Water Sanitation and Hygiene
National Sector Development Plan

Note: this document is for review by interested stakeholders. It is still very much in discussion. Occasionally there will be updates, as announced in this website.

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Sector Efficiency Improvement Unit
Ministry of Water Supply and Sanitation
Nepal

Foreword

Acknowledgement

Abbreviations

ADB	Asian Development Bank
BCC	Behaviour Change Communication
BM/PA	Benchmarking and Performance Assessment
CBO	Community Based Organization
CHRDU	Central Human Resource Development Unit
CSO	Civil Society Organization
CODEF	Community Development Forum
DDC	District Development Committee/Council
DEWATS	Decentralized Wastewater Treatment
DoLIDAR	Department of Local Infrastructure and Agriculture Roads
DPs	Development Partners
DRR	Disaster Risk Reduction
DTO	District Technical Office
DUDBC	Department of Urban Development and Building Construction
DWSS	Department of Water Supply and Sewerage
DWASHCC	District Water Supply and Sanitation Coordination Committee
EMP	Environmental Management Plan
ENPHO	Environment and Public Health Organization
FEDWASUN	Federation of Drinking Water and Sanitation Users Nepal
GESI	Gender Equality & Social Inclusion
GoN	Government of Nepal
HRD	Human Resource Development
IEC	Information, Education & Communication
(I)NGO	(International) Non-Governmental Organization
JMP	Joint Monitoring Programme
JSR	Joint Sector Review
JICA	Japan International Cooperation Agency
KUKL	Kathmandu Valley Khanepani Limited
KVWSMB	Kathmandu Valley Water Supply Management Board
MDG	Millennium Development Goal
MoF	Ministry of Finance
MoFALD	Ministry of Federal Affairs and Local Development
MoHP	Ministry of Health and Population
MoSTE	Ministry of Science and Technology and Environment
MoWSS	Ministry of Water Supply and Sanitation (earlier MoFWSS)
NDWQS	National Drinking Water Quality Standards
NEWAH	Nepal Water for Health
NHSP II	National Health Strategic Plan-II
NMIP	National Management Information Project
NPC	National Planning Commission
NRCS	Nepal Red Cross Society
NRW	Non-Revenue Water
NWSC	Nepal Water Supply Corporation
OBA	Output Based Aid
ODF	Open Defecation Free
O&M	Operation & Maintenance
RVWRMP	Rural Village Water Resource Management Project
RWSSFDB	Rural Water Supply and Sanitation Fund Development Board

RWSSP-WN	Rural Water Supply and Sanitation Project- Western Nepal
SACOSAN	South Asian Conference on Sanitation
SCNSA	Steering Committee for National Sanitation Action
SAARC	South Asian Association for Regional Cooperation
SDG	Sustainable Development Goals
SEIU	Sector Efficiency Improvement Unit
SSG	Sector Stakeholder Group
SWAp	Sector Wide Approach
TDF	Town Development Fund
TNA	Training Needs Assessment
ToR	Terms of Reference
TWGs	Thematic Working Groups
TYIP	Three Year Interim Plan
UN Habitat	United Nations Human Settlements Programme
UNICEF	United Nations Children Emergency Fund
VDC	Village Development Committee
WAN	WaterAid Nepal
WASH	Water, Sanitation and Hygiene
WB	World Bank
WHO	World Health Organization
WRA	Water Resource Act
WSP	Water Safety Plan or Water Service Provider
WSSSDO	Water Supply and Sanitation Sub-Division Office
WUSCs	Water and Sanitation Users Committees
WSTFC	Water Supply Tariff Fixation Commission
WUA	Water Users Association

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1 Introduction

1.1 Nepal Overview

Nepal, officially the Federal Democratic Republic of Nepal, is a landlocked sovereign state located in South Asia bordering India in the south, east and west, and China in the north. With 27 million population spread over 147,181 square kilometers, Nepal is a developing country with a low Human Development Index (0.458) ranking 145th (Human Development Report, 2014) out of 187 countries in the world. In south Asia, Nepal is above Pakistan (146) and Afghanistan (169).[1]

Over the past decade, the country has gone from monarchy to republic, from war to peace. Despite a decade-long armed conflict (1996-2006), protracted political transition, weak governance, rapid urbanization, inequality, and unemployment, the country, however, has been making steady economic and social progress over time.

The Government of Nepal (GoN) has made a commitment to graduate the nation from the least developed country status by 2022. Even as Nepal is gradually finding its feet to find a political fix and address governance and development challenges through a new Constitution, which was endorsed by the second Constituent Assembly in Sept 16, 2015, almost after eight years since the first Constitution Assembly election, a massive earthquake struck.

On April 25, Nepal was hit by the worst disaster in almost a century. A 7.9-magnitude earthquake struck the historic district of Gorkha, 76 km northwest of Kathmandu. That earthquake, including by a series of major aftershocks that followed, was so catastrophic that it resulted in a death toll of more than 8,800 people while injuring over 22,000. More than 800,000 houses have been damaged or destroyed, and about 2.8m people displaced. Hundreds of thousands of people have been rendered homeless and deprived of basic services as infrastructure that deliver services closer to their dwellings are either fully or partially destroyed thus posing a serious threat to sustenance of human lives with adverse impact to their livelihoods.

The total damage value of damage and loss caused by the earthquake is estimated to be close to USD 7b[2]. Nepal's unfolding earthquake tragedy underscores an urgent need to step up

collective efforts to improving responses to disaster relief, recovery, rehabilitation and reconstruction, and for mitigating future disasters through build back better principles.

1.2 Development Context

Imagine Nepal in lasting peace, freedom from fear, and freedom from want for all without discrimination, and enlarged voices, choices and development opportunities for people that affect their lives and environment. The citizens of Nepal visualize of a motherland where quality of life guarantees human dignity and inclusive growth for every child, woman and man.

However, every year 1,927 children die every year from diarrhoea caused by unsafe water and poor sanitation in Nepal. Young girls, depicted below, carrying a bucket of water behind their back are daily routine throughout Nepal, especially in the hills and rugged terrain. In having to

[1] Nepal Human Development Report (2014)
[2] Post Disaster Needs Assessment, NPC, June 2015

travel long distances to fetch water, these girls often miss their schools and also fall sick at times contributing to poverty and impacting on livelihoods on an alarming scale.

In Kathmandu, the capital of Nepal, people hardly get water in their taps one hour hardly in 10 days from the water utility.

Unlike wars and natural disasters, this does not capture national headlines, but certainly is a moral crisis – one that is a result of human deprivation of safe water and sanitation services, which obviously is holding back human development.

Water, sanitation and hygiene (WASH) sector in Nepal is in transition. Triggered by the need for reforms in the sector, the GoN has been providing unrelenting "political will" and leadership to improve sector governance, responsiveness and accountability aimed at ensuring safe, sufficient, accessible, acceptable, and affordable water and sanitation services for the people in Nepal. These five core attributes represent the foundations for WASH security.

The sector has increasingly[3] realized that it needs a strategic framework and approach that can serve as a foundation for improved performance and effectiveness in the sector leading to effective and functional WASH services. In robust partnership with other sectoral Ministries, development partners, (I)NGOs and civil society, Ministry of Urban Development (the lead Ministry) has been undertaking sector assessments and systematic Joint Sector Reviews (JSR)[4] to assess strengths of the sector, identify structural and operational causes that impede universal access to safe water and sanitation, and formulate appropriate strategy and actions. These initiatives are geared towards strengthening the foundations of the sector and creating a more resilient, better managed, environment friendly and cost effective sector that is able to meet the aspirations of all the citizens of Nepal.

The GoN approved the formulation of a National WASH Sector Development Plan (SDP) on Jan 03, 2013. In the recently organized JSR2, formulation of SDP was endorsed by all the stakeholders (Pls refer to Annex 1 for JSR2 Resolutions and Annex 2 for Composition of Thematic Working Groups). The development of WASH SDP presents a unique opportunity for the sector in a coherent and strategic programming and management for sector development in Nepal led by the Government, fully backed by development partners and owned by the stakeholders.

By providing a shared vision and coherent strategy around national priorities, the SDP provides a clear programming framework and direction for action to the stakeholders in the realization of safe water and sanitation services for all through improved coordination, harmonization and alignment. The SDP will gradually lead the sector towards a Sector Wide Approach to planning (SWAp) in line with GoN's intention[5].

[3] more so since 2009 when the rationale for programme approach was first presented in Sector Stakeholder Group meeting
[4] the first ever JSR was organized in May 2011 followed by the second one on March 31-April 01, 2014
[5] p80, An approach paper to the Thirteen Plan, FY 2013/14 – 2015/16

1.3 Scope of SDP

The scope of SDP transcends WASH sector and includes health, education, and local development. It, however, does not cover agriculture and larger water resource management issues.

The SDP envisions a 15-year time horizon, starting in FY 2016-17. The period is divided into Short-term (2016-2020), medium-term (2021-2025) and long-term (2026-2030) - each of five years' duration. The SDP will be a rolling plan, which will be updated every five years. The sector analysei and priority actions presented in this Plan are essentially aimed at the first cycle of SDP operation (2016-2020).

1.4 Approach and Methodology

Under overall guidance from the Secretary, MoWSS (earlier MoFWSS), the preparation of SDP was coordinated by the Joint Secretary, Water Supply and Environment Division and Coordinator, Sector Efficiency Improvement Unit,who periodically reviewed its progress and took a lead role in different policy reviews and consultation workshops both at the national and local levels.

The preparation of SDP entailed participatory process, wherein a concept note was first shared with the sector stakeholders and development partners for their inputs and comments. The preliminary outline was first presented and shared in the Sector Stakeholder Group meeting in Sept 2014. Building on the inputs received from the stakeholders, the outline was then presented in a series of regional sector reviews organized in Biratnagar (Eastern Nepal), Nepalgunj (Mid-western Nepal), and Pokhara (Westen Nepal) which were participated by a wide range of stakeholders from related agencies. Gaps and solutions identified during the regional stakeholder reviews were summarized and presented before the stakeholders meeting at the national level in June 2015.

The first draft of SDP was discussed with representatives of eight Thematic Working Groups for review in Sept 2015 before it was presented in the Sector Stakeholder Group meeting in Oct 2015. The key objective of thematic discussions and reviews was to ensure collective engagement of the stakeholders and build on informed perspectives from the Thematic Working Groups in the formulation of SDP. Independent WASH professionals from the academia, government, the NGOs and DPs peer reviewed the Plan providing critique and impartial perspectives, which further enriched the document.

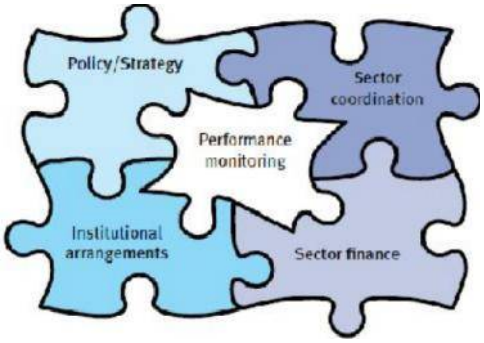
Strategic consultations with National Planning Commission and Ministries in ……were aimed at ensuring cross-sectoral linkages, ownership and areas that needed alignment and shifts.

The final draft was reviewed by the MoWSS in ……..2016 with key sector stakeholders and approved by the sector Ministry in …….
The timelines of SDP preparation is attached as Annex 3.

1.5 Organization of the Report

While there is no blueprint for the structure of SDP, it invariably is characterized by five building blocks: policy and strategy, institutional arrangement, sector finance, sector coordination, and performance monitoring (see chart)[6]. The SDP is organized broadly around these building blocks.

At the same time, it is essential to recognize the dynamic and evolving nature of sector development processes. If compact between WASH stakeholders is going to result in improved performance and accountability in WASH sector, then dialogue around SDP needs to go beyond the status of sector architecture and take account of trends in sector development, emerging issues and performance.



[6] Aid Compacts built around national plans: How the Global Framework for Action on Sanitation and Water can support country-led process, WaterAid UK, 2009

2 Water Supply, Sanitation and Hygiene Sector in Nepal

2.1 Water Supply

Considerable progress has been made over the past decade by the GoN to realize national target of universal access to WASH services by 2017. Official figures[7] state that 85% of Nepalese in 2011 have access to improved water sources, up from 72% in 2001.

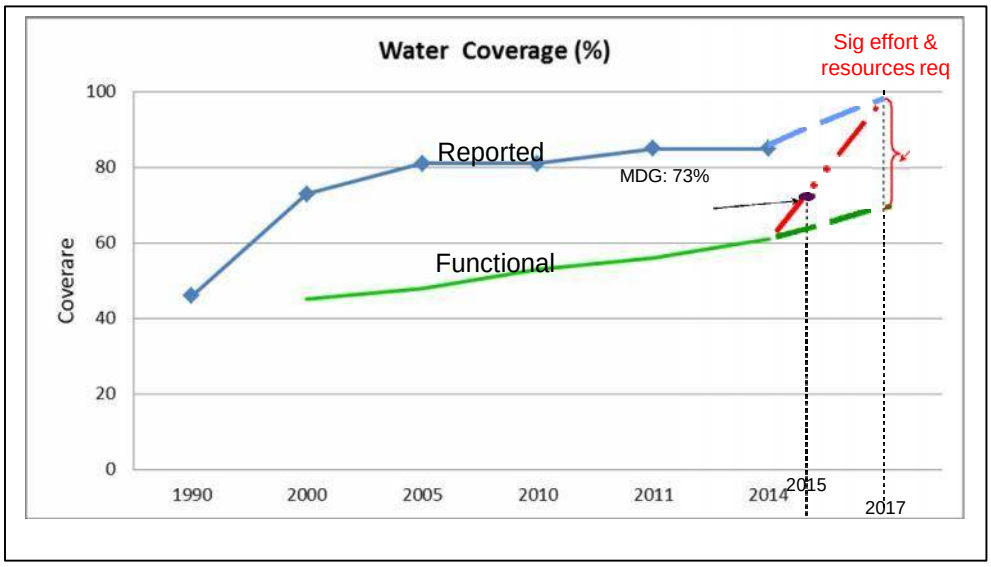
Table 1 provides rural and urban breakdown in terms of access and non-access to water services. According to the Joint Monitoring Programme (JMP), Nepal has already achieved the Millennium Development Goal (MDG) target for access to improved water supply (Actual = 85%, Target 2015 = 73%) and sanitation (Actual = 62%, Target 2015 = 53%).

Table 1: Access to Water Supply, Census 2011

Population Category	Population	% of population with access to water	Gap in access (No. of people without access to water)
Urban[8]	4,523,820 (17%)	87	585,382
Rural	21,970,684 (83%)	85	3,295,603
Total	26,494,504 (100%)	85	3,880,985

However, coverage has remained stagnant since 2011 as per The National Management Information Project (NMIP, 2014). These coverage figures shield large differences in actual functionality and sustainable water services. Effective coverage is only 40% (also refer to 2.3 second para) if we consider the functionality of water supply, without even accounting for water quality. This implies only 10.8m people (out of 27m population, 2011 census) have access to functional water supply systems. Nepal needs to significantly increase its performance to realize national target of functional access to basic water supply by 2017 for all as shown in Fig 1 below.

