9
a	Local Government Tax	2775.2	2799.2	2828.3	3331.3	3361.0	3482.5	3522.5	3788.1	3823.6	3859.6	3364.3	3406.1	3447.0	3479.4	3706.5	3742.5	3842.7	3879.5	3985.2	4023.8	70448.5
b	Provincial Tax	538.2	542.8	548.5	553.6	558.6	563.7	569.9	574.3	579.6	585.0	332.9	336.8	340.6	343.8	347.0	350.3	353.6	356.9	360.4	363.8	9100.3
c	Federal Tax	4059.3	4092.3	4139.3	3289.7	3008.1	2790.8	2719.8	1960.1	1871.0	1888.8	1576.9	1597.3	1505.6	1488.4	1290.3	1302.9	1134.3	1145.0	971.6	980.7	42812.0
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	498.4	502.9	507.6	256.1	258.5	260.9	263.3	265.7	268.1	270.6	273.1	275.6	278.1	4178.7
e	Self Supply	9030.4	9094.8	9218.7	9309.2	9387.8	9472.0	9618.7	9655.8	9747.5	9841.1	9077.5	9211.3	9340.0	9429.1	9520.3	9615.0	9705.8	9800.0	9900.6	9997.3	189972.9
f	Transfer including Climate funds	984.6	987.5	1010.0	1021.2	1028.2	1037.0	1066.3	911.5	920.6	930.1	840.3	860.7	879.6	888.4	802.3	811.1	819.0	827.5	837.2	846.1	18309.2
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	412.4	726.9	887.3	1002.9	1196.6	1315.2	1327.5	961.7	973.9	1097.3	1139.1	1263.5	1275.7	1403.3	1416.6	1548.3	1563.0	19511.2
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

S.N.	Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total	
4	HCF	5963.6	6007.8	6086.1	6145.3	6197.8	6253.6	6345.2	6374.2	6434.5	6495.9	4966.9	5038.0	5106.5	5155.1	5204.8	5256.2	5305.8	5357.1	5411.6	5464.2	114570.2	
4.1	CapEx	1946.1	1964.0	1982.0	2000.3	2018.7	2037.2	2056.0	2074.9	2094.0	2113.2	635.3	641.1	647.0	653.0	659.0	665.0	671.1	677.3	683.6	689.8	26908.5	
a	Local Government Tax	194.6	196.4	198.2	200.0	201.9	203.7	205.6	207.5	209.4	211.3	63.5	64.1	64.7	65.3	65.9	66.5	67.1	67.7	68.4	69.0	2690.9	
b	Provincial Tax	97.3	98.2	99.1	100.0	100.9	101.9	102.8	166.0	167.5	169.1	50.8	51.3	51.8	52.2	52.7	53.2	53.7	54.2	54.7	55.2	1732.6	
c	Federal Tax	1401.2	1414.1	1427.1	1380.2	1392.9	1405.7	1418.6	1120.4	1130.8	1141.2	343.0	346.2	349.4	352.6	342.7	345.8	349.0	352.2	355.4	358.7	16727.1	
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	207.5	209.4	211.3	63.5	64.1	64.7	65.3	65.9	66.5	67.1	67.7	68.4	69.0	1290.4	
e	Self Supply	194.6	196.4	198.2	200.0	201.9	203.7	205.6	207.5	209.4	211.3	63.5	64.1	64.7	65.3	65.9	66.5	67.1	67.7	68.4	69.0	2690.9	
f	Transfer including Climate funds	58.4	58.9	59.5	60.0	60.6	61.1	61.7	62.2	62.8	63.4	19.1	19.2	19.4	19.6	19.8	20.0	20.1	20.3	20.5	20.7	807.3	
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	60.0	60.6	61.1	61.7	103.7	104.7	105.7	31.8	32.1	32.4	32.6	46.1	46.6	47.0	47.4	47.8	48.3	969.5	
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4.2	CapManEx	786.7	793.9	801.3	808.6	816.1	823.6	831.1	838.8	846.5	854.3	862.2	870.1	878.1	886.2	894.3	902.6	910.9	919.2	927.7	936.2	17188.3	
a	Local Government Tax	157.3	158.8	160.3	202.2	204.0	247.1	249.3	293.6	299.0	301.8	304.5	307.3	310.2	357.7	361.0	364.3	367.7	371.1	374.5	378.0	5688.0	
b	Provincial Tax	7.9	7.9	8.0	8.1	8.2	8.2	8.3	8.4	8.5	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3	9.4	9.4	171.9	
c	Federal Tax	519.2	524.0	528.8	469.0	473.3	436.5	440.5	318.7	321.7	324.6	327.6	330.6	333.7	336.7	295.1	297.8	300.6	303.3	306.1	309.0	7497.1	
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.9	84.7	85.4	86.2	87.0	87.8	88.6	89.4	90.3	91.1	91.9	92.8	93.6	1152.7	
e	Self Supply	78.7	79.4	80.1	80.9	81.6	82.4	83.1	83.9	84.7	85.4	86.2	87.0	87.8	88.6	89.4	90.3	91.1	91.9	92.8	93.6	1718.8	
f	Transfer including Climate funds	23.6	23.8	24.0	24.3	24.5	24.7	24.9	25.2	25.4	25.6	25.9	26.1	26.3	26.6	26.8	27.1	27.3	27.6	27.8	28.1	515.6	
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	24.3	24.5	24.7	24.9	25.2	25.4	25.6	25.9	26.1	26.3	26.6	26.8	27.1	27.3	27.6	27.8	28.1	444.2	
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4.3	OpEx	2590.0	2613.8	2637.8	2662.1	2686.6	2711.3	2736.2	2761.4	2786.8	2812.5	2838.3	2864.5	2890.8	2917.4	2944.2	2971.3	2998.7	3026.2	3054.1	3082.2	56586.2	
a	Local Government Tax	129.5	130.7	131.9	133.1	134.3	135.6	136.8	138.1	139.3	140.6	141.9	143.2	144.5	145.9	147.2	148.6	149.9	151.3	152.7	154.1	2829.3	
b	Provincial Tax	25.9	26.1	26.4	26.6	26.9	27.1	27.4	27.6	27.9	28.1	28.4	28.6	28.9	29.2	29.4	29.7	30.0	30.3	30.5	30.8	565.9	
c	Federal Tax	854.7	862.5	870.5	878.5	889.7	897.6	905.6	913.6	921.6	929.6	937.6	945.6	953.6	961.6	969.6	977.6	985.6	993.6	1001.6	1009.6	1017.6	16178.4
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
e	Self Supply	1554.0	1568.3	1582.7	1597.3	1612.0	1626.8	1778.6	1794.9	1811.4	1828.1	1844.9	1861.9	1879.0	1896.3	1913.8	1931.4	1949.1	1967.1	1985.2	2003.4	35986.0	
f	Transfer including Climate funds	25.9	26.1	26.4	26.6	26.9	27.1	27.4	27.6	27.9	28.1	28.4	28.6	28.9	29.2	29.4	29.7	30.0	30.3	30.5	30.8	565.9	
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	0.0	26.9	27.1	27.4	27.6	27.9	28.1	28.4	28.6	28.9	29.2	29.4	29.7	30.0	30.3	30.5	30.8	460.8	
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4.4	DS	640.9	636.1	665.0	674.4	676.5	681.5	721.8	699.1	707.2	715.9	631.1	662.3	690.6	698.5	707.2	717.3	725.1	734.2	746.3	756.0	13887.2	
a	Local Government Tax	32.0	31.8	33.2	33.7	33.8	34.1	36.1	35.0	35.4	35.8	31.6	33.1	34.5	34.9	35.4	35.9	36.3	36.7	37.3	37.8	694.4	
b	Provincial Tax	6.4	6.4	6.6	6.7	6.8	6.8	7.2	7.0	7.1	7.2	6.3	6.6	6.9	7.0	7.1	7.2	7.3	7.3	7.5	7.6	138.9	
c	Federal Tax	153.8	152.7	146.3	134.9	135.3	122.7	129.9	118.8	120.2	121.7	94.7	99.3	103.6	97.8	99.0	100.4	101.5	102.8	104.5	105.8	2345.8	
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
e	Self Supply	384.5	381.7	412.3	418.1	419.5	436.2	462.0	447.4	452.6	458.2	410.2	430.5	448.9	454.1	459.7	466.3	471.3	477.3	485.1	491.4	8867.1	
f	Transfer including Climate funds	64.1	63.6	66.5	67.4	67.7	68.2	72.2	69.9	70.7	71.6	63.1	66.2	69.1	69.9	70.7	71.7	72.5	73.4	74.6	75.6	1388.7	
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	13.5	13.5	13.6	14.4	21.0	21.2	21.5	25.2	26.5	27.6	34.9	35.4	35.9	36.3	36.7	37.3	37.8	452.3	
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4.5	Total HCF	5963.6	6007.8	6086.1	6145.3	6197.8	6253.6	6345.2	6374.2	6434.5	6495.9	4966.9	5038.0	5106.5	5155.1	5204.8	5256.2	5305.8	5357.1	5411.6	5464.2	114570.2	
a	Local Government Tax	513.5	517.7	523.6	569.0	574.0	620.4	627.8	674.1	680.4	686.7	538.8	545.0	551.1	556.3	606.2	612.0	617.6	623.5	629.5	635.4	11902.5	
b	Provincial Tax	137.5	138.6	140.1	141.5	142.7	144.0	145.7	209.0	210.9	212.9	94.1	95.3	96.4	97.3	98.2	99.1	100.0	101.0	102.0	102.9	2609.2	
c	Federal Tax	2928.9	2953.3	2972.7	2862.5	2861.2	2832.5	2727.8	2303.6	2325.1	2346.9	1531.7	1549.6	1567.2	1574.8	1531.7	1546.3	1560.7	1575.4	1590.7	1605.7	42748.4	
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	0.0	291.4	294.0	296.8	149.7	151.1	152.5	153.9	155.3	156.8	158.2	159.7	161.1	162.6	2443.1	
e	Self Supply	2211.8	2225.7	2273.3	2296.2	2314.9	2349.0	2529.2	2533.7	2558.1	2583.0	2404.9	2443.5	2480.4	2504.3	2528.8	2554.4	2578.7	2604.0	2631.4	2657.4	49262.7	
f	Transfer including Climate funds	172.0	172.5	176.4	178.3	179.6	181.1	186.2	184.9	186.8	188.7	136.4	140.2	143.7	145.2	146.8	148.5	150.0	151.6	153.5	155.2	3277.5	
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	97.8	125.4	126.6	128.4	177.5	179.2	180.9	111.3	113.3	115.2	123.3	137.8	139.2	140.5	142.0	143.5	145.0	2326.9	
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