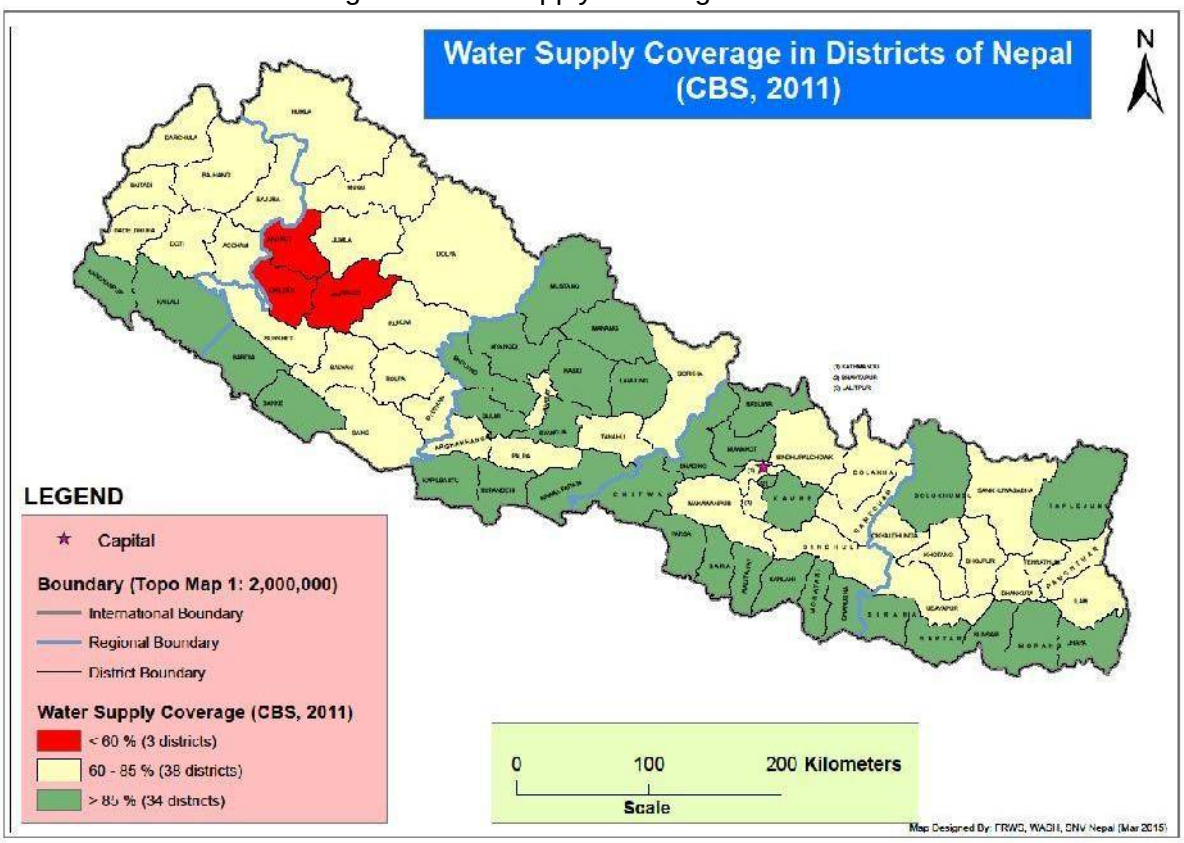
Fig 1: Water Supply Coverage – Reported and Functional



[7] Census 2011 for both water and basic sanitation
[8] Covers only 58 Municipalities. Urban population is estimated to have been to 38.5% in 2014 as a result of increased number of Municipalities to 191 from 58. (Source: Ministry of Federal Affairs and Local Development)

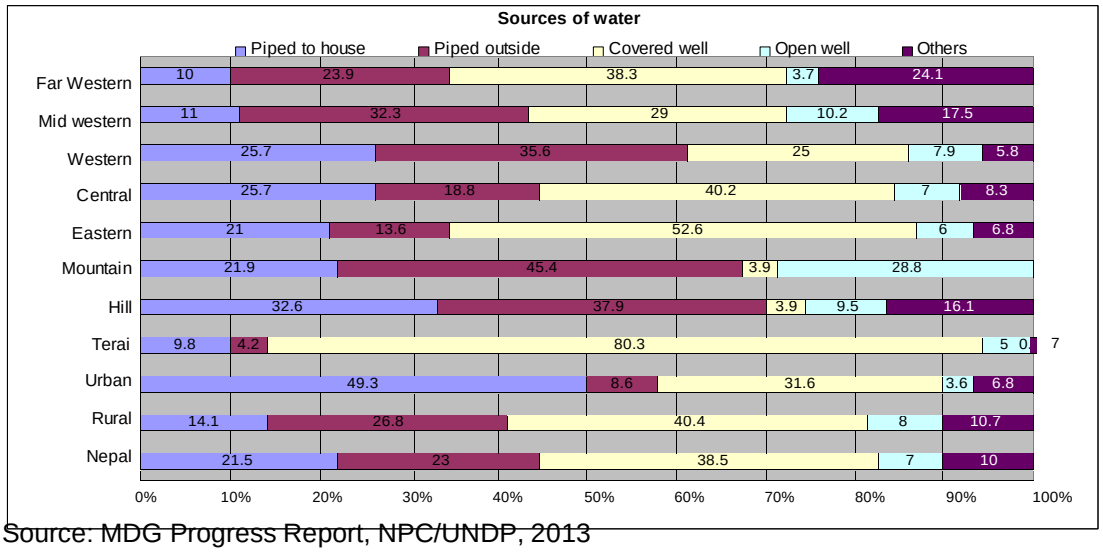
Significant disparity exists in access to water supply across 75 districts. Fig 2 depicts the water supply coverage situation in the districts grouped into three categories.

Fig 2 Water Supply Coverage in Districts



Sources of Water Supply: As shown in Fig 3 below, 44.5% of households have access to piped water which is considered to be the safest source, and almost half of these households have private connections. The remaining 55.5% depend on covered wells (38.5%), open wells (7%), and other unreliable sources like river and spring water (10%).

Fig 3: Sources of Water Supply

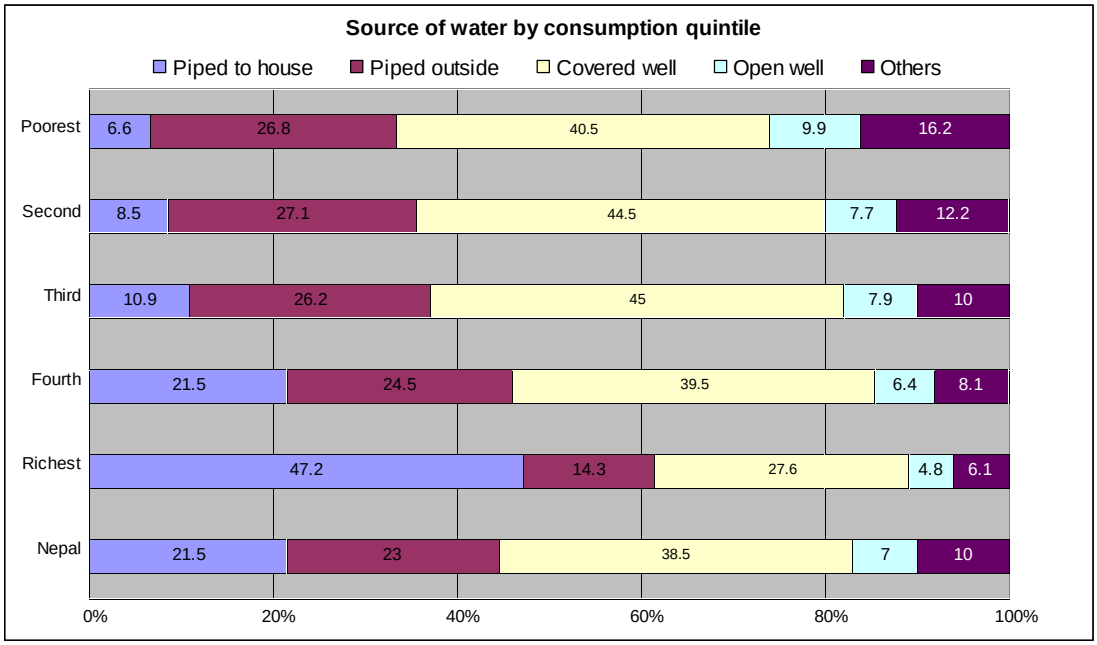


Source: MDG Progress Report, NPC/UNDP, 2013

Piped water varies across rural-urban setting with 58% of population in the urban areas having access while only 41% in the rural areas have piped water services. By development region, the Western region has the highest proportion (61%) and the Far-Western region, the lowest (34%). Among Nepal's three ecological regions, the Terai has the least access to piped water (14%) though urban areas fare better than rural. In the Terai, about 80% of households draw drinking water from covered wells.

As can be seen from Fig 4, access to piped water is positively associated with household wealth: about 47% of households in the top quintile have their drinking water piped to their housing units while only 7% of the bottom quintile do.

Fig 4: Source of drinking water by consumption quintile



Source: MDG Progress Report, NPC/UNDP, 2013

2.2 Sanitation

As per the Nepal Census 2011, Nepal has come a long way in improving basic sanitation services, with coverage doubling to 62% in 2011 compared to 30% in 2001, and has already surpassed 2015 MDG target of 54%. Following the launch of a National Hygiene and Sanitation Master Plan in 2011, Nepal has witnessed a robust social momentum and transformation change in the improvement of sanitation with several districts, villages and municipalities being declared open-defecation free. Coverage to basic sanitation (toilet) has now reached 70% of the population as per NMIP, 2014. Fig 5 shows the trend of sanitation progress over the years.

Fig 5: Trend of Sanitation Progress

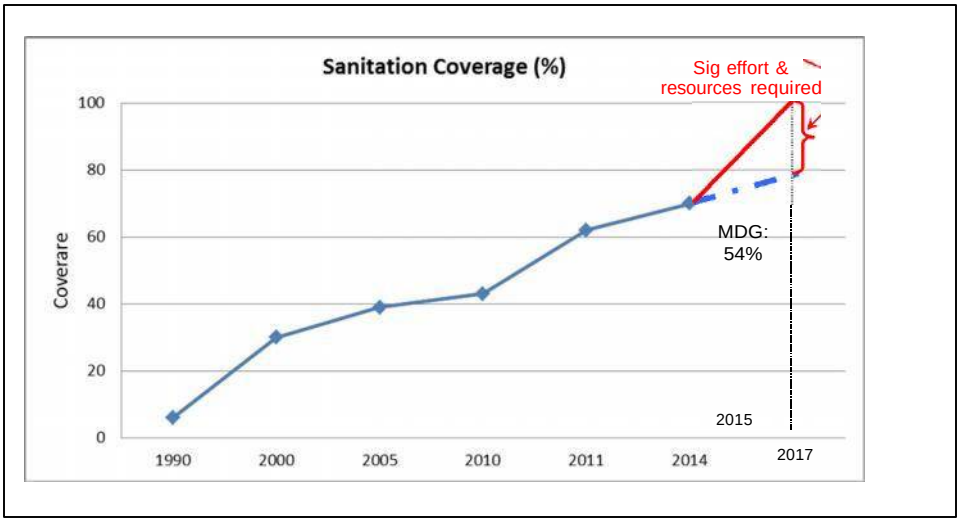
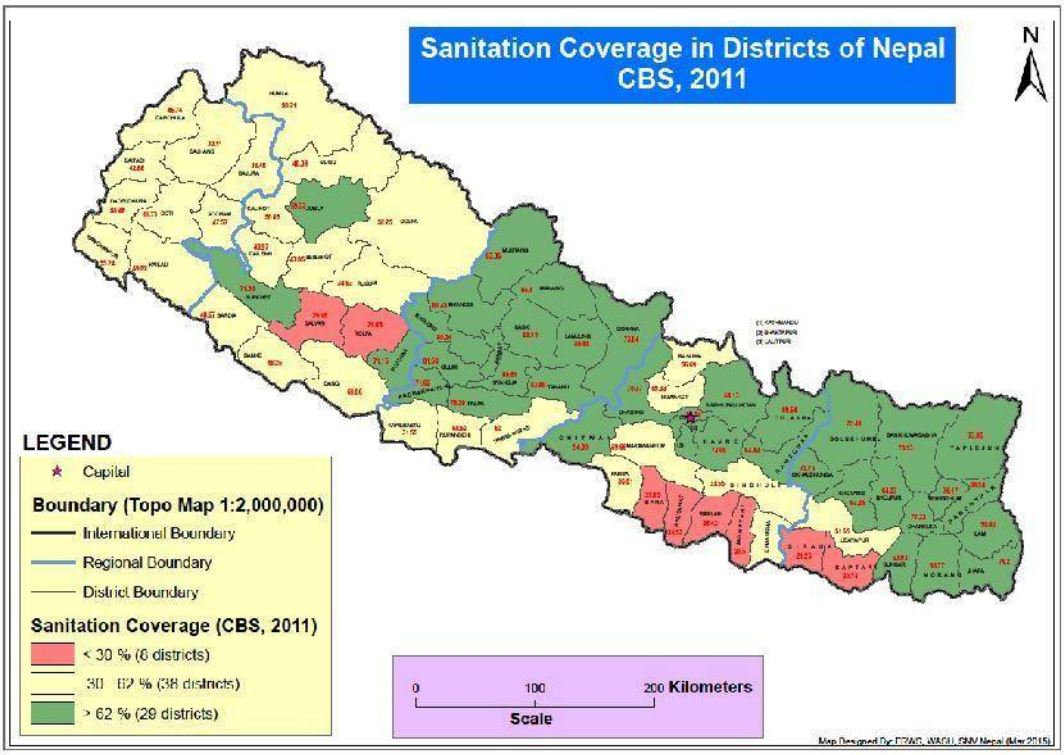


Table 2 provides rural and urban breakdown in terms of access and non-access to basic sanitation.

Table 2: Access to Basic Sanitation, Census 2011

Population Category	Population	% of population with access to sanitation	Gap in access (No. of people without access to sanitation)
Urban	4,523,820 (17%)	91	411,668
Rural	21,970,684 (83%)	56	9,908,778
Total	26,494,504 (100%)	62	10,320,446

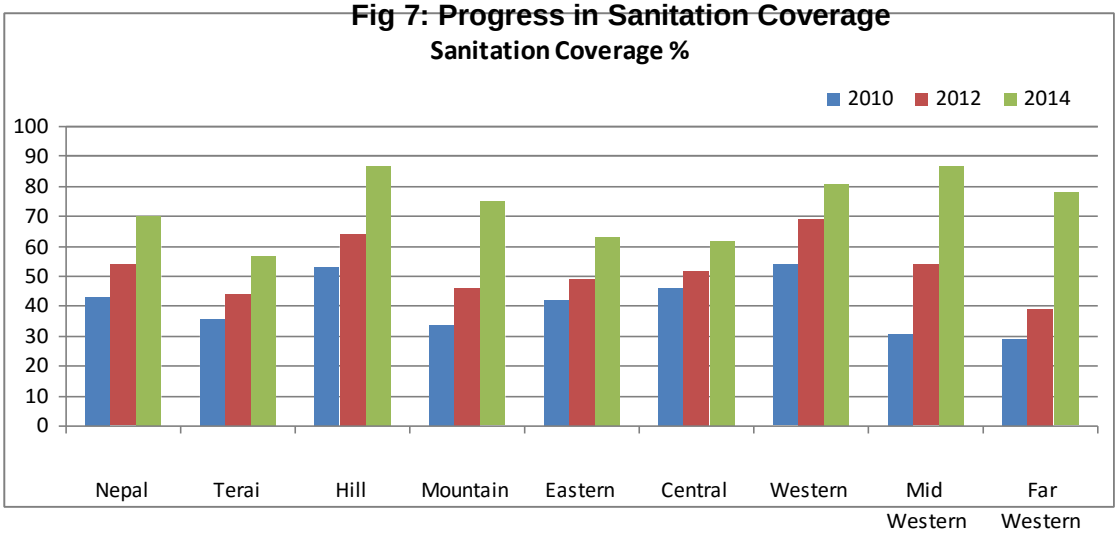
Fig 6 depicts sanitation coverage in the districts grouped into three categories.



In terms of geographical regions, sanitation coverage is highest in the hills (>62%) in the Eastern, Central and Western Regions. The rate drops less to than 62% in the mountains and hills of the Mid and Far Western Regions, and less than 30% particularly in the Terai districts.

Fig 7 depicts the progress in sanitation coverage over the years. As shown in Fig 7, the sanitation coverage is the least in the Terai. Among the regions, there is a marked improvement in the Mid and Far western Regions compared to 2010 figures

Fig 7: Progress in Sanitation Coverage



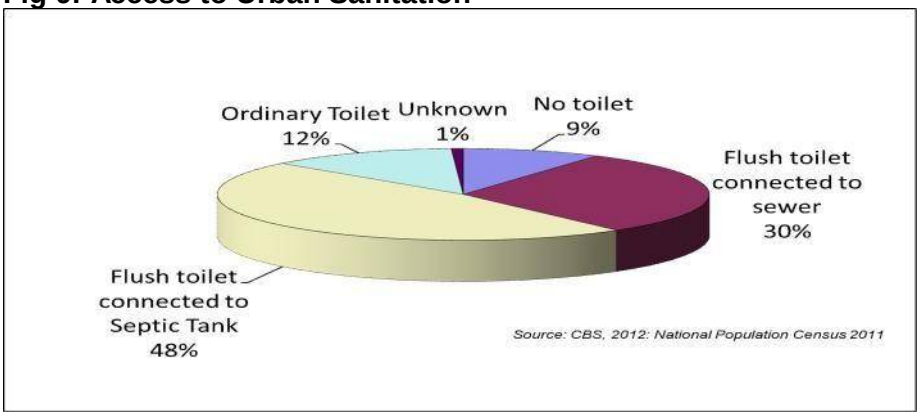
Source: NMIP, 2014

Disparity in sanitation coverage and economic status is stark. The fact that the richest have always had good sanitation services and that the key changes in reducing open defecation and improved services are in wealth quintile 4 and 3 are a clear indication that many of interventions in sanitation have not been targeting the bottom 2 quintiles.

Fig 8: Access to sanitation by wealth quintile (Insert pg 14, Source: MDG Sanitation Acceleration Framework)

Access to Urban Sanitation: According to the 2011 census, 30% of urban households have toilets connected to sewer systems while 48% have toilets connected to septic tanks. However, many of the septic tanks are not designed properly, and there are no systems as yet for treating the fecal sludge from septic tanks.

Fig 9: Access to Urban Sanitation



Wastewater management is a major issue as much of the excreta and other wastewater is disposed of without treatment. None of the municipalities have properly functioning waste water treatment system. Only Kathmandu has municipal waste water treatment plants of which three are nonfunctional and one is partially functional. The operating one at Guheshwori has high operating cost and doesn't operate during load shedding hours. There is a wide difference in the sanitation situation among municipalities. Larger municipalities have better access to toilets but access to sewerage is very low in most of the municipalities. Some municipalities such as Madhyapur Thimi and Dhulikhel have promoted community managed decentralized wastewater treatment systems, but these need to be scaled up.

2.3 Hygiene

Nepal has made significant progress in reducing under-five child mortality rate from 162 in 1990 to 54 in 2011 per 1,000 live births. While marked reductions has been seen in number of patients visiting health posts in rural Nepal, but WASH associated diseases remain among the top 10 causes of morbidity. Unless the benefits of good hygiene is fully understood and ingrained as a social norm, toilets may not be used, water and food will continue to be polluted and dignity will be compromised.

Hygiene is being gradually mainstreamed as a key component in water and sanitation programmes for maximizing public health outcomes, keep people and their environments clean, reduce stigma, prevent spread of diseases, reduce under-nutrition to enhance dignity, improve status as well as wellbeing of the people.

2.4 Distinctive Achievements

Gradual Progress: Over the years, Nepal has been making a steady progress to enhance water and sanitation services to its citizens. Table 3 provides the progress trend.

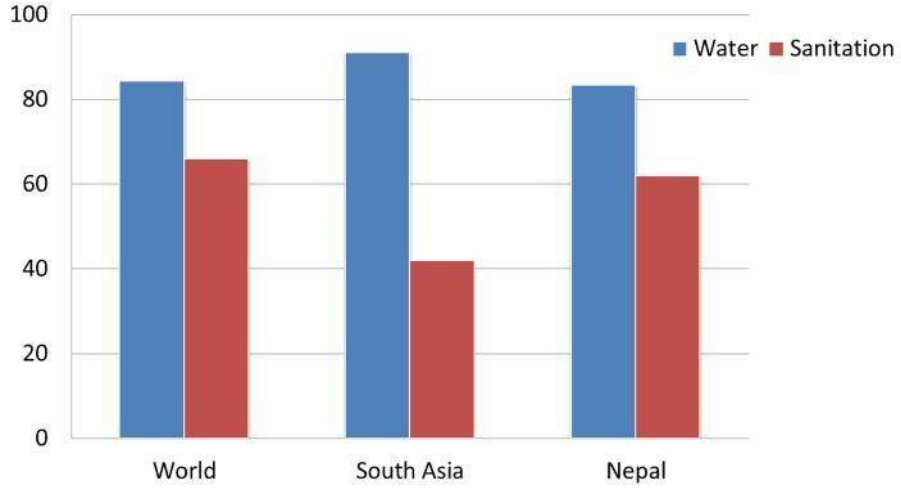
Table 3: Progress of WASH Over the Years

Indicator	1990	2000	2005	2010	2011	2015 MDG target	2017 National Target
Proportion of population (%) using an improved water source	46	73	81	80.4	85	73	100
Proportion of population (%) using an improved sanitation facility	6	30	39	43	62	80	100

Source: MDG Progress Report, NPC, UNCT, 2013

When compared with rest of the world, while Nepal performance appears to be satisfactory but is not good enough. From the services perspectives, the key challenges lie in reaching the un-reached, improving functionality and sustainability, and enhancing service levels.

Fig 10: Nepal's Standing in the World



Sector Convergence: Through JSRs and other relevant sector assessments, the sector is gradually converging through greater trust and collaboration towards developing shared approaches and strategies. Joint sector reviews[9] coupled with regional monitoring and learning visits have not only enhanced the willingness and collaboration of sector stakeholders to work together but also have provided rich insights and informed analysis of sector blockages and actions needed thereof. These have increasingly contributed in instituting improvements in sector policies and practices in a participatory and transparent manner.

Closing the Vast Deficit in Sanitation: Huge gap existed between water supply and sanitation coverage pre-2010, but it is increasingly getting diminished. Sanitation has been deepened and scaled-up country wide following the formulation of a National Hygiene and Sanitation Master Plan in 2011 and through the implementation of focused programmes, advocacy and campaigns, and increased cross-sectoral linkages. The Master Plan includes nine guiding principles one of which is local bodies' leadership through joint action coordinated by the District, Municipality and Village Coordination Committees at the respective levels.

[9] participated by more than 200 people, including 20% women, representing diverse sector stakeholders, JSR2 culminated on a signed resolution and actions of eight thematic areas: institutional framework and capacity building, sector financing, monitoring and evaluation, functionality and sustainability, sanitation and hygiene, water quality, gender equity and social inclusion, and disaster risk reduction and climate change adaptation

Urban Water and Sanitation Policy: To address the growing challenges in towns and Municipalities, the urban water supply and sanitation policy (2009) provide direction and strategies for effective programming and implementation through integrated urban water supply and sanitation sector projects. GoN has also introduced Bagmati Action Plan, and Solid Waste Management Act (2012). More recently, the Government has launched the "Clean City Programme" which includes five components – waste management, water and wastewater management, greenery promotion, pollution control and city beautification. The challenge now is to build local capacity and prepare an investment plan to implement these polices.

Cross Sectoral Linkages: Many of targets set for maternal and child health, education, gender equality and economic growth cannot be realized as they invariably are dependent on people gaining access to the most basic of human needs - safe water, improved hygiene and sanitation. WASH sector has been successful in establishing partnerships and cross sectoral linkages with health, education, local and urban development giving a direct impetus to SDGs.

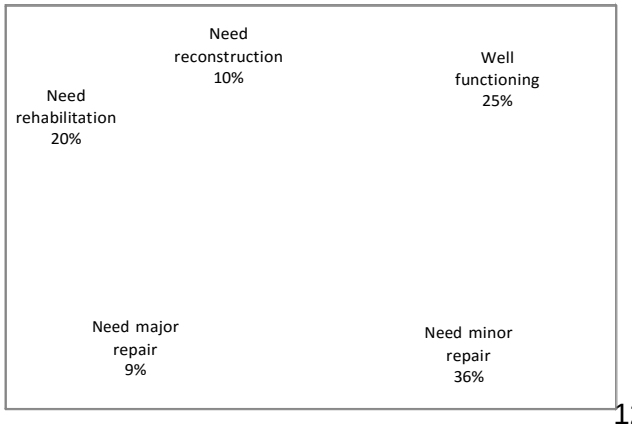
Global Partnerships: The GoN is an active partner in Sanitation and Water for All (SWA) – a global initiative that addresses gaps in policy and planning, financing, information, and technical assistance that are impeding global progress. Nepal has been appointed to the Steering Committee to SWA, and is bringing global experiences to inform sector development in Nepal.

2.5 Sector Challenges

Notwithstanding gradual improvement in water and sanitation situation over the past decade, in practice the WASH sector is confronted with structural and operational challenges. The key challenges include:

Disparity in Access and Reducing Inequality: Census 2011 data shows considerable disparities in access to water with 34 districts in the flat plains having more than 85% coverage, 38 districts with coverage between 60-85%, and 3 hill districts in Mid-western Region will less than 60% coverage. Disparity is sanitation is even more alarming as 8 districts (in the flat plains) have less than 30% coverage to basic sanction while people in 29 districts have more than 62% coverage. The sector needs to focus on better targeting with equity and inclusion approaches to secure right of all citizens for sustainable and affordable WASH services. It is essential to ensure meaningful engagement of women and socially excluded groups in decision making processes to identify WASH priorities so that their special needs can be addressed.

Functionality and Sustainability: Ensuring functional water services is increasingly becoming a serious challenge for the sector. As depicted in the Fig 11, only 25% of the existing water supply projects are functioning well and 36% need minor repair. More than 39% of the projects have been identified needing major repair, rehabilitation or complete reconstruction[10]. This figure seriously undermines functional access and sustainable use to safe water services. While access to safe water and sanitation can be measured by statistics but behind the coverage figures are almost half of Nepal's population (13m, when 15% unserved population also considered) deprived opportunities for their full potential



[10] National Management Information System, 2014

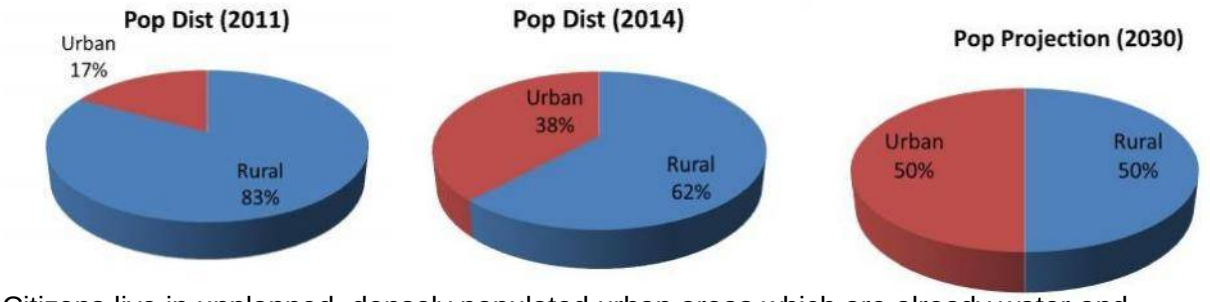
for development due to lack of functional access to water services. Absence of clear arrangements for ownership and management, alongside poor planning and maintenance, environmental challenges and lack of secure funding have caused many water services to become dysfunctional. Yet, sector focus has been on increasing investment and coverage rather than ensuring systems functionality and sustainability.

Policy, Institutional Framework and Sector Capacity: Many policies, fragmented institutional setup, multiple actors working according to project driven modalities, and absence of harmonization efforts have lead to duplication of roles and overlapping responsibilities at the national and local levels. Institutional and management capacity constraints continue to be the bottlenecks in effective operation, maintenance and rehabilitation and for financial, planning and technical management of WASH services.

Sector Financing: Insufficient sector budget and uncoordinated sector financial flows from the central to local levels impede accurate financial expenditure analysis and tracking. Lack of transparency has led to demand and supply-side weaknesses resulting into inequitable targeting and distribution of financial resources. While the role played the non-state actors, with diverse off-budget funding streams, have been filling some gaps in service delivery specifically in the remote areas and rooted advocacy efforts, the sector continues to handicapped in the absence of a complete sector inflows and outflows.

Rapid Urbanization: Nepal is one of the most rapidly urbanizing countries in South Asia – the urban population is estimated to be 38.5%[11] (2014), up from 17% (2011). The number of municipalities has been increased to 217 (2015) from 58 (2011). Nepal's population is projected an equal rural-urban split by 2030 - this has a significant bearing on governance, programming and management for urban WASH services.

Fig 12: Nepal's Urbanization Trend



Citizens live in unplanned, densely populated urban areas which are already water and sanitation stressed. Poor environmental sanitation services and highly degraded urban environments are the most visible consequences in the Municipalities. Due to lack of an effective regulation, untreated sewerage and faecal sludge contaminate groundwater and empty into rivers, polluting water sources and jeopardizing public health.

Due to a massive population influx, protracted political transition and under-investment in towns, the institutions responsible for managing urban development struggle to keep pace with the changes that are fast taking place. Innovative, integrated solutions and institutional strengthening measures are

[11] MoFALD, 2014

required to address growing urban water and environmental sanitation challenges to enable people to live in a healthy environment. Simultaneously demographic changes are gradually emptying rural areas where there is no work and many men and women are moving out for work abroad. In recent years, people have moved from rural areas to towns, because of economic opportunities, security and availability of services in health and education. As a consequence, rural WASH schemes face difficulties in upkeep as trained village maintenance workers are in short supply.

Scaling-up Sanitation: The history of civilization is reflected in the history of sanitation. Sewer is the conscience of the city. In other words, the state of sanitation remains a powerful indicator of the state of human development in any community, town and country. While good achievement has been achieved in the sanitation and hygiene situation due to massive scaling up of Open Defecation Free (ODF) campaigns throughout the country, huge disparity exists amongst districts, regions, geographical belts, and rural and urban communities. The main challenge lies in accelerating the sanitation movement nationwide, equitable targeting, achieving total sanitation though appropriate investment in urban sanitation infrastructure and services, and sustaining sanitation outcomes and behavior.