S.N.	Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total
5	Public Place	4202.6	4233.8	4289.0	4330.7	4367.7	4407.0	4471.5	4492.0	4534.5	4577.8	3449.2	3498.5	3546.1	3579.9	3614.4	3650.1	3684.5	3720.1	3758.0	3794.6	80202.0
5.1	CapEx	1039.8	1049.4	1059.0	1068.8	1078.6	1088.5	1098.6	1108.7	1118.9	1129.2	36.5	36.8	37.2	37.5	37.9	38.2	38.6	38.9	39.3	39.6	11219.9
a	Local Government Tax	571.9	577.2	582.5	587.8	593.2	598.7	604.2	609.8	615.4	621.0	20.1	20.3	20.4	20.6	19.5	19.7	19.9	19.6	19.6	19.8	6161.2
b	Provincial Tax	104.0	104.9	105.9	106.9	97.1	98.0	87.9	88.7	78.3	79.0	1.8	1.8	1.5	1.5	1.5	1.5	1.5	1.6	1.4	1.4	966.2
c	Federal Tax	208.0	209.9	211.8	181.7	183.4	152.4	137.3	116.4	117.5	96.0	2.7	1.7	2.0	1.3	0.4	0.4	0.4	0.4	0.4	0.4	1624.4
d	Tariff	0.0	0.0	0.0	0.0	0.0	0.0	5.5	5.5	5.6	5.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24.2
e	Self Supply	52.0	52.5	53.0	53.4	107.9	108.9	131.8	133.0	134.3	135.5	5.5	5.5	5.6	5.6	7.6	7.6	7.7	7.8	7.9	7.9	1030.9
f	Transfer including Climate funds	104.0	104.9	105.9	74.8	32.4	32.7	33.0	33.3	33.6	33.9	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	599.7
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	53.4	53.9	76.2	76.9	99.8	100.7	124.2	4.0	4.8	4.8	5.6	5.7	5.7	5.8	5.8	6.3	6.3	640.1
h	Repayable Financing	0.0	0.0	0.0	10.7	10.8	21.8	22.0	22.2	33.6	33.9	1.1	1.5	1.5	1.5	1.9	1.9	1.9	2.3	2.4	2.4	173.2
5.2	CapManEx	973.2	982.2	991.2	1000.3	1009.5	1018.8	1028.2	1037.7	1047.2	1056.8	1066.6	1076.4	1086.3	1096.3	1106.4	1116.5	1126.8	1137.2	1147.6	1158.2	21263.3
a	Local Government Tax	146.0	147.3	138.8	140.0	121.1	122.3	123.4	124.5	125.7	126.8	106.7	107.6	108.6	87.7	88.5	89.3	90.1	56.9	57.4	57.9	2166.7
b	Provincial Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c	Federal Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
d	Tariff	778.6	785.7	812.8	820.3	848.0	855.8	863.7	892.4	900.6	930.0	959.9	968.7	977.6	1008.6	1017.8	1027.2	1036.7	1080.3	1090.2	1100.3	18755.2
e	Self Supply	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f	Transfer including Climate funds	48.7	49.1	39.6	40.0	40.4	40.8	41.1	20.8	20.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	341.4
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.3	OpEx	1664.0	1679.3	1694.8	1710.4	1726.1	1742.0	1758.0	1774.2	1790.5	1807.0	1823.6	1840.4	1857.3	1874.4	1891.7	1909.1	1926.6	1944.3	1962.2	1980.3	36356.3
a	Local Government Tax	332.8	335.9	254.2	171.0	172.6	87.1	87.9	88.7	53.7	54.2	54.7	92.0	92.9	93.7	94.6	57.3	57.8	58.3	58.9	59.4	2357.7
b	Provincial Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
c	Federal Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
d	Tariff	1331.2	1343.5	1440.6	1453.8	1467.2	1567.8	1582.2	1596.8	1647.3	1662.4	1677.7	1656.4	1671.6	1687.0	1702.5	1756.3	1772.5	1788.8	1805.3	1821.9	32432.6
e	Self Supply	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f	Transfer including Climate funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	85.5	86.3	87.1	87.9	88.7	89.5	90.3	91.2	92.0	92.9	93.7	94.6	95.5	96.3	97.2	98.1	99.0	1565.9
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.4	DS	525.6	522.9	543.9	551.2	553.4	557.7	586.8	571.5	577.9	584.8	522.5	545.0	565.4	571.7	578.5	586.3	592.5	599.7	608.9	616.5	11362.6
a	Local Government Tax	0.0	0.0	5.4	5.5	5.5	5.6	5.9	5.7	5.8	5.8	5.2	5.4	5.7	5.7	5.8	5.9	5.9	6.0	6.1	6.2	103.1
b	Provincial Tax	0.0	0.0	5.4	5.5	5.5	5.6	5.9	5.7	5.8	5.8	5.2	5.4	5.7	5.7	5.8	5.9	5.9	6.0	6.1	6.2	103.1
c	Federal Tax	0.0	10.5	10.9	11.0	11.1	11.2	11.7	11.4	11.6	11.7	10.5	10.9	11.3	11.4	11.6	11.7	11.9	12.0	12.2	12.3	216.7
d	Tariff	509.8	496.8	516.7	523.7	525.8	529.8	557.4	542.9	549.0	561.4	501.6	523.2	542.7	548.8	555.4	562.9	568.8	575.7	584.5	591.8	10868.7
e	Self Supply	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
f	Transfer including Climate funds	15.8	15.7	5.4	5.5	5.5	5.6	5.9	5.7	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	70.9
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.5	Total Public Place	4202.6	4233.8	4289.0	4330.7	4367.7	4407.0	4471.5	4492.0	4534.5	4577.8	3449.2	3498.5	3546.1	3579.9	3614.4	3650.1	3684.5	3720.1	3758.0	3794.6	80202.0
a	Local Government Tax	1050.7	1060.4	980.9	904.4	892.5	813.6	821.4	828.7	800.5	807.9	186.7	225.4	227.6	207.8	208.4	172.1	173.7	140.8	142.0	143.3	10788.8
b	Provincial Tax	104.0	104.9	111.3	112.4	102.6	103.5	93.8	94.4	84.1	84.9	7.0	7.3	7.1	7.2	7.3	7.4	7.5	7.6	7.5	7.6	1069.4
c	Federal Tax	208.0	220.3	222.7	192.7	194.4	163.5	149.1	127.8	129.0	107.7	13.2	12.6	13.4	12.7	11.9	12.1	12.2	12.4	12.6	12.7	1841.1
d	Tariff	2619.6	2626.0	2770.1	2797.7	2841.0	2953.4	3008.8	3037.6	3102.5	3159.5	3139.4	3148.4	3192.2	3244.5	3275.9	3346.6	3378.2	3445.0	3480.2	3514.1	62080.7
e	Self Supply	52.0	52.5	53.0	53.4	107.9	108.9	131.8	133.0	134.3	135.5	5.5	5.5	5.6	5.6	7.6	7.6	7.7	7.8	7.9	7.9	1030.9
f	Transfer including Climate funds	168.4	169.7	151.0	120.3	78.3	79.0	80.0	59.7	60.3	33.9	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1012.0
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	139.0	140.2	163.3	164.8	188.5	190.2	214.6	95.2	96.8	97.7	99.3	100.3	101.2	102.1	103.1	104.4	105.4	2206.0
h	Repayable Financing	0.0	0.0	0.0	10.7	10.8	21.8	22.0	22.2	33.6	33.9	1.1	1.5	1.5	1.5	1.9	1.9	1.9	2.3	2.4	2.4	173.2