Meaning of Sanitation

Sanitation is the collection, transport, treatment and disposal or reuse of human excreta, domestic wastewater and solid waste, and associated hygiene. Sanitation refers to the hygienic means of promoting health through prevention of human contact with the hazards of wastes as well as the treatment and proper disposal of wastewater.

Sanitation, therefore, includes:

- Excreta management;
- Wastewater management and treatment (both sewerage and decentralized systems). Wastewater also contain industrial liquid waste;
- Storm water (drainage) management; and
- Solid waste management

Water Quality: WASH associated diseases remain among the top 10 causes of morbidity in Nepal, diarrhea is the second biggest killer of under-fives. Every year 1927 children die from diarrhea diseases caused by dirty water and poor sanitation.[12] Contaminated water and unhygienic food cause diarrhea especially in the monsoons as evident from the outbreak in early 2014 in the Eastern Nepal which took a toll of 345 people. Water quality assessment is unsystematic and irregular. Incidences of diarrhea in earthquake hit districts, including Kathmandu valley, and other urban areas due to unsafe drinking water supplied from water tankers and private companies stems from lack of mechanisms of proper water quality monitoring. Water quality studies done in urban systems showed that most of the water treatment plants are in poor condition. Contamination of arsenic in eight districts continues to be a serious challenge. Water Safety Plans (WSP) was piloted in 2006, but remains to be institutionalized in water supply system planning, implementation and monitoring. Water Quality Surveillance Guideline, 2015 endorsed by Ministry of Health and Population cannot be implemented properly without cross sector coordination and support.

Climate Change and Water Resource Management: The sustainability of water sources is being increasingly threatened by depletion of water sources due to climate change impacts and

[12] WaterAid, 2014

unregulated extraction[13] of groundwater particularly in dense urban areas such as Kathmandu, water pollution and contamination, negligence on source conservation and competing water use for domestic consumption, irrigation and industry. Changing and unpredictable climate[14] possess a serious threat in the form of floods and landslides to water sources, assets and functionality. The sector needs to strengthen community resilience, continually innovate to use improved technology that are best adapted to changing climates and to water saving practices in domestic consumption.

[13] Little information on how much ground water is extracted in urban areas compared to permissible levels
[14] Nepal is among the top 5 countries vulnerable to impact of climate change, Climate Change Vulnerability Index, 2011

3 Sector Policy and Legislative Environment

3.1 New Constitution

The Second Constituent Assembly[15] on Sept 16, 2015 endorsed the "Nepal's Constitution (2072/2015)" with an overwhelming two-third majority turning Nepal into a federal democratic republic nation. This is the first time in the country's history that a Constitution has been written by the elected representatives of the people. The approval of the new Constitution also completes another major milestone agreed as part of Comprehensive Peace Agreement signed in 2006 that ended a decade long armed conflict.

Access to safe water and sanitation has been included as a human right in the Constitution. Article 35(4) states: "every citizen shall have the right of access to safe water and sanitation." With this, Nepal now belongs to handful of countries in the world to have this right explicitly mentioned in the highest legislative framework. What this means, in effect, is the obligation of the state to progressive seek progress year by year on WASH services based on maximization of state's capacity and resources. The misconception about right to water and sanitation is that the right entitles people to free water while the fact is that these services need to be affordable for all. People are expected to contribute financially or otherwise to the extent that they can do so.

Table 4: Misconception on Right to Water and Sanitation

Misconception	Clarification
The right entitles people to free water	Water and sanitation services need to be affordable for all. People are expected to contribute financially or otherwise to the extent that that can do so
The right allows for unlimited use of water	The right entitles everyone to sufficient water for personal and domestic use and to be realized in a sustainable manner for the present and future generations
The right entitles everyone to a household connection	Water services need to be within, or in the immediate vicinity of the household
The right to water entitles people to water resources in other countries	People can claim water from other countries. However, international customary law on trans boundary watercourses stipulates that such water courses should be shared in an equitable and reasonable manner, with priority given to vital human needs
A country is in violation of the right if not its people have access to water and sanitation	The right requires that a State take steps to the maximum of available resources to progressively realize the right to water and sanitation services year by year

Source: Manual on the Right to Water and Sanitation, www.cohre.org/manualrtws

[15] On May 28, 2012, Prime Minister Dr Baburam Bhattarai dissolved the first Constituent Assembly after it failed to finish the constitution in its last time extension, ending four years of constitution drafting and leaving the country in a legal vacuum

3.2 National Planning Framework

Development planning in Nepal is guided by a national development framework formulated by National Planning Commission in cooperation with sectoral Ministries. The objective of Nepal's present Three-Year Plan (FY2014–FY 2016) is to achieve sustainable, broad-based, inclusive economic growth through the development of energy, transport, urban infrastructure and improved access to basic services. The Ministry of Finance (MoF) allocates budgets and releases them to executing/implementing agencies and coordinates with development partners to address resource gaps.

The nation's goal on WASH is to achieve universal access to basic drinking water and sanitation by 2017. The strategic approaches mentioned in the Three-Year Plan (FY2014–FY 2016) are: improving access, standards and service levels of water and sanitation provision, integration of water, sanitation and hygiene, introduction of appropriate technologies, adoption of a sector-wide approach, and environment-friendly and climate-adaptive measures.

3.3 Sector Policy and Legislative Framework

3.3.1 Overview

There is a wide array of legislation, regulatory framework, and policies that provide direction to programming and management of WASH services in urban and rural areas. The prominent ones, in chronological order, include: Directives on Operation of Water Supply Services (2012), National Hygiene and Sanitation Master Plan (2011), National Urban Water Supply and Sanitation Sector Policy (2009), Water Supply Tariff Fixation Commission Act (2006), Water Supply Management Board Act (2006), National Drinking Water Quality Standards (2005), National Policy and Strategy on Rural Drinking Water Supply and Sanitation (2004), Water Supply and Sanitation Sector Strategy for Kathmandu Valley (2000), and Drinking Water Supply Regulation (1998), and Water Resources Act (1992).

Cross-sector policies that have a bearing on the planning and implementation of WASH services are: National Urban Development Strategy (2015) and Policy (2007), Solid Waste Management Act (2012), Local Self Government Act (1999) and Regulations (2000), Environment Protection Act and Rules (1997), National Building Code and by-laws, and the Nepal Health Sector Programme-II (NHSP-II). These highlight, among others, the importance of local governance, demand-side management by communities, environment protection and the engagement of non-state actors (NGOs, private sector and civil society) in WASH services.

3.3.2 Development of a Comprehensive WASH Act and Policy

In summary, Nepal has suffered from many policies and Acts, and as such their earnest compliance in implementation has been a major challenge. Realizing this, an umbrella Water Supply and Sanitation Act and a corresponding unified WASH policy are under advanced stage of preparation. These instruments will integrate existing WASH policies and Laws into a single compressive legislative and institutional framework, and will guide all stakeholders to move in a coordinated manner in the attainment of targets by creating an enabling environment to provide improved, inclusive and sustainable access to WASH services.

Strategic Actions

An umbrella WASH Act and Policy will be developed and finalized based on wider consultation with the stakeholders and disseminated widely for sector-wide application.

- Provision in the WASH Act will include: priority rights on water resources for drinking water and domestic use, water diversion and related compensation, groundwater extraction and corresponding regulation for licensing, WASH services and quality standards, independent sector regulation, cost recovery, operation and management, public private partnerships and incentives for private sector investment in water supply and sanitation service provision, and penalty issues etc.
- WASH Policy will outline sector objectives and strategies, service levels, programming, implementation, sector financing, and coordination. It will provide improved clarity on institutional roles and responsibilities with a clear delineation of roles of the key sector agency, local bodies, and WUSCs responsible for sector programming, management and coordination arrangements both at the national and locals. The policy will also define responsibility of non-state actors (NGOs, private sector and civil society) so as to resolving issues of fragmentation and differences in policy interpretation and modalities of implementation.

3.4 Sector Regulation

Regulation is critical to the progressive realization of the human right to WASH services, and protection of the public interest in a product that is fundamental to human wellbeing.

Due to the absence of an effective regulatory institution and mechanisms, WASH policy provisions are not seriously adhered to. While the Water Supply Tariff Fixation Commission Act (2006) has provided for the establishment of a Commission to fix tariffs to be charged by service providers with an authority to monitor service providers to ensure compliance, it is more appropriate for commercially operated urban projects. The work of Water Supply Tariff Fixation Commission (WTFC) has suffered from lack of clarity of jurisdictional responsibilities, poor institutional set up, and marked limits on its capacity and resources to regulate. Where democratic accountability is weak, the lack of pressure on governments and service providers to disclose information weakens the position of regulators.

Strategic Actions

A regulator is an independent body responsible for establishing, monitoring and enforcing regulations in the WASH sector. The role of WTFC will be broadened with legislative changes, policy and strategies to monitor policy compliance and to ensure that service providers adhere to service standards, equity and efficiency. WTFC will be renamed as “WASH Regulatory Agency” with the following features:

- Political independence, with a strong culture ensuring citizens at the heart of WASH services;
- Investigative authority and penalty power, with the regulatory body empowered to demand information from the service providers on service standards and performance, setting tariff guidelines, and to levying penalties for nonperformance;
- Transparency with the public on policy compliance, quality and costing to both formal and informal service providers; and
- Public participation to ensure that public interests are represented providing structured access on information to the citizens.

3.5 Linkage to International Commitments

3.5.1 Sanitation and Water for All

Sanitation and Water for All (SWA) is a global partnership of over 90 developing country governments, donors, civil society organizations and other development partners working together to catalyze political leadership and action, improve accountability and use resources more effectively. Partners work towards a common vision of universal access to safe water and adequate sanitation. SWA is not an implementing organization, nor a funding channel. Recognizing that countries and organizations achieve more by working together, SWA provides a transparent, accountable and results-oriented framework for action based on common values and principles.

3.5.2 South Asian Conference on Sanitation

South Asian Conference on Sanitation (SACOSAN), a government led biennial convention held on a rotational basis in each South Asian Association for Regional Cooperation (SAARC) country provides a platform for interaction on sanitation. SACOSAN is intended to develop a regional agenda on sanitation, enabling learning from the past experiences and setting actions for the future. The objectives of such conferences are to accelerate the progress in sanitation and hygiene promotion in South Asia and to enhance quality of people's life. The SACOSAN process is instrumental to generate political will towards better sanitation in the region. The last SACOSAN held on during 22 - 24 October 2013 in Kathmandu, Nepal resulted in a signed "Kathmandu Declaration" including an end to ODF South Asia by 2023 and to progressively move towards sustainable environmental sanitation.

3.5.3 WHO-UNICEF Joint Monitoring Programme

The Joint Monitoring Programme (JMP) for Water Supply and Sanitation led by WHO and UNICEF is the official United Nations mechanism tasked with monitoring progress towards the Millennium Development Goal (MDG) relating to drinking water and sanitation (MDG 7, Target 7c). It not only reports on the national, regional and global use of difference types of drinking water sources and sanitation services, but also supporting countries in their efforts to monitor this sector and develop evidence based planning and management, playing a normative role in indicator formation and advocating on behalf of populations without improved water or sanitation.

3.5.4 Sustainable Development Goals

The Sustainable Development Goals (SDGs), which replaces Millennium Development Goals (MDGs) once they expire at the end of 2015, are a proposed set of targets relating to future international development. The 17 Sustainable Development Goals and 169 targets demonstrate the scale and ambition of new international development agenda. They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental.

In these Goals and targets, SDGs set out a supremely ambitious and transformational vision – a

world free of poverty, hunger, disease and want, where all life can thrive. A world free of fear and violence. A world with universal literacy. A world with equitable and universal access to quality education at all levels, to health care and social protection, where physical, mental and social well-being are assured. A world where commitments on the human right to safe drinking water and sanitation and where there is improved hygiene is affirmed; and where food is sufficient, safe, affordable and nutritious. A world where human habitats are safe, resilient and sustainable and where there is universal access to affordable, reliable and sustainable energy.

Out of 17 Goals, WASH is included as Goal 6: Ensure availability and sustainable management of water and sanitation for all. This Goal has six clear targets with 2030 as the target year.

- Achieve universal and equitable access to safe and affordable drinking water for all
- Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
- Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes
    - Expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies
    - Support and strengthen the participation of local communities in improving water and sanitation management

4 Present Institutional Framework

4.1 Key Institutions

4.1.1 Government of Nepal

The WASH sector in Nepal has two Government Ministries and many non-government agencies, civil society and private sector operating at the national, regional, district, village and municipality levels.

Ministry of Water Supply and Sanitation (MoWSS) is the lead ministry responsible for formulating policy, planning and monitoring of the WASH sector. It was earlier named as the Ministry of Urban Development and before that the Ministry of Physical Planning and Works. MoWSS houses the largest number of agencies within the WASH sector:

- Department of Water Supply and Sewerage (DWSS) is the lead and the oldest agency in the sector exclusively dedicated to planning and implementing both rural and urban water supply and sanitation projects. In semi-urban areas, it has been implementing small towns water supply and sanitation sector projects with ADB's support since 2001. With offices at the national, 5 regions, and Divisional/Sub-divisional offices throughout 75 districts in the country, DWSS has strength of 1700 staff who have proven expertise in technical, social, finance, administration and management of WASH services. In DWSS, Nepal potentially has an able agency which can steer the country's sector development in the right direction by repositioning itself as Nepal rapidly urbanizes.
- Department of Urban Development & Building Construction (DUDBC) is the agency responsible for integrated urban planning and development through provision of urban infrastructure. It has been implementing ADB-financed Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP) and Integrated Urban Development Project (IUDP) in which water supply, sewerage and drainage are key components.

Ministry of Federal Affairs and Local Development (MoFALD): Responsible for local governance and development as per Local Self-Governance Act (LSGA 1999), MoFALD is another key Ministry planning and implementing rural WASH projects for below 1000 inhabitants. Its main implementing agency is the Department of Local Infrastructure Development and Agriculture Roads (DoLIDAR). Its projects are implemented through District Technical Office (DTO) at the local level. MoFALD is currently engaged in the implementation of two Finnish grant-funded programmes, the Rural Water Supply and Sanitation Programme-Western Nepal (RWSSP-WN) and Rural Village Water Resources Management Programme-II (RVWRMP-II). While RWSSP-WN is completely a WASH sector initiative, RVWRMP-II is a multi-sector programme with WASH as a key component.

Local Bodies: District Development Committees (DDCs), Village Development Committees (VDCs) and Municipalities are local bodies governed by LSGA (1999) and are responsible for planning, management and coordination of local development efforts based on decentralized participatory planning and monitoring processes. This Act has made provisions for the development and implementation of water supply and sanitation programs as social and political responsibility of the local bodies within their respective areas. In the absence of elected representatives in the local bodies since 2002, the bureaucrats have been providing leadership to the functioning of local bodies.

Local WASH Coordination Committees: The WASH Coordination Committees at the District (DWASH CC), Municipality (MWASH CC), and Village (VWASH CC) committees provide

coordination in the preparation of local WASH plans with inputs from WASH stakeholders and in the effective implementation of the local plans.

Ministry of Health and Population: Its main role on WASH is to promote health and hygiene through water quality surveillance and emergency response. As an agency responsible for water quality surveillance, the Ministry has formulated water surveillance guidelines for use at the local levels and report back on the adherence of water quality standards. Its work on WASH services is guided by National Health Sector Plan II (2011-2015).

Ministry of Education: The key role of Ministry of Education is to promote WASH in educational institutions and develop curriculum and educational practices on WASH services. The concept of child friendly schools (2010) introduced by the Ministry highlights friendly standards on WASH services and hand washing practices which is being further strengthened through WASH in Schools (WinS) Programme.

Ministry of Science, Technology and Environment: Environmental impact assessment and waste water quality (discharge) standards are managed through the Ministry of Science, Technology and Environment.

4.1.2 WUSCs, Water Boards, WASH Management Bodies

WUSCs: Water Users Associations (WUAs) are governed by the Drinking Water Regulation (1998) and come into effect once registered at the District Water Resource Committee (DWRC). As WUA's executives, Water Users and Sanitation Committees (WUSCs) are operators and responsible for operation and maintenance of projects following established rules and regulations, self monitoring, and accountability. WUSCs include at least 33% representation of women. Registered WUSCs can also ally with District Federation of Water and Sanitation Users of Nepal (FEDWASUN). After the registration of one WUA, no other WUA can be registered which would otherwise reduce the quantity of the water used by the original WUA in the same working area. The quantity of water which may be used by the WUA is determined by the DWRC and set out in the certificate of registration.

Rural Water Supply and Sanitation Fund Development Board (RWSSFDB): It is an autonomous body and facilitates implementation of small rural water and sanitation projects, through World Bank financing, under which communities are supported in the planning, management and monitoring of WASH services.

Nepal Water Supply Corporation: As a public utility organization formed under Nepal Water Supply Corporation Act (1989), Nepal Water Supply Corporation (NWSC) currently operates and maintains water supply schemes in 21 towns (3 sub metropolitan city, 16 municipality and remaining 1 is VDC) outside Kathmandu valley. Its functions do overlap with that of the DWSS in some of the towns and Water Boards.

Water Supply Management Board: Urban areas covering Metropolis, sub-metropolis and Municipalities are required to be governed by the Management Boards as per the Water Supply Management Board (WSMB) Act (2006). The Act places an emphasis on the participation and local bodies and WASH institutions in water and sanitation services in the urban areas. It provides for the establishment of an autonomous and independent Water Supply Management Board to own the assets of the water supply and arrange for supply drinking water and provide sanitation service. The Act also provides for the issuance of a license to the operator (public or private sector) for the management and operation and maintenance of the system and leasing

of the assets. However, sanitation has received little attention in the Act. The Board can formulate specific policies to improve water supply and sanitation system.

Kathmandu Valley Water Supply Management Board: Constituted under the Water Supply Management Board Act (2006), Kathmandu Valley Water Supply Management Board (KVWSMB) owns all the assets related to all water and sanitation in Kathmandu Valley and was spun-off from the NWSC. It is responsible for developing and overseeing service delivery policies, and providing license to service providers for the operation and management of water supply and sanitation service in Kathmandu Valley and monitoring to ensure adherence to the implementation of policies.

Kathmandu Upatyaka Khanepani Limited: Formed under the Companies Act (2063), Kathmandu Upatyaka Khanepani Limited (KUKL) operates under Public Private Partnership (PPP) modality. KUKL is an operator responsible for the operation and management of water and wastewater services in the Valley under a License and Lease Agreement with the KVWSMB for 30 years. It is responsible for the maintenance of all assets received on lease from KVWSMB, and will take over the responsibility for infrastructure built by the Melamchi Water Supply Project once it is completed.

4.1.3 National Non-Governmental and Civil Society Organizations

NGOs: The most prominent national agencies include Nepal Water for Health (NEWAH) operating through national and regional centers in Nepal, Lumanti which provides WASH implementation and capacity development as part of its urban shelter programming, Nepal Red Cross Society, Environment Public Health Organization (ENPHO), Centre for Integrated Urban Development (CIUD), Gurkha Welfare Scheme (GWS), and regional programmes like KIRDAC, as other local NGOs such as Kanchan Nepal.

SDP envisages three critical role for NGOs: (a) providing pro-poor WASH services to unreached areas, (b) building partnerships with users and civil society to influencing policy and practices and holding government accountable, and (c) with INGOs bringing knowledge and innovations in the sector.

Civil Society: The role of civil society in very important in WASH service delivery and advocacy. Federation of Drinking Water and Sanitation Users Nepal (FEDWASUN), with 56 district branches, represents users and lobbies for inclusive, transparent and accountable sector development. Its mission is to protect the rights of drinking water and sanitation users' organizations throughout Nepal by raising their awareness, and organizing and empowering them to secure their rights on WASH, and by advocating for users' access to policy formulation and decision-making. Its success depends on inclusive participation with all stakeholders working together to ensure functionality and sustainability of drinking water and sanitation services. There also exists Small Towns WUSCs Association which promotes users interests for small towns in Nepal. National WASH Alliance brings together a wide group of more than 60 stakeholders, including DWSS, national and international NGO partners, and individuals for coalition building and advocacy for water and sanitation and to increase public awareness. Resource Center Network Nepal facilitates sharing of information and promotes use of knowledge about sector development and forthcoming events in the WASH sector.

4.1.4 Private Sector

The WASH sector has been using the private sector in Kathmandu and several towns for design, construction and supervision. Private sector also operates tanker services and street vendors to partly meet the water supply deficiency in large cities particularly in Kathmandu valley.

An appropriate environment has to be created for the private sector to contribute to enhancing WASH services especially in the urban areas.

Actions required to encourage private sector

- Provide conducive and enabling environment for the private sector as local vendors, manufacturers, consulting firms, and service providers.
- Develop regulations for service quality and environmental protection
- Provide technical and management support to strengthen the existing businesses and develop new businesses
- Train private mechanics, motivators and water quality technicians, plumbers, drillers, etc.
- Incorporate the concept of the tripartite participation in developing PPP models:
- Prepare a guideline for the PPP for the WSS sector
- Appoint a facilitating and regulating agency for the participation of private sector and civil society
- Scale up sanitation through private sector/markets

4.1.5 Development Partners

There is a wide array of development partners active in supporting Government of Nepal in deepening and expanding WASH services, contributing in sector development policy, practices and financing, and bringing in innovation and knowledge for wider sector use. The prominent ones include:

- ADB (urban water and sanitation sector projects with MoWSS, DWSS, DUDBC and sector efficiency improvement and coordination)
- World Bank (rural WASH project with Fund Board)
- UNICEF (sector development, sanitation and hygiene, WASH in schools, emergency preparedness and response)
- Embassy of Finland (support to two major bilateral projects to MoFALD and UNICEF)
- WHO (water and health, water safety plans and climate change)
- DFID (Gorkha Welfare Scheme)
- JICA (WASH solutions, capacity building for urban areas)
- UN-Habitat (sanitation and hygiene, urban WASH)
- USAID (WASH with focus on GESI)

4.1.6 International NGOs

A number of international NGOs are involved in WASH service delivery and advocacy with local NGOs. WaterAid Nepal is the only INGOs in Nepal that exclusively focuses on WASH. Other prominent INGOs include SNV, Plan, Save the Children, Oxfam, CARE, Helvetas, and Practical Action Nepal with long term arrangements in supporting national NGOs in planning,

implementation, capacity building and advocacy. New entrants in the sector are Engineers Without Borders (EWB) and the Dutch Wash Alliance (DWA).

In the recent past, the shift from only direct services delivery by international NGOs to piloting WASH services and advocating to the government and service providers, through best practices knowledge and sharing, for deepening services and addressing gender and social exclusion issues and global-local linkages has been noteworthy.

4.2 Rural Institutional Models

Implementation of Rural WASH is done through a wide array of institutional models. The main difference lies in the distribution of tasks between agency, local support organizations and users, the institutional and technical standards and the rigor of their application, fund flow, accountability arrangements, and post-construction support mechanisms. For ease of reference, the institutional models can be grouped into five categories: (a) DWSS, (b) DOLIDAR, (c) Local Bolides, (d) RWSS Fund Development Board, and (d) NGOs. These modalities are, however, not uniform.

4.2.1 DWSS

Regular DWSS-supported WASH projects are often straight-forward construction projects with relatively-less social and capacity building components compared to donor-supported DWSS projects which tend to have elaborated technical, social and capacity building mechanisms. DWSS uses its own technical standards and guidelines. In the recent years, DWSS has strengthened the social and capacity building components and users' involvement. Implementation is done by the WUSCs with support from the divisional or sub-divisional offices at the district level, and coordination through the WASH Coordination Committees and monitoring by the DWSS Regional Offices.

4.2.2 DoLIDAR

The DoLIDAR-supported projects are implemented by the WUSCs through support by the VDCs and DDCs and its District Technical Office (DTO). DoLIDAR and DTOs have limited water supply engineering staff and often lack the skilled human capital for intensive field support and supervision. The notable projects are those implemented under Finish support (eg RWSSP-WN and RVWRM III) using central guidance and coordination. DoLIDAR has recently developed technical and approach standards and guidelines for application by all DTOs.

4.2.3 Local Bodies

Local Bodies' supported WASH projects, especially those implemented with DDC/VDC-funding often consist of only budget support or supply of pipes and other materials, and could be called Do-It-Yourself schemes.

4.2.4 RWSS Fund Board

The Fund Board was started by the GoN mainly to address two obstacles that the government agencies faced in smooth implementation, namely timely availability of funds and cost-effectiveness. It implements schemes through support organizations (mainly district based NGOs), sending funds straight to the support organizations and WUSCs, using elaborate implementation mechanisms and monitoring them from central level. The next phase entitled "Rural Water Supply and Sanitation Improvement Project" is underway in 55 districts focusing on new projects and improving sustainability.

4.2.5 NGOs

Implementation by the major NGOs is characterized by elaborated technical, social and capacity building mechanisms, use of local support organizations, community empowerment and implementation through NGOs-WUSCs partnership arrangements. The model adopted by NGOs brings into fore some local islands of successes which they use for evidence-based advocacy and influencing.

4.3 Urban Institutional Models

Development of WASH services in the urban areas must be harmonized with urban development plans and programmes. The Urban Water Supply and Sanitation Policy (2009) outlines measures to achieve coherent, consistent and uniform approaches of sector development in urban areas for different agencies and institutions involved. The Policy sets public private partnership, cost recovery principles and sector effectiveness for improved service delivery with municipal engagement in the management of urban WASH services.

GoN has been promoting effective and appropriate institutions depending upon the characteristics, size and complexity of urban WASH services to develop, implement, operate and manage urban WASH services in an effective manner within the limits of financial affordability.

Based on lessons learnt internally and drawing from successful examples elsewhere, the following modes are adopted to address Nation's urban water supply and sanitation challenges:

- Municipality with utilities managed by Water Boards in Kathmandu Valley and other major urban areas;
- Towns with utilities managed by NWSC; and
- Small Towns managed by WUSCs

Table 4 provides the key features of these models.

Table 4: Urban WASH Institutional Models

Urban Areas	Current Service Area	Legislative/ Institutional Framework	Functions				Key Issues
			Planning	Construction	Tariff Setting	O&M	
Municipalities	Kathmandu Valley[16], Bharatpur, Hetauda, Kavre, Dharan, Butwal	Water Supply Management Board Act (2006) WSTFC Act (2006)	WSMB and Municipality	Contractor/ WSMB	WSTFC Act (2006)	Service Providers	Except for Act, no plan/strategy since Act was enacted in 2006 to aid operationalization and expansion in the Municipalities throughout the country
Towns	21 towns	NWSC Act (1989, 2007 second amendment)	NWSC	NWSC	WSTFC Act (2006)	NWSC	Limited service coverage, management issues to provide regular and functional services

[16] In the case of Kathmandu, the High Powered Committee for Bagmati Civilization is also responsible for wastewater management.

Small Towns	76 towns	Updated 15-yr plan for small towns water and sanitation	LBs under LSGA (1999)	Contractor/ WUSCs	WUSCs	WUSCs	Users based model – limited coverage and longer lead time. Loan repayment issues. Lack of Institutional framework as town grows and service area expands

4.3.1 WASH Utility in Large Municipalities

The key functions of Water Supply Management Boards are aimed at improving water services in large Municipalities, improve technical and commercial efficiency in operations management, increasing productivity of employees, and achieving institutional and financial sustainability in the long term.

Kathmandu Valley: Residents of Kathmandu Valley are confronted with severe water crisis. Supply is grossly inadequate and intermittent (with some areas having an-hour supply in ten days during dry season), of poor quality, and subject to indirect costs such as electricity for pumping. The poor, especially who live in slums and squatters, are far worse off in terms of access and services, and as a result they end up paying more to the tankers and street vendors for water services.

GoN, with ADB support, has been implementing Kathmandu Valley Water Services Sector Development Programme to improve WASH services in the Valley with a two-interlinked strategy: Infrastructure Development and Institutional Strengthening.

Infrastructure Development is aimed at completing Melamchi Water Supply Project by 2016 to bring water into the city by diverting Melamchi water through a 27km tunnel from the snow fed Melamchi river in Sindhupalchowk district. The Project component includes Melamchi diversion, water treatment, bulk distribution system, distribution network improvement, and waste management. Under Institutional Strengthening Framework, Kathmandu Valley Water Supply Management Board (KVWSMB) is the main agency responsible for planning, development and management of WASH services in accordance with WSMB Act. Under license issued by the Board and Lease Agreement with KVWSMB for 30 years, KUKL is responsible for delivery of water supply and operation of waste water in Kathmandu to provide a quantitative, qualitative and reliable service to its customers at an affordable price. KUKL will take over the responsibility for infrastructure built by the Melamchi Water Supply Project once it is completed.

Since its establishment in 2007, KUKL has suffered due to transitional political dynamics, lack of willingness for governance and management reforms for effectiveness and improved services. As the largest shareholder, GoN will take concrete steps in collaboration with other shareholders (ADB, JICA and other development partners) to enhance institutional and operation capacity to effectively deliver WASH services it is entrusted with to the residents of Kathmandu Valley.

Other Municipalities: Water Supply Management Boards have been established in other Municipalities such as Bharatpur, Hetauda, Kavre, Dharan, and Butwal. However, Boards in these Municipalities are in nascent stage of development. Add……..

4.3.2 Utilities in Towns

Reporting to the MoWSS, NWSC has been providing water supply services in 21 urban areas outside the Kathmandu Valley. As the populations in towns have grown rapidly, NWSC has

been confronted with institutional and management capacity constraints to meet the growing water demand. The second amendment (2007) to the NWSC Act (1989) enables the legal basis for the transfer of ownership of water and waste water services owned by NWSC to any designated organization as decided by the Government. At the same time, it also opens door for NWSC to engage private companies to operate and manage its systems under management contracts.

4.3.3 WUSCs in Small Towns

The planning and implementation of WASH services in small towns are guided by GoN's 15-year development plan for the small towns[17] for the identified 176 small towns. Based on experiences from the first (29 towns, completed) and second town (21 towns, on-going) sector projects and considering implication from increased number of Municipalities to 217 from 58, new sector projects (such as third small towns water supply and sanitation – upto 26 towns, and other similar projects) are being implemented through an integrated WASH comprising of water supply systems (for medium/high service levels), public and private toilets, septage management including decentralized wastewater treatment facilities, and drainage systems.

The present sector institutional framework is attached in Annex 4.