S.N.	Cost Category	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Total
7	Total of ALL	209708.9	223446.1	224469.7	224837.5	224978.2	225212.3	212739.3	226103.8	226526.7	226869.3	221970.8	209239.0	200890.1	201180.2	201494.7	201854.5	202136.7	202462.5	202882.8	203224.9	4272227.8
7.1	CapEx	91315.6	104461.4	103703.8	102972.7	102251.1	101518.0	86891.6	100099.1	99379.9	98608.9	92315.6	77478.3	67166.1	66304.7	65434.7	64555.4	63671.8	62778.8	61874.3	60965.3	1673747.0
a	Local Government Tax	11466.1	12756.5	14040.0	14229.0	14722.2	14608.2	12844.5	14978.1	14861.5	14739.3	13312.0	11385.3	10039.6	9899.6	10469.2	10320.3	10170.3	10018.5	9865.1	9710.9	244436.1
b	Provincial Tax	6017.2	7242.3	7207.4	7781.1	7737.0	7702.8	6268.6	8404.2	10130.4	11256.9	10935.5	8689.1	7153.0	7084.8	7118.9	7047.0	6974.7	6901.7	6827.5	6753.1	155233.3
c	Federal Tax	36798.4	44080.2	41569.9	40077.4	36221.2	34901.5	27773.6	35253.0	35056.5	34831.0	33284.4	26533.7	21933.8	20556.6	18642.4	18462.1	18280.6	18097.2	17911.9	17725.2	577990.3
d	Tariff	1652.2	1854.2	1966.0	1949.6	2059.9	2042.3	1811.8	2658.3	2646.4	2629.7	2166.3	1915.5	1731.0	1813.9	1788.9	1763.6	1738.4	1712.9	1686.8	1660.8	39248.3
e	Self Supply	21115.5	22302.4	22056.6	21808.4	21612.0	21359.8	19696.7	15527.8	13568.9	12214.2	10991.0	10415.8	9967.9	9779.5	9591.2	9399.3	9205.6	9010.1	8812.9	8613.8	287049.4
f	Transfer including Climate funds	9680.0	10766.7	10667.2	10554.7	12145.7	12055.9	10525.7	12626.5	12541.8	12429.2	11948.6	10322.1	9135.9	9009.7	8881.9	8752.1	8623.5	8492.9	8359.1	8226.5	205745.8
g	Trade options (share,equity,bond,CSR)	1066.6	1050.4	1421.6	1814.3	2170.3	2566.0	2779.1	3500.7	3463.4	3448.4	2702.3	2593.4	2504.9	2881.6	3017.9	2961.0	2903.5	2845.6	2787.4	2728.4	51206.8
h	Repayable Financing	3519.5	4408.7	4775.1	4758.1	5583.0	6281.5	5191.5	7150.5	7111.1	7060.2	6975.6	5623.4	4700.1	5279.1	5924.3	5850.0	5775.1	5699.9	5623.6	5546.6	112837.1
7.2	CapManEx	31546.3	31589.8	31864.7	32152.1	32447.2	32743.3	33292.8	33366.0	33682.1	33985.9	34388.8	34964.5	35478.2	35797.6	36119.2	36442.7	36771.0	37101.2	37432.1	37767.9	688933.3
a	Local Government Tax	8226.1	8277.1	8341.8	8547.6	8660.2	8871.7	8978.2	9171.9	9257.2	9341.8	9415.4	9528.0	9634.9	9700.9	9932.7	10023.2	10114.8	10172.9	10265.4	10359.0	186821.1
b	Provincial Tax	2737.8	2791.1	2529.7	2552.4	2139.5	2159.0	2203.7	1558.0	1543.0	1556.6	1564.6	1604.9	1623.3	1637.5	839.1	845.9	853.0	860.1	866.9	874.0	33340.1
c	Federal Tax	3906.9	3918.2	3952.7	3781.0	3815.7	3718.5	3777.6	3162.6	2855.0	2880.7	2916.2	2969.0	3015.5	3042.5	2926.4	2952.4	2978.9	3005.5	3032.1	3059.1	65666.4
d	Tariff	5446.1	5471.5	5932.1	5986.1	6606.0	6776.0	6973.6	8163.0	8464.0	8562.4	8671.6	8777.3	8877.2	8980.1	9858.7	9948.5	10039.4	10165.0	10257.5	10351.0	164307.3
e	Self Supply	8931.4	8960.8	8883.5	8965.2	8830.8	8857.3	8828.3	8704.3	8784.4	8865.2	8946.8	9029.1	9112.2	9196.0	9280.6	9366.0	9452.1	9539.1	9626.9	9715.4	181875.5
f	Transfer including Climate funds	2269.9	2142.8	2143.2	2159.4	2178.8	2197.4	2366.6	2227.8	2253.8	2249.7	2324.5	2501.5	2639.8	2659.8	2679.7	2699.1	2719.7	2739.9	2758.8	2779.0	48691.3
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	77.8	78.5	79.2	80.0	80.7	81.4	82.2	82.9	83.7	84.5	85.3	86.0	86.8	87.6	88.4	89.2	90.1	1424.4
h	Repayable Financing	28.0	28.3	81.8	82.6	137.5	84.1	84.9	297.7	443.1	447.2	466.7	471.0	491.0	495.5	516.0	520.7	525.5	530.3	535.2	540.1	6807.1
7.3	OpEx	64122.7	64211.2	64769.9	65354.1	65953.8	66555.7	67672.7	67821.4	68464.0	69081.4	69900.4	71070.6	72114.9	72764.0	73417.8	74075.3	74742.7	75413.9	76086.3	76768.9	1400361.8
a	Local Government Tax	4238.3	4227.1	4178.1	4538.7	4749.8	4705.9	4799.6	4478.3	4485.5	4525.6	4585.5	4717.2	4799.7	4842.4	4885.4	4890.4	4933.9	4977.7	5021.4	5065.8	93646.3