[17] First prepared in 2000 and updated in 2009 and 2015

5 Underlying Principles for WASH

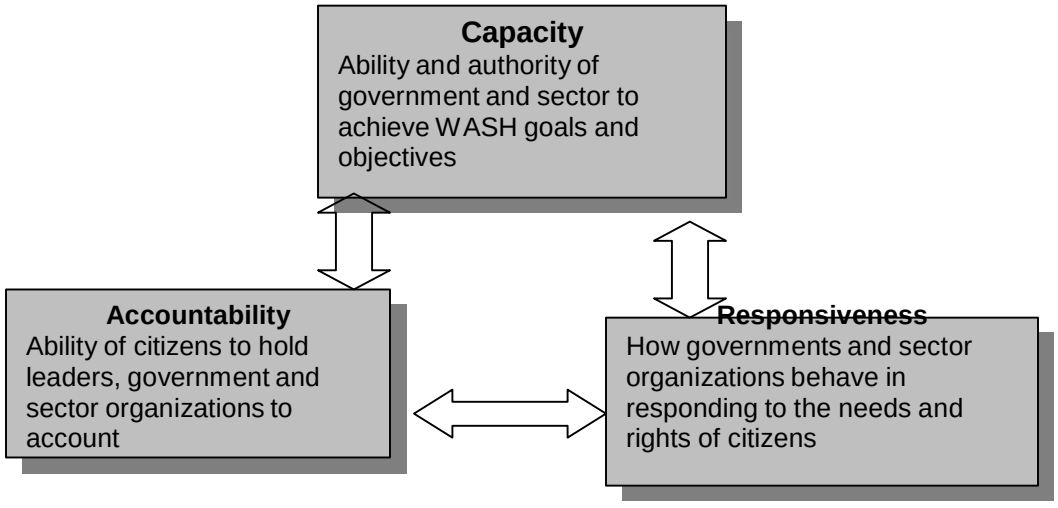
5.1 Improving Sector Governance

True legitimacy in a democracy comes from good governance[18], inclusive social and economic growth for all citizens, not just once-in-a-while elections. To what extent a state is responsive, accountable and transparent to the priorities of its citizens, specifically in between two elections, is a robust measurement of legitimacy in democratic governance.

Water governance is the set of systems that are involved in decision making about water management and service delivery. Governance systems determine who gets what water, when and how. Effective sector governance is a precondition for the effectiveness and sustainability of WASH services. Good governance emerges when stakeholders engage and participate with each other in an inclusive, transparent and accountable manner to accomplish improved WASH services for all–everyone, anywhere and everywhere, and is performed within the rule of law, free from corruption and abuse of authority.

The Capacity, Accountability and Responsiveness (CAR) framework presented below provides greater clarity on the ingredients of "good governance" in the WASH sector. Used as an analytical tool, it allows assessment of the three dimensions of water governance that can lead towards improving sector effectiveness, efficiency and performance.

Fig 13: WASH Governance Framework



Capacity requires appropriate human and financial resources for enhancing WASH services for people, effective institutions performing delineated policy and implementation roles, political will backed by the necessary policy, coordination and regulation (both formal and informal norms) for service delivery, and improved information and management systems. It requires sufficiency in budgets, equitable allocations and skilled and accountable staff working in effective institutions with an attitude for positive change always.

[18] Good governance has eight major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive, and follows the rule of law. Good governance is responsive to the present and future needs, exercises prudence in policy-setting and decision-making, and that the best interests of all stakeholders are taken into account.

Accountability for WASH services requires some basic ingredients: Government and sector stakeholders understanding of the objectives and processes for improved accountability, respect for citizens and civil society to play a role in holding government to account for service delivery and civil society having the confidence, trust and skills to fulfill their roles.

Central to **responsiveness** is Government and service providers' response to meeting citizens' demand for improved WASH services, articulating and moving towards human rights to WASH services, equity and inclusion, pro-poor policy making and implementation, and the integrity of service providers in fulfilling their roles and responsibilities to citizens.

5.2 Human Right Based Approach

Safe water and basic sanitation are fundamental human needs and basic human rights – everyone needs them to live healthy, dignified and productive lives. A rights-based approach is about improving wider systems of sector governance for progressive realization of human rights of all citizens for WASH services within the nationally set timeframe by maximizing resources. Moving to a rights-based approach implies focusing on the relationship between state and citizens.

To contribute to the progressive realization of the right to water and sanitation services, the sector will:

- Better understand the key reasons why people, especially those who are unreached, lack access to basic WASH services (political, economic, social, cultural issues etc). The fact that 13m people without access to functional water services and 10m without basic sanitation are a direct result of decisions taken, or not taken, by those in decision-making process. It is completely unacceptable. Out of 13m, 4m (15% of total population) are still deprived of water services, and 9m people who have water infrastructure but not the functional services. Water as a human right justifies that those citizens who have not been served yet will be the first priority for water supply before the already served population;
- Strengthen institutional and management capacity of duty bearers (Government, service providers etc) to fulfill their obligations and to increase their accountability and responsiveness to all rights holders;
- Empower claim holders, particularly those who do not have functional access, to claim and secure their rights to WASH services; and
- Apply the human rights principles of participation, non-discrimination, transparency and accountability; and standards of WASH security (safe, adequate quantity and quality, equitable distribution, physical accessibility and economic affordability).

5.3 Equity and Inclusion

While the improvements in WASH are impressive, they also mask the pervasive inequity in development outcomes. Many people, especially the poorest and marginalized, have not benefited from the progress as they are excluded from improved services. Gender, caste, ethnicity, age, and disability are some of the key causes for exclusion. Menstruating women are still prevented from using taps and toilets in many locations.

This means, the sector must address exclusion from WASH as it relates to wider inequalities in power relations and in control over water resources within the family, community and at

institutional levels. Intrinsic to a rights based approach, the sector will adapt equity and inclusion as core principles to ensure it addresses issues of marginalization and exclusion to realize sector vision where everyone, anywhere and everywhere has access to safe water and sanitation services.

5.4 Integration

SDP will integrate WASH in households and institutions (health, education, community) through improved linkages within the sector and between local development, health, education, and the environment, integrating WASH into their respective policies and programmes.

Within the sector, WASH will be planned and implemented as an integrated WASH package. In other words, water, sanitation and hygiene cannot be viewed in isolation, and there will be no discrete water, sanitation and hygiene projects anymore in a given location. Stand alone sanitation and hygiene projects will only be initiated in areas where communities already have access to adequate and functional water supply, and if there is an expressed demand from the communities for stand alone sanitation and hygiene projects.

Between the sectors, the primary objective is further build collaboration and synergy among the sectors through collaborative planning, implementation, coordination and performance monitoring for accelerating change by integrating WASH into sustainable development.

5.5 Decentralized Planning

WASH services need to be planned for a local area as part of integrated development linking with local development, health and education based on the provision of Local Self Governance Act (1999). Processes and structures for both strategic and participatory annual planning where all WASH stakeholders come together to make informed decisions about local equitable WASH service provision options, including infrastructure, costs, service levels and institutional arrangements, and where every stakeholder is empowered to put forward views and choices are critical elements.

5.6 Building Resilience to Climate Change and Disaster Risk Reduction

Climate change is likely to lead to more frequent unpredictable and extreme weather episodes, with poor people disproportionately affected by floods, droughts and contaminated water. It will critically important for the sector to develop and equip WASH institutions to enable communities whereby they can access climate-resilient water and sanitation infrastructure and sustainable services. This will require defining climate risks and addressing them in planning, implementation and monitoring.

Disasters affect everyone, but have the biggest impact on poor and vulnerable people. WASH services are among the biggest immediate priorities after a disaster as these are critical determinants for survival in the initial stages of all disasters. Diarrhea diseases are one of the most common causes of death in emergencies and these are closely related to inadequate sanitation, clean water supplies and poor hygiene. The sector will increase its capacity on disaster management through preparedness, response and recovery of WASH services while also ensuring that action is taken to mitigate the impact of risks and disasters on WASH services including contingency planning.

5.7 Government Leadership

The primary responsibility for the allocation and provision of WASH services, as a basic need and as a human right, lies with the Government. Even if the State holds ultimate responsibility for the sustained provision of WASH services, a number of stakeholders can take part in the planning and implementation in a coherent and harmonized manner.

A development compact between the Government and Development Partners setting out shared responsibility and mutual accountability with follow-up mechanisms to champion and ensure WASH sector reform is absolutely necessary. The principles adopted in Paris (2005) - ownership, alignment, harmonization, managing for results and mutual accountability - and the maturation of in-country sector planning processes offer tangible opportunities for reducing sector fragmentation, duplication and transaction costs and improving aid effectiveness. The Accra Agenda for Action (2008), reinforces particular emphasis on Development Partners' commitment to strengthen government capacity to lead and manage development results.

5.8 Sector Wide Approach

The Sector Wide Approach (SWAp) is "a process in which funding for the sector, whether internal or from development partners, supports a single policy, plan and expenditure, under government leadership, and adopting common approaches across the sector. It is generally accompanied by efforts to strengthen government procedures for disbursement and accountability and ideally involves broader stakeholder consultation in the design and implementation of a coherent sector programme at micro, meso and macro levels, and strong coordination amongst development partners and between development partners and government.

Over time, SWAp makes the coverage of the sector more comprehensive, bringing ongoing projects into line with sector priorities, developing common planning, implementation and monitoring procedures. The SWAp implies a partnership which involves the simultaneous deployment of different aid modalities. A sector programme can be a purely domestic affair, or supported by development partners through sector budget support, pooled funds and/or project modalities. Some modalities are more aligned to national systems than others, but support by any modality can be "on policy", "on plan", "on budget" and integrated in joint monitoring efforts and national sector coordination mechanisms. SWAp has been adopted in education, health and local development sectors in Nepal. WASH SDP will gradually embark on SWAp once sector financing strategy is operationalized to finance the SDP implementation.

6 Sector Vision, Mission and Objectives

6.1 Sector Vision and Mission

Sustainable WASH services are among the most powerful drivers for human development. They extend opportunity, enhance dignity and help create a virtuous cycle of improving health and growth.

> **Water for life:** People living in rich countries today are only dimly aware of how clean water fostered social progress in their own countries. Just over a hundred years ago London, New York and Paris were centers of infectious disease, with diarrhoea, dysentery and typhoid fever undermining public health. Child death rates were as high then as they are now in much of Sub-Saharan Africa. The rising wealth from industrialization boosted income, but child mortality and life expectancy barely changed.
>
> Sweeping reforms in water and sanitation changed this picture. Clean water became the vehicle for a leap forward in human progress. Driven by coalitions for social reform, by moral concern and by economic self-interest, governments placed water and sanitation at the centre of a new social contract between states and citizens. Within a generation they put in place the finance, technology and regulations needed to bring water and sanitation for all within reach.
>
> Source: Human Development Report, UNDP, 2006

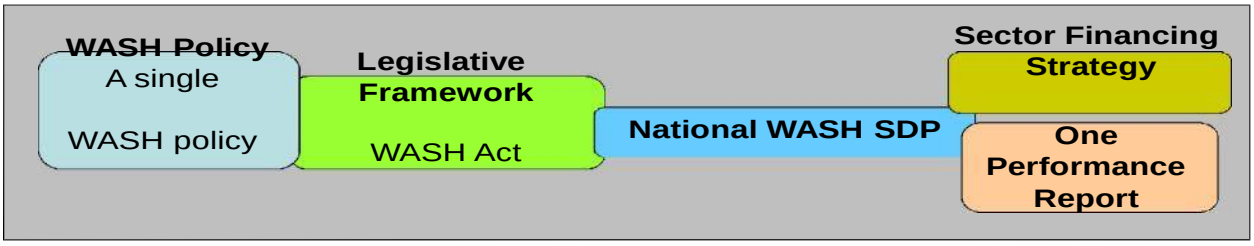
In the last decade, Nepal has achieved good progress in water supply coverage and service delivery. The sector has seen an inspiring uptake of sanitation in the country, leading to a rapid increase in coverage. While progress in the WASH has been encouraging, the sector as a whole faces several important challenges associated with institutional harmonization, sector financing, functionality, total sanitation, equity and inclusion, the rapid growth of urban settlements and the bearing it has on addressing WASH services, and disaster risk reduction.

Before the earthquake of April 25, 2015, Nepal had set its goal of universal access to basic WASH services by 2017. With the devastation caused by the massive earthquake, provision of basic WASH services for all is going to be delayed by a few years. Still, as Nepal will build back its infrastructure better, it will be possible to improve service levels and work with the communities to make the restored services to be more resilient.

Vision: Improved public health and living standard of people through safe, sufficient, accessible, acceptable, and affordable water and sanitation services for all citizens - everyone, anywhere and everywhere - in Nepal.

Mission: An effective, responsive, transparent, and accountable WASH Sector. The sector will adapt one WASH Act, one national WASH policy framework, one WASH national sector development plan, and one WASH performance report to contribute to the realization of the vision.

Fig 14: Sector Governance Reform



6.2 SDP Objective

The SDP is a strategic framework to progressively ensure effective, efficient and sustainable provision of WASH services. The objective of SDP is to enable provision of universal access to WASH services with improved sector governance and effectiveness through a coherent, consistent, harmonized national WASH programme that is aligned to government policies and strategies. The SDP builds on sector achievements, outcomes of JSRs, recommendations of sector assessments and studies, and evolving cross-sectoral linkages and partnerships.

The key objective of SDP is to:

- Articulate the sector priorities, strategies and actions for effective programming and implementation of WASH in a coherent and harmonized manner, and gradual convergence to SWAp; and
- Guide and align all sector stakeholders with national priorities, strategies, standards and procedures in the effective programming and management of WASH services

The GoN will put in place an enabling policy, legislative and regulatory framework, a clear institutional framework for service delivery, financing arrangements, capacity building, improved coordination and performance monitoring to ensure that all citizens of Nepal have functional and sustainable access to WASH services.

Table 4: Distinction Between a Project and SDP

Project	Sector Development Plan
Despite the success of numerous projects locally, sector progress as a whole is less successful	A coherent Plan with many projects aimed at achieving sector vision and results
Fragmentation in planning and implementation	Alignment with national development and sector policy
Possible duplication of activities	Better coordination of development aid and harmonization of procedures
Inadequate leadership from the Government	Nationally led and owned by the sector stakeholders
High transaction costs	Enhanced capacity of national and local institutions with effective and efficient management for results

6.3 SDP Duration

The SDP will cover the period 2016-2030, aligned with the Sustainable Development Goals. Further divided into short-term, medium term and long term, the SDP has three phases, each of five years' duration. The SDP will be a rolling plan, which will be updated every five years.

Table 5: SDP Period and Targets

Period	Overarching Targets
Short Term (2016-2020)	• Universal access to basic WASH services • Improved service levels[19] (medium/high) to 25% population
Medium Term (2021-2025)	• Improved service levels (medium/high) to 50% population
Long Term (2026-2030)	• Improved service levels (medium/high) to everyone, anywhere, everywhere in Nepal

[19] Refer to Table 6 for Basic and Improved WASH Service Level indicators

7 Implementation Strategy

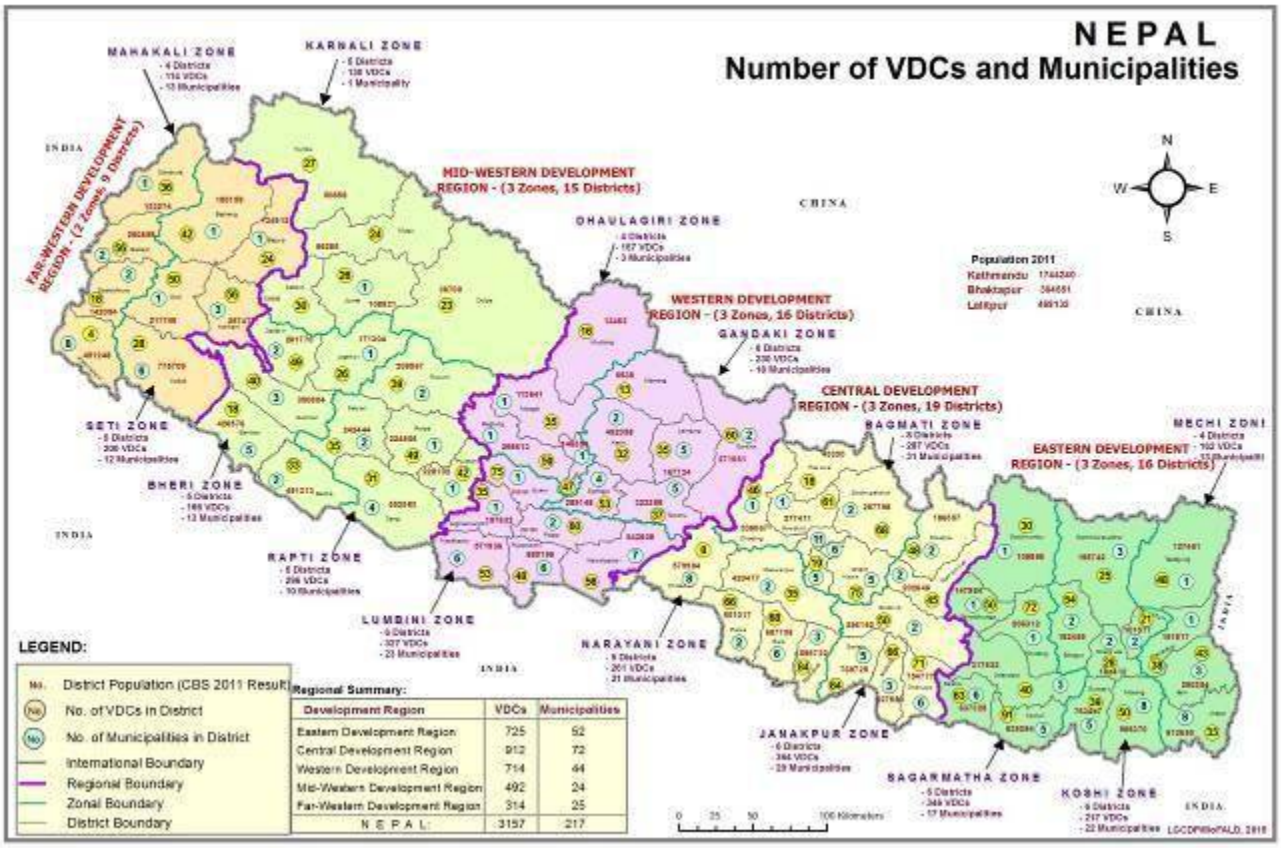
7.1 Rural WASH Services

7.1.1 Classification of Rural Areas

As mentioned in the New Constitution of Nepal (2015), the Federal Democratic Republic of Nepal shall have three main levels of structure: federal, provincial and local. Under the local level, there shall be Village Council, Municipal Council and District Assembly. The number of wards in a Village council and Municipal Council shall be as provided for in a Federal law. Governance systems for each of these structures, once formulated, will have significant bearing on development planning and management including for WASH services.

Nepal's system of governance, until new Constitution was formulated in Sept 2015, was unitary. Its 75 District Development Committees (DDCs) make up the top tier of local bodies in Nepal. The second tier is occupied in the rural areas by the 3157[20] Village Development Committees (VDCs) and in the urban areas by 217[21] municipalities. Each VDC is made up of nine wards. The term "VDC" is commonly used to refer both to the geographical area and the executive VDC committees of elected and nominated VDC officials.

Fig 15: Nepal Admin Map, MoFALD, 2015



[20] Reduced from 3915 as a result of increased number of Municipalities
[21] Increased from 58 to 217 (2015)

7.1.2 Service Level Indicators and Definitions

The Table below defines service standards on rural water supply and total sanitation indicators.

Table 6: Water (to be verified)

Service Indicators	Service Levels		
	High	Medium	Basic
Safe	Meets National Drinking Water Quality Standards		
Sufficient: quantity (lpcd) everyday throughout the year Duration of supply (hrs/day) throughout the year			45 4
Accessible			Within the house
Acceptable	Acceptable colour, odour and taste for personal and domestic use. Culturally appropriate and sensitive to gender, differently-abled and privacy requirements. All community (schools, health) and public institutions have child, gender and differently-abled friendly water services within their premises		
Affordable	Available and affordable for everyone, even the poorest. The costs for water and sanitation services should not exceed 5% of a household's income, meaning services must not affect peoples' capacity to acquire other essential goods and services, including food, housing, health services and education		

Table 7: Total Sanitation Indicators

S.No.	Key Hygiene and Sanitation Behaviors	Indicators
1	Use of toilets	• Use of toilets by everyone, including by the menstruating women, at the households, institutional and public places • Regular cleaning of toilets • All toilets have clearing agents such as soap, and equipped with appropriate washing platforms • Institutional toilets are accessible**,** gender and differently- abled sensitive
2	Personal Sanitation and Hygiene	• Practice of hand washing at critical times • Personal cleanliness • Menstrual hygiene management
3	Access to safe water	• Clean storage of water and cover • Protection of water sources • Application of water safety plan
4	Safe use of food	• Clean kitchen and protected food against contamination • Non-use of damaged food • Safe and clean food at hotels and restaurants
5	Clean House and Environment	• Always clean house and surroundings • Segregation and management of HHs solid waste, availability of bins/pits to collect/dispose solid waste • Effective management of HHs waste water • Separate shed for animal/birds including effective management of their waste

		• Smokeless kitchen and access to bio-gas where applicable
6	Urban Environmental Sanitation (refer to 7.2.2 Service Indicators and Standards)	

Source: Total Sanitation Guidelines, 2015

7.1.3 Institutional Arrangements

Till the early 1990s a top-down and contractor-led service delivery approach was used to construct and operate rural water supply and sanitation systems. Gradually this has been replaced by a demand responsive approach, which adopts an inclusive, community driven approach where local communities play the leading role in planning, design and implementation of schemes, as well as in operation and maintenance. The approach is holistic and integrated, and incorporates water supply, sanitation, health and hygiene.

The Rural Water Supply and Sanitation National Policy and accompanying Strategy (2004) Plan is a comprehensive set of policy statements, definitions of service levels, inclusion of women and disadvantaged groups in decision making, and roles and responsibilities of different GoN ministries and agencies as well as other stakeholders. It embraces the "demand responsive approach" to the provision of rural water supply and sanitation, and uses cost sharing principle whereby Government would allocate 80% and the users 20% (including 1% cash) in the implementation of new water and sanitation projects.

Rural WASH Policy states that:

- DDCs will be responsible for implementation, coordination, and monitoring of the rural water supply and sanitation plans in their respective districts;
- VDC will play the lead role in involving WUSCs in the construction of rural water supply and sanitation, including assisting the organized communities to mobilize their contributions in cash and kind;
- WUSCs will be organized for the implementation of all rural water supply and sanitation systems; and
- DWSS will prepare and implement a plan to gradually phase out direct implementation in rural water supply and sanitation schemes, and will hand over ownership and responsibility for operation and maintenance of all schemes to local bodies (DDCs/VDCs/Municipalities).

The stated policy is about complete decentralization of all aspects of planning, implementation, operating and maintaining rural water supply and sanitation projects to the districts (or their successors in a possible future federal state). The policy is robust since it places these functions with those who are most concerned with the quality and sustainability of service provision, i.e. the communities.

Strategic Actions

Clear Separation of Roles and Responsibilities: Multiplicity of agencies with overlapping areas of responsibility has impeded effective planning, project implementation of WASH services resulting in confusion and duplication of resources. The fragmentation has increased

due to different implementation modalities with agency-specific systems of planning and implementation. This will be addressed by:

- Developing a clear separation of roles and responsibilities of two key Departments - DWSS and DoLIDAR (separation of projects with less 1000 population under DoLIDAR jurisdiction has to be reviewed due to changing landscape and impending federal structure) - for planning and implementing WASH projects in the rural areas while considering the lead Ministry's domain of work, historical and technical excellence, and federalism/devolution of sectoral functions;
- Once separation of roles and responsibilities are agreed, institutional restructuring, organizational and management capacity of the respective agencies will be strengthened to effectively plan and implement this shift in an earnest manner;
- Transition to the new institutional arrangement will be implemented with long-term consistency through political buy-in and gradual shift. In the absence of earnest action, lack of resources for implementation including incentives for change, the transition will suffer.

Planning and Coordination: The Rural Water Supply and Sanitation National Policy and Strategy (2004) gives primacy to the district for service provision. Irrespective of nature of federalism and number of federal structure that Nepal is going to have, provision of basic services like WASH services will be the responsibility of state and local councils. What will be important is to provide the instrumentation and strong, long-term political support to implement the (new) policy provisions.

Strategic Actions

- The District Development Committee will be the primary planning and implementation monitoring authority at the district level. DDC will be supported by the Water Supply and Sanitation Coordination Committee (DWASH CC) to coordinate stakeholders' activities in the district. The DWASH CC chaired by the chairperson, DDC (LDO in the absence of locally elected representatives) will have the authority for ensuring an effective implementation and monitoring of District WASH plan. Support to DWASH CCs and coordination among districts will be done by the Regional WASHCC;
- All projects to be implemented in the district will be an integral part of the District WASH plan prepared in line with the bottom-up planning procedures in accordance with LSGA provisions;
- Universal VDC Approach: A VDC is considered as the lowest unit for the WASH planning. Once the VDC has been prioritized and selected by the DDC for WASH, feasibility study will inform the decision-making process considering technical, social, environmental and economic factors. The most feasible projects will be implemented by government lines agencies, local bodies, and (I)NGOs as appropriate;
- Local WASH plans, approved by the local councils, will have three clear categorizations: (a) Reaching the unreached, (b) Improving functionality, and (c) new projects for enhancing service levels and consideration of climate change adaptation and disaster-resilient principles. GIS tools and maps can be utilized for evidence-based planning and decision-making both at the national and local levels.
- All the funding for the WASH sector at the district level will be accounted for in the District WASH plan and expenditures assessed through regular local monitoring and social audits.

7.1.4 Implementation Strategies

7.1.4.1 Reaching the Un-reached

Universal access to basic WASH services is a considerable challenge as witnessed by the numbers of people who are deprived of WASH services. As per the CBS, 2011:

- 4m of population (15%) are not yet reached by water supply services; and
- 10m people (38% of population) do not have access to basic sanitation.

Un-reached population consist mostly of clusters of homes located in remote and rugged terrain, or disadvantaged and vulnerable communities that lack the power, resources, and skills to successfully secure WASH services. In order to realize the sector vision of everyone having access to WASH services, the sector must address those who are unreached, for geographic and/or social reasons.

There are technical and cost challenges inherent in bringing water supply to remote or rugged locations. Greater distance requires more costly quantities of pipe and storage facilities. Lifting water from lower sources to communities at higher altitudes requires substantive technical inputs and/ or innovative investments. Sometimes remote communities are also socially excluded, having been marginalized to difficult locations by historical and social forces.

Social attitudes about caste, ethnicity, religion and persons living with chronic illness can be factors in the exclusion of persons or communities from water sources, which are otherwise physically accessible. Other population groups are excluded by neglect rather than purposefully. Women have extra challenges of security, overwork and low decision-making status that must be addressed in water supply system planning. Age factors must be considered for children and the elderly. Differently able people have explicit access challenges, both personally and for their families who often must give additional human resource support to the disabled person.

Strategic Actions

- Inclusive water and sanitation services require overturning social exclusion beliefs and establishing proactive policies to assure equal access. Both the geographically remote and the socially excluded communities will be assured of technical, institutional, management and budget support which may be at higher cost per capita than required for the population that has been reached with WASH services;
- The location of served and un-served areas in each district and village will be identified and mapped with GIS tools and technologies, as required;
- The GESI thematic working group, with input from other thematic groups, will develop a rights-based National Equity and Inclusion Framework, and minimum standards and indicators to guide the sector stakeholders to address exclusion and inequality issues. Development of this framework can be informed by the lessons learnt by some agencies on the application of gender equality and social inclusion (GESI) guidelines[22]. The framework will be institutionalized sector wide through right based approach, appropriate technological and institutional options and promotional packages.
- Socially excluded populations will be transparently prioritized in the development of annual local WASH plans and budgets; and

[22] The current guidelines has been found to limited in scope as per GESI thematic working group report

- Additional implementation support and resources will be provided to secure WASH services including considering these principles of water safety and water use master plan for remote and un-reached populations.

7.1.4.2 Improving Functionality

As per NMIP 2014 study, 13m people (39% of the population) do not have functional access to water services, meaning that water flow is not regular, sufficient or safe. Water systems are found to be dysfunctional mainly due to inadequate application of Water Safety Plan principles, negligence, lack of institutional, technical and financial capacity of the users committee to undertake major repairs, and funding issues. Poor functionality of water supply and unsafe drinking water posses risks in sustaining results in improved sanitation & hygiene, and is undermining potential health benefits. The common tendency to use available resources only on new projects rather than on maintenance is seriously flawed. This may by partly explained by the greater political visibility for the Government in the delivery of WASH and reluctance on the part of development partners to allocate sufficient resources to maintenance partly because they are understandably unwilling to subsidize operation and maintenance.

Strategic Actions

In its quest for improving sustainability, the WASH sector will henceforth give a serious attention to improving functionality of WASH services by developing a dedicated national programme and institutional support mechanisms to address functionality and to thereby ensure sustainability of dysfunctional water systems. This would entail the following measures:

- Government will prepare water operation and maintenance/functionality guidelines for use sector-wide;
- Based on the latest National Information Management Project 2014 report and successive functionality reports, the projects will be identified and depicted in the village and district maps by applying GIS tools and techniques;
- The nature of dysfunctionality will be categorized into social, institutional and financial components with appropriate solutions;
- The projects will be then ranked in the ascending order of cost-effectiveness and then implemented first with those projects that are estimated at the lowest cost;
- While registration of water source in District Water Resource Committee (DWRC) is mandatory prior to the project implementation, this has not been found to be the case in all projects. For any rehabilitation projects, registration will be strictly enforced;
- For any rehabilitation projects or new system construction, WUSCs commitment will be required, through development of a Water Safety Plan, cost sharing, training, establishment of tariff, and reporting etc;
- The existing Water Supply Services and Monitoring Unit within each Water Supply and Sanitation Division Office will be strengthened and made capable to provide post construction support services; and
- The Water Use Master Plan (WUMP) guidelines, which is a tool to assist communities and planners in better understanding the water situation and use in a locality, be it a village or a watershed across several administrative units, will be applied, where feasible for multiple use of water for domestic uses and livelihoods. This guideline has been developed[23] based on good practice over the years, and will prove an effective planning

[23] MoWSS/MoFALD, 2015 with support from HELVETAS, DoLIDAR and Embassy of Finland

tool for raising water security for human use, livelihood and economic development and watershed management.

7.1.4.3 Adhering to National Water Quality Standards

While the access to water supply has significantly increased over the past decade, the quality of the supplied water remains a big challenge. The water is not always safe even when it is supplied through systematic piped water systems. Many of improved or even treated/safe water may be contaminated during transmission, distribution and household use. Study shows that only 12-15% of people are reported to have access of treated water[24]. Arsenic is a silent killer in

Terai districts[25] as people resorting to ground water are vulnerable to arsenic poisoning. Due to the lack of an effective monitoring and surveillance system, National Drinking Water Quality Standards (NDQWS) is not adhered to across the sector creating serious health risks to the citizens.