b	Provincial Tax	1052.0	1176.4	1184.0	1193.7	1204.6	1215.2	1276.8	1241.2	1254.4	1264.7	1294.7	1359.3	1410.9	1422.4	1434.0	1445.4	1457.2	1469.0	1480.4	1492.3	26328.7
c	Federal Tax	10607.5	10654.9	10749.8	10438.6	10196.7	10290.0	10192.8	9012.4	7935.3	8007.1	7989.6	8115.8	8118.0	8191.3	8151.5	8224.7	8183.3	8256.9	8213.0	8286.8	179816.0
d	Tariff	7854.9	7877.0	8363.7	9461.7	10919.1	11968.7	12789.7	14162.6	15033.5	15170.5	15328.5	15485.4	15666.9	15809.6	15953.5	16136.6	16283.7	16431.8	16580.9	16731.7	274010.0
e	Self Supply	35683.1	35846.6	35677.4	34983.3	33595.8	33213.4	32995.4	33018.8	33322.6	33629.1	33938.5	34250.8	34565.9	34883.9	35204.8	35528.7	35855.6	36185.4	36518.3	36854.3	695751.7
f	Transfer including Climate funds	4686.9	4429.1	4450.7	4484.6	4524.9	4563.6	4908.4	4669.2	4723.4	4759.4	4913.2	5274.7	5557.5	5600.0	5642.2	5683.3	5727.1	5769.9	5810.2	5853.2	102031.3
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	85.5	424.1	428.0	537.4	542.4	654.9	660.9	776.4	783.6	902.3	910.6	1032.5	1042.0	1167.3	1178.0	1306.7	1318.7	13751.3
h	Repayable Financing	0.0	0.0	166.3	167.9	338.8	171.0	172.5	696.5	1054.4	1064.1	1073.9	1083.8	1093.8	1103.8	1114.0	1124.2	1134.6	1145.0	1155.5	1166.2	15026.4
7.4	DS	22724.3	23183.7	24131.2	24358.5	24326.1	24395.3	24882.2	24817.3	25000.7	25193.1	25366.0	25725.6	26130.8	26313.9	26522.9	26781.1	26951.2	27168.6	27490.2	27722.8	509185.7
a	Local Government Tax	479.0	471.1	493.7	583.9	584.7	587.6	620.0	748.1	755.7	762.7	751.7	786.7	817.3	824.4	927.5	937.8	1010.7	1020.6	1100.6	1111.9	15375.6
b	Provincial Tax	344.4	336.9	354.7	891.2	1181.4	2372.0	2676.6	3911.8	4234.4	4264.4	4345.1	4324.7	4330.0	4358.0	4390.2	4430.5	4456.2	4489.7	4540.1	4575.9	64808.2
c	Federal Tax	11594.6	12283.1	12728.9	12154.9	13600.2	12434.4	12310.3	11387.6	11463.6	11547.3	11693.4	11541.0	11479.4	11518.0	11605.4	11713.3	11719.2	11809.2	11875.3	11970.6	238429.8
d	Tariff	767.4	743.5	772.5	781.4	783.2	787.8	837.1	1396.0	1407.7	1425.4	1387.2	1469.2	1540.4	1551.7	1564.8	1581.2	1591.7	1605.4	1626.1	1640.8	25260.6
e	Self Supply	2018.7	2012.2	2098.1	2125.1	2135.1	2165.5	2266.7	2217.4	2241.7	2267.6	2150.5	2237.1	2316.0	2341.6	2369.1	2400.3	2425.5	2454.3	2490.8	2521.2	45254.3
f	Transfer including Climate funds	7520.3	7336.8	7683.3	7751.6	5970.8	5976.8	6096.9	5047.0	4787.0	4813.8	4896.8	5219.9	5495.6	5528.0	5471.3	5521.1	5548.7	5587.9	5652.9	5695.5	117602.1
g	Trade options (share,equity,bond,CSR)	0.0	0.0	0.0	70.4	70.7	71.3	74.6	109.5	110.7	111.9	141.3	146.9	152.1	192.2	194.5	197.0	199.1	201.5	204.5	206.9	2455.1
h	Repayable Financing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
7.5	Total of Total of All	209708.9	223446.1	224469.7	224837.5	224978.2	225212.3	212739.3	226103.8	226526.7	226869.3	221970.8	209239.0	200890.1	201180.2	201494.7	201854.5	202136.7	202462.5	202882.8	203224.9	4272227.8
a	Local Government Tax	24409.5	25731.9	27053.6	27899.3	28716.9	28773.4	27242.3	29376.4	29359.9	29369.3	28064.7	26417.2	25291.5	25267.3	26214.9	26171.6	26229.7	26189.7	26252.5	26247.6	540279.1
b	Provincial Tax	10151.4	11546.7	11275.8	12418.4	12622.5	13448.9	12425.7	15115.2	17162.3	18342.7	18139.9	15978.1	14517.1	14502.7	13782.2	13768.7	13741.2	13720.5	13714.9	13695.4	279710.4
c	Federal Tax	62907.3	70936.4	69001.2	66451.9	63833.7	61344.4	54054.2	58815.7	57310.4	57266.0	55883.6	49159.4	44546.8	43308.4	41325.7	41352.5	41162.0	41168.8	41032.2	41041.7	1061902.4
d	Tariff	15720.5	15946.2	17034.3	18179.0	20368.2	21574.8	22412.2	26379.9	27551.6	27788.1	27553.5	27647.4	27815.4	28155.3	29166.0	29430.0	29653.2	29915.2	30151.2	30384.3	502826.2
e	Self Supply	67748.8	69122.1	68715.5	67882.1	66173.7	65595.9	63787.1	59468.3	57917.5	56976.1	5602										

18.ANEX I: KEY ACTIONS

This section presents a detailed breakdown of the specific activities that need to be undertaken to achieve the goals and objectives of the SDP, with a focus on the respective themes. To arrive at the estimated costs associated with these action points, a thorough examination and assessment of each proposed activity were conducted. This assessment considered various factors such as the scale of implementation, the resources required, the duration of the activities, and any associated expenses.

The costs reflect not only the financial investments needed to execute these activities but also consider the human and technical resources required, as well as any operational and administrative expenses associated with the successful implementation of the action points. They provide a concrete framework for budgeting and resource allocation, ensuring that the necessary funding and resources are available to carry out the planned activities effectively.

A) THEME1: Access, service level and Quality of Service improvement

Water Supply:

- Identify and map water supply systems and served/unserved settlements.
- Regularly update NWASH-MIS Database for planning.
- Prioritize schemes nationwide for reaching underserved areas.
- Promote inclusive water services for remote communities.
- Upgrade existing systems and prioritize private connections.
- Provide water supply facilities in schools, healthcare, and public institutions.

Sanitation and Hygiene:

- Conduct hygiene barrier analysis.
- Develop people-friendly approaches and BCC materials.
- Strengthen DCCs for district-level leadership.
- Enhance monitoring for sanitation service sustainability.

Urban Sewerage:

- Expand sewerage systems and wastewater treatment.
- Encourage decentralized treatment in low-income areas.
- Ensure municipal plans for sewerage and non-sewered solutions.
- Promote the suitability analysis for sewerage and non-sewered technological solutions
- Foster inter-city cooperation for urban sanitation.
- Upgrade urban wastewater treatment facilities.

DeWATS (Decentralized Wastewater Treatment Systems):

- Adopt DeWATS for areas lacking centralized sewer systems.
- Include community involvement and financial planning.
- Target unserved communities with suitable designs.

Stormwater Drainage:

- Construct priority drainage systems in flood-prone areas.
- Ensure effective stormwater runoff management.

FSTP (Faecal Sludge and Septage Management):

- Develop designs and regulatory frameworks.
- Explore waste reuse options.
- Promote safe FSM/SM in municipalities.

CIWIS (City-wide Inclusive Water and Sanitation):

- Support city-wide sanitation plans.
- Enforce wastewater quality standards.
- Promote treated wastewater use.
- Require on-site wastewater treatment.
- Implement wastewater quality regulations.
- Invest in R&D for purification technologies.

WASH in Schools:

- Ensure WASH services in schools.
- Prioritize child, gender, and differently-abled-friendly processes.
- Promote safe water, clean toilets, and hygiene.
- Maintain adequate sanitation facilities.
- Establish garbage pit facilities.
- Define certification process for schools.

WASH in Healthcare Facilities (HCF):

- Secure reliable water sources.
- Implement water storage and quality monitoring.
- Provide accessible sanitation facilities.
- Ensure hygiene in healthcare facilities.
- Establish hand hygiene stations.
- Promote infection prevention.
- Manage healthcare waste safely.

WASH in Public Places:

- Provide CGD-friendly WASH services.
- Mandate waste management facilities.
- Standardize public toilets.
- Support CGD-friendly toilet standards.
- Consider public toilets as a business model.
- Explore corporate support and subsidies.
- CGD-friendly toilets in new areas.
- Provide mobile sanitation services.

Water Quality:

- Establish a monitoring network.
- Implement Water Safety Plans (WSP).
- Conduct awareness campaigns.
- Enforce wastewater standards.
- Implement watershed protection.
- Upgrade water infrastructure.
- Strengthen water quality regulations.
- Invest in R&D for treatment.
- Train communities and organizations.
- Develop plans for waterborne diseases.
- Create a centralized water quality database.

B) THEME2: Data, Planning and M&E

Data:

- Complete WASH data collection within NWASH.
- Integrate AI and ML for data validation.
- Expand NWASH as needed and create a market opportunity dashboard.
- Establish data-sharing mechanisms with other sectors.
- Ensure data security, privacy, and regular audits.
- Map water sources with quality and quantity data.
- Develop resource optimization plans.

Planning:

- Develop a comprehensive WASH plan with data validation, prioritization, and customization.
- Continuously update data and the WASH plan.
- Implement KPIs for service level and efficiency tracking.
- Create and update stakeholder maps.
- Define internal and external monitoring indicators.

Monitoring and Evaluation:

- Conduct regular Joint Sector Reviews (JSR).
- Provide continuous data support.
- Perform data processing, analysis, modeling, and R&D.
- Conduct mid-term and end-term evaluations of the SDP.
- Generate and monitor ambient river health data.
- Manage various WASH-related data.
- Hold annual reviews of JSR outcomes.
- Conduct annual M&E reviews and audits.
- Revise M&E indicators in 2030 and 2037.
- Publish reports and findings based on data and M&E results.

C) THEME3: Capacity Development

Data, Planning, and M&E Related Capacity Building:

- Develop capacity for WASH data collection and enumeration.
- Build capacity for WASH plan preparation.
- Foster M&E technological adoption, including AI, ML, and citizen science.
- Analyze market opportunities and governance reform.
- Track KPIs for performance monitoring.
- Promote data sharing and collaboration.
- Provide data support to local and provincial governments.
- Ensure system security and privacy.
- Invest in data analysis, research, and modeling.
- Monitor groundwater quality and quantity.
- Develop indicators for monitoring.
- Monitor river health data.
- Enhance M&E-related capacity.

Governance and Institutional Setup Related Capacity Building:

- Capacity development for policy advocacy.
- Assess the impact of federalism.
- Enhance institutional coordination.
- Drive governance reform and improvement.
- Develop capacity for WASH diplomacy.
- Strengthen the Sector-Wide Approach (SWAP) and related capacity.
- Conduct SWOT analysis.
- Integrate governance into project components.
- Promote peer-to-peer learning for best practices.

Access & Service Level Improvement:

- Capacity development for water and wastewater infrastructure design.
- Build capacity for project development.
- Enhance financial and economic analysis.
- Improve social and environmental assessment skills.
- Monitor water quality and conduct wastewater quality testing.
- Set design parameters.
- Manage construction and contracts.
- Implement efficient procurement processes.
- Develop specific plans for HCF WASH, School WASH, and Public Place WASH.
- Provide occupational health and safety (OHS) training.
- Foster capacity development related to E-learning and online courses.
- Develop and continuously update the business plan of NWSSTC.
- Analyze capacity gaps and assess capacity needs.
- Provide training on module development and management.
- Train on proposal development and report writing.
- Harmonize capacity development with modern tools and technology.
- Conduct training on post-capacity development impact assessment.
- Offer training on the design and implementation of capacity development tools.
- Organize WASH Expo and other capacity development-related programs.

GESI Related:

- Promote GESI, SEA-SH, and GBV-related training.
- Enhance women's leadership.
- Conduct community sensitization.
- Address Menstrual Hygiene Management (MHM).
- Promote equitable access.
- Implement gender-sensitive budgeting and project design.

Climate Challenges and Crisis Navigation Related:

- Provide training in climate literacy, data analysis, collaboration, adaptation, and mitigation.
- Offer disaster cycle and emergency response training.
- Conduct SPHERE Handbook training.
- Explore resource recovery and reuse.
- Foster the climate-resilient design of infrastructure.
- Perform carbon footprint analysis.
- Offer other climate and disaster-related training.

Financing:

- Enhance financing literacy.
- Promote various financing tools.
- Seek climate financing opportunities.
- Build financial management skills.
- Track financial reporting and expenditure.
- Develop financial sustainability and recovery mechanisms.
- Explore public-private partnerships.
- Innovate with concepts like WASH banks and WASH insurance.
- Create tariff awareness and establish fair tariff-setting processes.
- Develop a financing strategy.
- Foster an enabling environment for financing.

Safely Managed Services:

- Promote service ladder literacy.
- Ensure the sustainability of safely managed services.
- Continuously improve service levels.
- Optimize resource utilization.
- Track service efficiency.
- Strengthen grievance handling mechanisms.
- Protect water sources.
- Build capacity for the operation, management, and maintenance of WASH services.
- Develop training manuals and acquire necessary training equipment/materials.

D) THEME4: Policy and Institutional setup**Policy and Institutional Framework:**

- Assess gaps in policy and institutions.
- Establish legislative and institutional frameworks with regular review.
- Ensure governance is an integral component of WASH projects.

Coordination and Advocacy:

- Operationalize sectoral committees led by federal sector ministers.
- Advocate for high-level political compacts for WASH.
- Promote governance in the sanitation campaign and parliamentary committees.

Transition to Professional Utilities:

- Develop tools for transitioning from WSUC-managed systems to professional utilities in urban municipalities.
- Establish and operationalize dedicated WASH units at the local level.
- Create a "Regulatory" division under DWSSM and support its gradual conversion.

Institutional Restructuring:

- Restructure KUKL, KVWSMP, and PID in the Kathmandu Valley.
- Ensure sustainability of NWSH MIS with IT governance.
- Register WUSCs as per WASH Act provisions.

Collaboration and Coordination:

- Integrate all WASH interventions under MoWS.
- Establish WASH Coordination Committees at municipal, provincial, and federal levels.

- Create Thematic Working Groups for monitoring milestones.

Digital Adoption:

- Promote sectoral institutions' digital adoption.
- Enhance intersectoral collaboration among three tiers of government.
- Strengthen partnerships with various organizations and CSOs.

Data Management and Citizen Participation:

- Manage data lifecycle with documentation and metadata.
- Advocate for citizen participation and rights protection.
- Operationalize federal and provincial offices and WASH branches of NGOs/INGOs/DPs.

Research and Development:

- Invest in research and development in governance.

E) THEME5: Financing

Maximizing Existing Public Funding:

- Maximize value from existing public funding.
- Advocate for performance-based financing in local government transfers.
- Perform Financing Bottleneck analysis and conduct Financing clinics regularly.

Budget Advocacy:

- Focus on Financing MDAC and NDAC meetings.
- Advocate with MoF & NPC for improved sectoral budgeting.

Mobilizing Additional Funding:

- Reform the tariff system.
- Advocate for the introduction of earmarked taxes from local government.
- Advocate and establish a third sector tax for WASH (e.g., Oil tax).
- Increase repayable domestic finance.
- Advocate for investment from NIFRA, EPF, CIT.
- Continue co-financing mechanisms with necessary reforms.
- Encourage innovation and new approaches.

Innovative Funds and Private Sector Engagement:

- Establish and operationalize financial institutions like WASH Bank and WASH Insurance.
- Develop proposals to attract climate financing (GCF) and other innovative funds.
- Create a private sector-friendly environment in all levels of government.
- Introduce HAM in procurement.
- Organize national/provincial investment summits.
- Implement municipal WASH plans with innovative funding concepts (Bond, Equity, Share).
- Utilize cooperatives in WASH financing.
- Advocate for CSR investments from the private sector in WASH.
- Demonstrate health benefits and perform health economic analyses for joint funding with the health sector.
- Establish an idea center for financing innovation in local governments.
- Encourage businesses in the sanitation sector to adopt circular business models and support circular supply chains for sanitation products.

Document Development:

- Develop relevant documents.

F) THEME6: GESI**Diagnosis:**

- Regularly assess gender parity within the organization and conduct periodic gender audits.
- Review the gender pay gap periodically.
- Conduct an annual benchmarking survey on diversity and inclusion.
- Conduct research within the sector to better understand factors related to GESI.
- Track cultural diversity and conduct a diversity survey within the sector.
- Develop benchmarks for LGBTQIA+ workplace equality and establish an accreditation program.
- Implement self-assessment tools for accessibility and inclusion.
- Implement the Utility Strengthening Framework for gender mainstreaming.

Attraction:

- Promote career talks and outreach programs with universities.
- Present diverse career options at schools, colleges, and communities.
- Provide scholarships for underrepresented groups in WASH-related and STEM studies.
- Conduct school outreach programs to inspire students.
- Offer technical skills development programs for women and girls.
- Facilitate youth education and leadership programs, internships, and job placements.
- Create opportunities for young women in the water sector to interact with senior women leaders.
- Develop disability-inclusive skills development programs with disability inclusion in TVET programs.

Recruitment:

- Implement measures to track diversity in recruitment.
- Use gender-neutral language in job advertisements.
- Address implicit bias in the selection process.
- Offer training programs for water sector actors to enable female participation.

Retention:

- Provide training on unconscious bias at the workplace.
- Implement equal pay for equivalent work policies, including pay gap assessments.
- Maintain trans-inclusive bathroom facilities.
- Ensure an inclusive and accessible workplace.
- Provide adaptive technology and workplace adjustments.
- Establish codes of conduct related to harassment, including reporting processes.
- Establish an Ethics Committee to handle complaints of harassment and SEA/SH focal points.
- Develop gender action plans.
- Establish a dedicated section to oversee GESI strategy and action.
- Promote diversity in the workplace and offer LGBTQIA+ awareness training.
- Support mental health and well-being.

- Establish child care support centers within the office.

Advancement:

- Recognize women's contributions with awards.
- Ensure transparent promotion processes and criteria.
- Create incentive systems for women.
- Offer leadership courses for women and marginalized people.
- Support and facilitate networks of women professionals and other marginalized groups.
- Fund networks promoting diversity and GESI.
- Strengthen the role of women in WASH leadership and decision-making.
- Set targets for gender composition in leadership positions.

Society Expectation:

- Support diversity in public forums and events.
- Recognize and award organizations that increase diversity and representation.
- Use the Reykjavík Index to measure society's perception of men and women in leadership positions.

Mainstreaming GESI:

- Mainstream GESI as a project component.
- Advocate for incorporating GESI in LG audits.

Manual Development:

- Develop relevant manuals.

G) THEME7: Climate challenges and Crisis Navigation

Understanding Disaster Risk:

- Conduct hazardwise risk assessments.
- Implement source mapping.
- Develop a Disaster Risk Reduction (DRR) portal and database.
- Assess the structural integrity of WASH systems.
- Build the capacity of local governments to understand risk.
- Promote inter-agency coordination for multi-hazard risk assessment.

Strengthening Disaster Risk Governance:

- Operationalize disaster technical working groups at federal and provincial levels.
- Appoint disaster focal persons at all levels of institutions.
- Ensure inclusiveness in DRR efforts.
- Develop policy and legal frameworks for disaster risk reduction.
- Establish institutional structures for effective disaster risk management.
- Enhance risk communication and dissemination.

Investing in Disaster Risk Management:

- Develop a DRR financing strategy.
- Insure WASH infrastructures against disasters.
- Mainstream disaster resilience concepts in WASH infrastructure development.
- Enhance disaster preparedness for effective response and recovery.
- Promote the "Build Back Better" approach in recovery, rehabilitation, and reconstruction.
- Coordinate with other sectors and local authorities for effective disaster response.

- Adhere to the Sphere Handbook standards for humanitarian response in WASH during disasters.

Climate Change:

- Mainstream climate considerations into strategies, policies, plans, and projects.
- Improve internal cooperation, coordination, and knowledge sharing.
- Promote climate change adaptation.
- Mainstream the Green, Resilient, and Inclusive Development (GRID) concept in WASH infrastructure development.
- Implement Nationally Determined Contributions (NDC) related to WASH and climate goals.

NDC Implementation:

- Treat wastewater and manage faecal sludge to reduce emissions.
- Create an enabling environment for waste treatment, including faecal sludge management.
- Implement climate-resilient water and sanitation safety plans.
- Adopt and implement waste segregation, recycling, and waste-to-energy programs.
- Prohibit healthcare waste burning and manage healthcare waste sustainably.
- Promote the 3Rs (Reduce, Reuse, Recycle) approach to waste management.
- Focus on co-production of energy and organic fertilizer from waste.

National Adaptation Plan (NAP):

- Promote water pumping technology in water-scarce areas.
- Build the capacity of hygiene service providers in climate-resilient hygiene service planning.
- Develop climate change resilience through capacity building and innovation in WASH services.
- Promote and conserve water sources and implement watershed management.
- Reform policies and strategies for climate-resilient health and WASH programs.
- Invest in research, innovation, and development of climate-resilient measures and technologies for water supply, sanitation, and health systems.
- Adopt robust construction standards for water supply infrastructure.
- Adapt designs to reduce vulnerability.
- Mitigate through improving water and energy efficiency.
- Promote renewable energy use for water and sanitation operations.
- Limit greenhouse gas emissions from wastewater and excreta.
- Screen, identify hazards, and assess exposure levels.
- Calculate the carbon footprint.
- Conduct climate audits.
- Implement catchment management with integrated water resources management (IWRM) principles.

19.ANEX II: TRANSFORMING WASH: FLAGSHIP PROGRAMS

These projects collectively may form a part of the SDP's strategy for improving water, sanitation, and hygiene services across Nepal. Their successful implementation is crucial to achieving the SDP's overarching goal of ensuring that all communities, both urban and rural, have access to safe and sustainable WASH services, leading to improved public health and quality of life.

- 1. Utility Career Advancement and Smart WASH Cities (UCASWAC) Initiative:** This Initiative is centered on elevating the career trajectory of water utilities. This initiative focuses on enhancing the utility's performance and delivering high-quality services through career development and the achievement of key performance indicators (KPIs). As the utility improves its KPIs, it becomes eligible for government incentives aimed at further enhancing its capabilities. These incentives may take the form of asset creation or capacity development, enabling the utility to reach higher levels of performance. Concurrently, UCASWAC places a strong emphasis on integrating smart city concepts. Leveraging technology and innovation, it aims to streamline urban water management processes. This initiative is dedicated to enhancing the efficiency, sustainability, and overall performance of water utilities within the context of smart cities.
- 2. Rural Safely Managed Water Access (R-SaMWA) Program:** The R-SaMWA program is dedicated to ensuring that rural communities have reliable and safe access to clean and potable water. It involves a multifaceted approach that includes the development of water infrastructure, water quality monitoring, and community participation and awareness. Managing water resources effectively is a key aspect of this program to ensure the sustainability of safe water access in rural areas.
- 3. Rural Safely Managed Sanitation (R-SaMS) Project:** The R-SaMS project is designed to address sanitation challenges in rural areas. It focuses on improving sanitation facilities and practices to ensure the safe disposal of human waste, reducing health risks and promoting community well-being. This project involves the construction of proper sanitation infrastructure and hygiene promotion efforts within rural communities.
- 4. Integrated MWIS: Water, Sanitation, and Solid Waste (IC-WASH) Project:** The IC-WASH project centers on integrating the management of water, sanitation, and solid waste systems. By combining these essential services, it aims to enhance overall efficiency, resource utilization, and sustainability. The project includes the development of comprehensive infrastructure and systems to optimize service delivery.
- 5. Local Governance Empowerment for WASH (LGE-WASH) Program:** The LGE-WASH program empowers local governments and communities to actively participate in the planning, implementation, and management of WASH services. It encourages decentralized decision-making and community engagement to ensure that WASH solutions are tailored to local needs and effectively delivered.
- 6. Climate-Resilient WASH Infrastructure (C-RWI) Project:** The C-RWI project is committed to designing and constructing WASH infrastructure that can withstand the impacts of climate change. This includes infrastructure resilient to extreme weather events, ensuring that WASH services remain accessible and functional under changing environmental conditions.
- 7. WASH Capacity Strengthening (WCS) Program:** The WCS program focuses on building the capacity and skills of individuals, organizations, institutions and communities involved in WASH projects. It offers training, education, and skill development to ensure that WASH professionals can effectively plan, implement, and manage WASH initiatives, contributing to successful outcomes.

8. **Private Sector Engagement for WASH (PSE-WASH) Project:** The PSE-WASH project involves engaging the private sector in delivering WASH services. This often includes forming partnerships with private companies to improve WASH infrastructure, service delivery, and innovation. The private sector's involvement can lead to increased efficiency and resource mobilization.
9. **WASH Research Innovation and Collaboration (WASH-RIC) Initiative:** The WASH-RIC initiative promotes research, innovation, and collaboration in the WASH field. It encourages researchers, institutions, and organizations to collaborate on finding new solutions, technologies, and best practices for addressing WASH challenges.
10. **Digital Transformation for Efficient WASH (DTE-WASH) Program:** The DTE-WASH program harnesses digital technologies and data to enhance the efficiency, monitoring, and management of WASH services. This includes using data analytics, remote monitoring, and digital platforms to optimize resource allocation and service delivery.
11. **River Health Revival (RHR) Project:** The RHR project is dedicated to restoring the health and quality of rivers. The project typically involves activities such as reducing pollution, conserving natural habitats, and managing water resources sustainably. In regions where rivers are heavily polluted due to industrial discharges and untreated sewage, this program aims to clean up the rivers and control pollution. It involves the construction of sewage treatment facilities, riverbank restoration, and the implementation of pollution control measures to restore water quality and ecosystem health.
12. **Groundwater Quality Enhancement (G-Quality) Program:** The G-Quality program seeks to improve the quality of groundwater sources. This program includes measures such as groundwater recharge, pollution control, and sustainable management practices.
13. **Institutional WASH Access (I-WASH) Initiative:** The I-WASH initiative focuses on ensuring that institutions like schools, healthcare facilities, and public buildings have access to adequate WASH facilities and practices. This initiative is essential for promoting hygiene and ensuring the well-being of individuals in institutional settings.
14. **Sanitation Social Movement Acceleration (SMA-WASH) Campaign:** The SMA-WASH campaign accelerates social movements and community engagement to promote better sanitation practices and behavior change. It involves advocacy, awareness campaigns, and community mobilization efforts to create a collective commitment to improved sanitation.
15. **Enhancing Multiple Water Use (EMU-Water) Project:** The EMU-Water project aims to optimize the use of water resources for various purposes, including agriculture, domestic use, and industrial processes, while ensuring sustainability. This project often involves water management strategies, efficient irrigation techniques, and resource allocation planning.
16. **Inter-watershed WASH Resource Transfer Project:** The Inter-Basin WASH Resource Transfer Project involves the transfer of water resources between different river basins or watersheds to address WASH challenges. It includes the construction of infrastructure like pipelines or canals to facilitate the movement of water resources.
17. **Himalayan Watershed to Terai WASH Initiative:** The Himalayan Watershed to Terai WASH Initiative focuses on utilizing water from the Himalayan mountain region to enhance WASH conditions in the Terai region of Nepal. This initiative aims to provide a sustainable and reliable supply of clean and safe drinking water, improved sanitation facilities, and hygiene practices to improve the overall well-being of the local population in the Terai.
18. **National Water Grid Development Project:** The National Water Grid Development Project is a large-scale infrastructure initiative that focuses on interconnecting water sources, reservoirs,

and distribution networks across a country, region or palika. The aim is to ensure the efficient distribution of water resources to areas in need, improving access to clean water and enhancing water management on a national or regional scale.

19. **Integrated Urban Water Management System (IUWMS):** The IUWMS project focuses on transforming urban water management by integrating water supply, wastewater treatment, stormwater management, and solid waste management into a comprehensive, efficient, and sustainable system. It includes the construction of advanced infrastructure such as wastewater treatment plants, sewage networks, and stormwater drainage systems.
20. **Industrial Effluent Management and Treatment System:** To mitigate industrial pollution and safeguard water quality, this project includes the establishment of comprehensive industrial effluent management and treatment systems. It involves the construction of treatment plants, monitoring networks, and regulatory frameworks to manage industrial wastewater responsibly.
21. **Metropolitan Sewage Treatment and Recycling Network:** This project focuses on developing an extensive sewage treatment and recycling network for a major metropolitan area. It includes the construction of advanced sewage treatment plants, sewage collection systems, and distribution networks for treated water reuse. The goal is to improve wastewater management, reduce pollution, and promote water recycling.
22. **Disaster Preparedness and response capacity improvement program:** This Program focuses on comprehensive initiative aimed at enhancing a community's ability to effectively prepare for and respond to disasters and emergencies. The program will include a range of activities and strategies designed to enhance disaster resilience and safeguard lives and property.

20.ANNEX III: PERFORMANCE INDICATORS OF WATER SUPPLY AND SANITATION SERVICE UTILITIES

Water Supply			Sanitation		
Indicator Category	Key Performance Indicators	Definition	Indicator Category	Key Performance Indicators	Definition
Level and Quality of Services	Service Coverage	The percentage of households served by the utility in its service area through functioning house/premises connections, community and public taps.	Level and Quality of Services	Service coverage	The percentage of households served by the utility in its service area through functioning house/premises sewer connections or non-sewered disposal facilities
	Sufficiency	The adequacy of water available daily for various personal and domestic uses and the average amount of water used by people daily to meet their basic health and household needs.		Sufficiency	The capacity of the treatment facility is able to meet the domestic wastewater treatment needs
	Quality	The extent to which water supplied for users' consumption meets drinking water quality standards.		Safety	Sewage is safely collected and disposed of, protecting the community and the environment, meeting the domestic waste water effluent standards
	Accessibility	Proportion of households that have access to safe and reliable drinking water through piped water supply system into their home or yard, or a public or community tap.		Accessibility	Proportion of households that have access to functioning disposal with no risk in human health and environmental contamination
	Continuity and reliability	The extent to which the water supply is continuous and uninterrupted.		Continuity and reliability	The extent to which the sanitation services is continuous and uninterrupted.
Operation and management efficiency					

Technical Operation	Asset Management	Process of overseeing and optimizing the use, maintenance, and disposal of assets, such as equipment, facilities, and property.	Technical Operation	Asset Management	Process of overseeing and optimizing the use, maintenance, and disposal of assets, such as equipment, facilities, and property.
	Maintenance Capability	Capability to carry out planned technical activities to prevent unexpected failures or to respond to failures in order to keep water infrastructure and systems in good working order.		Maintenance Capability	Capability to carry out planned technical activities to prevent unexpected failures or to respond to failures in order to keep water infrastructure and systems in good working order.
	Mean Time to Repair	Average amount of time required to troubleshoot or repair a failed system component.		Mean Time to Repair	Average amount of time required to troubleshoot or repair a failed system component.
	Non-revenue Water	The difference between the amount of water supplied into the distribution system and the amount of water billed to consumers.		Leakage Risk Index	The ratio of wastewater treated to ratio of wastewater collected from households
Financial Management	Water Tariff and connection Charge	Monthly water tariff for a house or premises connection for 8 m3 of water use as a percentage of low-income households' average monthly income and connection charge for a new domestic pipe connection as a percentage of low-income households' average annual income.	Financial Management	Waste water Tariff and connection Charge	Ratio of monthly waste water tariff for a house as a percentage of low-income households' average monthly income and connection charge for a new domestic connection as a percentage of low-income households' average annual income. (In case of sewerred network both, in case of non-sewerred only tariff)
	Operating ratio	Annual O&M costs expressed as a percentage of total annual revenues from		Operating ratio	Annual O&M costs expressed as a percentage of total annual revenues from water and other water-related services.

		water and other water-related services.			
	Contribution to Investment (CTI)	Proportion of capital expenditures to cash earnings and savings of the utility.		Contribution to Investment (CTI)	Proportion of capital expenditures to cash earnings and savings of the utility.
	Financial Accountability	The extent to which the utility managing finances, including revenue, expenses, investments, and debts in order to achieve the utility's financial objectives.		Financial Accountability	The extent to which the utility managing finances, including revenue, expenses, investments, and debts in order to achieve the utility's financial objectives.
Commercial Operation	Metering Ratio	Proportion of functioning water meters to the total connections in the network system.	Commercial Operation	Billing and Collection Efficiency	Ratio of the total number of households billed to the total number of known households required to pay charges, as well as the percentage of total cash actually collected to the total amount billed.
	Billing and Collection Efficiency	Ratio of the total number of connections billed to the total number of known connections required to pay charges, as well as the percentage of total cash actually collected to the total amount billed.			
	Customer Database Management	Logically organized collection of detailed information about each customer.			
	Complaints Handling	Utility's response on consumers' dissatisfaction with its water supply services or performance.			
	Consumer Satisfaction Level	Overall level of consumers' perceptions of the quantity and quality of water provided for their use and the utility's performance and services.			
				Customer Database Management	Logically organized collection of detailed information about each customer.
				Complaints Handling	Utility's response on consumers' dissatisfaction with its water supply services or performance.
				Consumer Satisfaction Level	Overall level of consumers' perceptions of the quantity and quality of water provided for their use and the utility's performance and services.

Organizational Management	Business plan implementation	The extent to which the water utility has successfully executed its business plan in achieving its goals and objectives in improving system components and water delivery services in a planned manner.	Organizational Management	Business plan implementation	The extent to which the waste water utility has successfully executed its business plan in achieving its goals and objectives in improving system components and water delivery services in a planned manner.
	Human Resource Development (HRD)	The process of improving and developing the skills, knowledge, and competencies of the utility's employees to meet the current and future needs of useful and competent manpower.		Human Resource Development (HRD)	The process of improving and developing the skills, knowledge, and competencies of the utility's employees to meet the current and future needs of useful and competent manpower.
	Gender Equality and Social Inclusion (GESI)	The process ensuring of segregation of connection data of marginalized households. Special provisions for the economically disadvantaged are in place. representation of marginalized groups in decision making level and voices are recorded there		Gender Equality and Social Inclusion (GESI)	The process ensuring of segregation of connection data of marginalized households. Special provisions for the economically disadvantaged are in place. representation of marginalized groups in decision making level and voices are recorded there
	Regularity of Annual General Meeting (AGM)	Measure of regularity of the formal meeting of water consumers which is held once a year by their executive committee.		Regularity of Annual General Meeting (AGM)	Measure of regularity of the formal meeting of water consumers which is held once a year by their executive committee.
		Utilities effort on Integrated water resource management, water demand management,		Occupational Health and safety	Framework of policies, procedures, and practices aimed at safeguarding the physical, mental, and social well-

	Organizational Maturity	source protection, conservation			being of workers in high risk situations
				Organizational Maturity	Utilities effort on Integrated water resource management, water demand management, source protection, conservation

21.ANEX IV: SYSTEM CLASSIFICATION AND ROLE DELINEATION

Type	Size	Parameters	Asset Creation	Ownership	Service Delivery		Regulation
					Provision	Production	
Water Supply	Point	Spring, Kuwa, Panera, One tap,	LG (Except private systems)	LG and/or User	LG and/or User	User	LG
	Small	Below 50 taps	LG and/or PG	LG	LG	User Committee/Utility Manager	LG
	Medium	1-1000 taps	PG and/or LG	LG	LG	User Committee/Utility Manager	PG
	Large	1000-4000 taps	GoN and/or PG and/or LG and/or Private	LG	LG	Professional Utility	GoN
	Mega	>4000 taps	GoN and/or PG and/or LG and/or Private	LG	LG	Professional Utility	GoN
Sanitation	Point	Typically with onsite	User	User	LG	User	LG
	Small	Onsite sanitation, solidwaste	User/Community/Other	LG	LG	User/Community	LG
	Medium	Typically with septage and solidwaste management	LG and/or PG/community	LG	LG	Professional Utility	PG
	Large	Typically with septage or FSM and solid waste	GoN and/or PG and/or LG and/or Private	LG	LG	Professional Utility	GoN
	Mega	Typically with septage/FSM or wastewater management and solidwaste management	GoN and/or PG and/or LG and/or Private	LG	LG	Professional Utility	GoN

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