Strategic Actions

- NDWQS and guidelines will be revised and made available to the stakeholder. Adherence to NDQWS by all the service providers will be strictly enforced. Collection of water quality information from water service providers and sharing it with surveillance and regulatory agency will be made mandatory. Based on results, incremental improvement plan will be made and implemented for ensuring safe water;
- Principles of water safety measures such as those mentioned in the Water Satefy Plan (WSP) will be applied consistently during the project planning and design by the service providers and users to ensure national water standards right from the source to the consumption points of the people. It contains critical steps such as water system analysis from source to delivery points with vulnerability analysis of each unit, identification of possible contamination, identification of mitigation of the contamination in each units, emergency and alternative measures, monitoring of all the units periodically, analysis of effectiveness of the mitigation measures, documentation and verification of the mitigation measures and maintenance of the water quality, survey of users satisfaction, and reporting. WSP guidelines will be applied sector-wide through awareness raising, capacity building and advocacy measures for water testing, risk management, regulatory reporting and auditing;
- As a lead government agency for WASH, DWSS will establish an institutional monitoring system on water quality. Introducing specific interventions such as regional water quality testing labs and treatment systems in the outbreak-prone districts will be an integral part water quality monitoring;
- Regularly monitoring of arsenic contaminated areas to better understand arsenic dynamics in the ground water and assess the performance of mitigation options, and strengthening arsenic mitigation measures in the affected areas;
- Ministry of Health and Population and its agencies will strengthen water quality surveillance system. Preparing a plan and conducting direct assessment based on random sampling covering at least 5% water supply systems annually will be a priority; and
- Only those projects that meet national quality standards will be reported in the national water coverage figures.

[24] JSR2 Technical Report, p23
[25] Highly arsenic affected districts in the Terai include: Bardiya, Banke, Parsa, Bara, Rautahat, Sarlahi, Saptari, Siraha, Sunsari

7.1.4.4 Rural Sanitation and Hygiene

7.1.4.4.1 Total Sanitation and Hygiene Behavior

Sanitation and hygiene are being implemented as per the National Hygiene and Sanitation Master Plan (2011) and will be further deepened based on Total Sanitation Guidelines (2015). All government agencies, local bodies, development partners, I/NGOs, and other WASH stakeholders will adhere to the principles and approaches mentioned in this Plan and Guidelines while planning and implementing sanitation and hygiene in WASH projects. The Master Plan has recognized the local bodes as the lead agencies with coordination committees at various levels.

Improving sanitation is not just about sanitation infrastructure. Much is dependent upon human behavior change for achieving total sanitation. As many VDCs, Municipality and Districts have already declared ODF, the next step is to scale up the sanitation movement throughout the country by advancing total sanitation.

Strategic Actions

- The "Total Sanitation Guidelines" (2015) will be uniformly applied across the country to support the communities to improve sanitation ladder through inclusive, effective and sustainable approaches and realize total sanitation outcomes. The Total Sanitation Guidelines includes clear approaches and indicators for the clean house, community, village, district and Municipality;
- Hygiene promotion will be contextualized based on proper hygiene barrier analysis. Based on diverse contexts and geographic settings, people-friendly approach, technology and Behavior Change Communication (BCC) materials will be developed with proper behavior change monitoring indicators for creating sustained behaviour change, targeting emotional drivers, and social marketing;
- As the lead of D WASH CC in the district, the capacity of DDC will be strengthened to enhance conducive enabling environment, uniformity on policy, working modalities and approach in the district and villages; and
- Monitoring mechanism will be further strengthened for ensuring sustainability of public and institutional sanitation services; and
- The sector will conduct specific research and address the factors that hold back the prioritization of sanitation and hygiene and the adoption of good hygiene practices.

7.1.4.4.2 Local Plans

Scaling up ODF progress and improving its sustainability is dependent on the further strengthening of enabling environments for rural sanitation. Analysis of the factors that lead to higher ODF success rates and more sustainable outcomes – for instance, why outcomes are better in one area than another should be an essential part of any local programming.

Strategic Actions

- Verification of ODF declared areas will be studied and improvement actions formulated to ensure sustainability;
- Local bodies will develop strategic sanitation plans for the respective areas that elaborate the role of ODF in creating large-scale demand for sanitation, and financing sanitation for achieving total sanitation.

7.1.4.4.3 Terai Sanitation Programme

Eight Terai districts (Saptari, Siraha, Dhanusa, Mahottari, Sarlahi, Rautahat, Bara and Parsa) have less than 30% sanitation coverage.

Strategic Actions

- Based on feedback from Terai Conference on Sanitation held in Janakpur in early 2014, GoN has formulated a specific strategy for eight Terai districts, which will be accelerated;
- An integrated strategy combining community awareness, ODF, social campaign, human resource development, and sanitation marketing will be implemented to improve total sanitation in these districts.

7.1.4.4.4 Locally Managed Financial Support Mechanism for Sanitation

Strategic Actions

- Inadequate budget is a barrier to realize sanitation outcomes at the local level. Integrated WASH projects will have specific sanitation and hygiene components with dedicated budget lines (min 20% of the total WASH budget). Local bodies will also allocate sufficient budget on sanitation to the approved WASH plans through DDC/VDC block grants.
- As defined in the Hygiene and Sanitation Master Plan, sanitation system will discourage subsidy, promote local ownership and management while also addressing the specific needs of poor and socially excluded communities. The degree to which this is achieved is dependent on the type of sanitation system and support mechanisms for administration and software including behavioral change components and sanitation marketing initiatives.

7.1.4.4.5 Sanitation Marketing

Strategic Actions

- To take sanitation to scale, sanitation marketing will be promoted by combining demand-side and supply-side measures to generate widespread sanitation demand and increase the supply of sanitation products and services at scale;
- This approach will be designed to be responsive to the variation in demands from community members with different levels of existing sanitation service and resources, so as to enable community members to upgrade over time - an important factor for sustainability.

7.1.4.5 WASH in Community Institutions

Strategic Actions

- Within the designated area, all the community institutions (schools, health institutions etc) and other public office places (VDCs, community buildings etc) will be provided with WASH services;
- While planning for WASH services, due attention will be paid for child, gender and differently-abled friendly processes and technologies with sufficient supply of water and separate toilets for women and girls including hand washing with soap and menstrual hygiene management;

- Safe, clean and effective WASH in schools must be a priority as this not only increases attendance but provides examples of good practice which are taken on board by the children. For school sanitation there must always be a sufficient ratio of squat and urinals to pupils. The schools must have garbage pit facilities within the school premise; and
- All community institutions will keep their premises in clean and hygienic condition.

7.2 Urban WASH Services

While urban areas are engines of economic growth, accounting for 65% of gross domestic product, unmanaged urban growth poses environmental hazards and can lead to rising urban poverty if economic opportunities and provision of urban WASH and municipal services do not keep up with the growing urban population.

7.2.1 Classification of Urban Areas

The classification of urban areas, which has changed over the years, is based on the existing infrastructure, population, and potential to generate revenues as defined by the Local Self-Governance Act, 1999 and National Urban Policy (2007). The classification is shown in Table 7.

Table 7: Classification of Urban Areas

Urban Category	Minimum Population	Annual Revenue (Rs in Million)	Infrastructure
Metropolitan City	300,000	100	Electricity, roads, drinking water, telecommunications
Sub-metropolitan city	100,000	50	Same as above
Municipality	20,000 (10,000 in the mountain and hill areas)	2 (1 in the case of mountain and hill areas)	Same as above (to a limited extent in the case of mountain and hill areas)
Definition expanded by National Urban Policy, 2007			
Secondary Towns	10,000-50,000	No revenue criterion but population density of at least 10 persons per hectare and at least 50% population dependent on non-agriculture activities.	Basic facilities such as grid Electricity, telecommunications, high school and health Services
Small Towns	5,000-40,000		

Source: Urban Water Supply and Sanitation Policy, 2009

7.2.2 Service Indicators and Standards

WASH services in urban areas comprise of a wide range of standards on water supply, basic household sanitation and environment sanitation including sewage collection, conveyance, treatment and disposal, discharge standards for disposal of effluent from domestic, industrial, commercial and hospital sewage etc.

In water stressed urban areas such as Kathmandu and other major towns, regulation of private tank operators, vendors and other small-scale providers is a serious regulatory gap, especially in slums and informal settlements. Closing this gap through public policy interventions that regulate the quantity, quality and price of water is an immediate priority.

The urban water service will have the standards as defined in the table below.

Table 8: Urban WASH Standards (to be verified)

Service Indicators	Service Levels		
	High	Medium	Basic
Safe	Meets National Drinking Water Quality Standards		
Sufficient: quantity (lpcd) everyday throughout the year Duration of supply (hrs./day) throughout the year	≥100 24	45-100 24	45 4
Physically Accessible	Within the house (fully plumbed)		
Acceptable	Acceptable colour, odour and taste for personal and domestic use. Culturally appropriate and sensitive to gender, differently-abled and privacy requirements. All WASH services in managed institutional environments (housing, industrial estates, academic institutions, hospitals and public institutions have child, gender and differently-abled friendly water services within their premise)		
Affordable	Available and affordable for everyone, even the poorest; The costs for water and sanitation services should not exceed 5% of poor household's income, meaning services must not affect peoples' capacity to acquire other essential goods and services, including food, housing, health services and education		

Table 9: Environment Sanitation Indicators (verify)

	Indicators
 Clean and full Bagmati 60 years ago	All water sources of new projects are duly protected against climate change, water diversion, floods and landslides
	Water and sanitation infrastructure assets are insured against natural disasters
	All city sewerage system are treated before disposal and effluent meet nationally defined disposal standards (include this in Annex)
	All city roads, especially with flooding risks, have storm water drainage system
	Effective faecal sludge management with standard septic tanks, soak away and treatment systems in small and emerging towns. In small towns or Municipalities where households have no access to sanitation sewer (and no plans exist for the next five years for sewerage), Municipalities should ensure that the design of new houses also includes appropriately designed septic tank with soak away systems
	Effective solid waste management practiced at HHs, streets and public places as per the Solid Waste Management Act
	Waste and pollution from industries, hospitals, vehicles etc are within permissible limits without causing adverse health hazards to citizens (include these standards in Annex)
	Over extraction (standards?) of ground water is a state offence
	Rivers and steams flow cleaner, fuller and faster throughout the year

7.2.3 Managing the Water Utility for Efficiency and Equity

In recent years the balance of private and public sector involvement in water has been vigorously debated around the globe. The roles of public and private providers have been a source of much heat in public debate, but considerably less light. Some argue that increased private sector involvement is an automatic route to more and better services, along with greater accountability and transparency. Others claim that water is an essential public good and that the human right to water is fundamentally at odds with market principles. Water is seen as too important to public health, national prosperity and human progress to be left to companies whose objective is primarily to maximize profit rather than to optimize social returns.

Public providers—key to provision and financing
The weakness of public providers is clearly part of the problem in water provision. The source of that weakness varies, though poor governance, ineffective management and the infrastructure decay caused by underinvestment are recurrent issues. Governance structures have a central role - public utilities operate a top-down service provision model that is neither transparent nor responsive to the needs of users. To the extent that any accountability operates, it is towards political power brokers, not the communities being served or is bypassed by the utility.

Operations, in many cases, combine inequity with inefficiency. Much of the water that public utilities provide is unaccounted for, either because it leaks out of pipes that have not been maintained or because of defective billing systems. Low revenue in turn fuels a vicious cycle of deteriorating assets, water losses, low revenue collection, low investment and further infrastructure deterioration. Lost water translates into lost revenues for maintaining or expanding the network.

Strategic Actions
Water utilities cannot be considered in isolation. How well public providers meet standards for efficiency, equity and accountability is conditioned by the wider political culture of service provision—and by wider public investment policies.

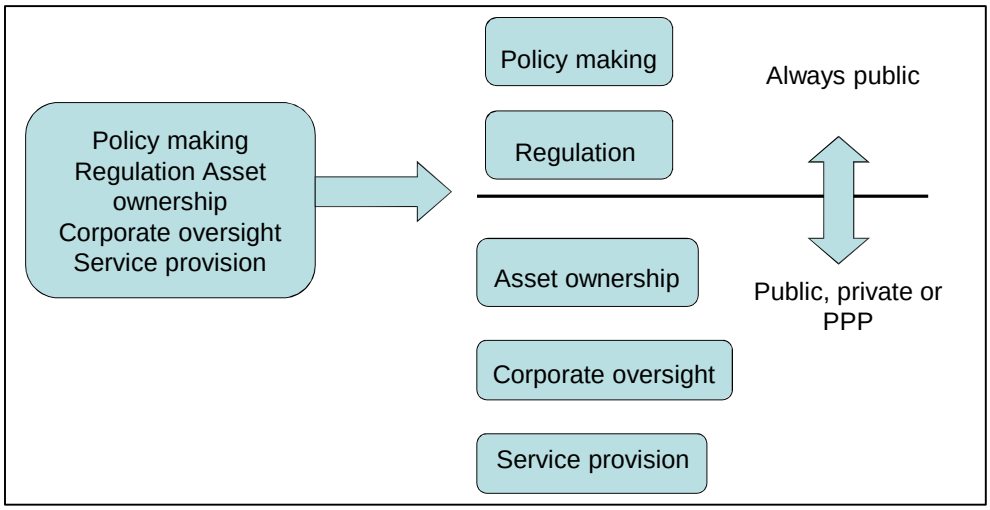
What then are the key requirements for urban water utility reform? While circumstances vary, successful public utilities typically operate in a public policy environment that meets five key conditions:

- Ring-fencing and financial autonomy to guard against political interference in the allocation of resources;
- Participatory and transparent policymaking to support accountability; and
- Separation of the regulator and the service provider, with the regulator overseeing and publishing well defined performance standards
- Addressing specific needs of the poor; and
- Reflecting externalities and environmental impacts

Separation of functions in urban water utility is a basic step towards reducing political interference in the day to day operations of water providers and increasing the clarity and accountability of policy making, regulation and operational oversight and service provision. Separation of these functions is conducive to private sector participation, but that can also provide the basis for more financially autonomous public providers which are set up as legally

autonomous bodies which keep separate accounts and retain a degree of independence in day to day operations.

Fig 16: Separation of Functions



Introducing competition for the right to operate the water network has been central to reform in many developing countries. The diversity in public-private partnerships cautions against lumping all private sector involvement under privatization. A complex array of market arrangements are possible. These arrangements have implications for ownership only in the case of full privatization. The terms on which Government contract the private sector influences management structures, investment patterns and risks.

Table 11: Private participation in water networks takes many forms...

Option	Ownership	Management	Investment	Risk	Duration (years)	Example
Service contract	Public	Shared	Public	Public	1-2	Finland, Maharastra (India)
Management Contract	Public	Private	Public	Pubic	3-5	Johannesburg (South Africa), Atlanta (US)
Lease	Public	Private	Public	Shared	8-15	Abidjan (Cote d'Ivoire), Dakar (Senegal), Kathmandu (Nepal)
Concession	Public	Private	Private	Private	20-30	Manila (Philippines), Jakarta (Indonesia)
Privatization	Private	Private	Private	Private	Unlimited	Chile, UK

Source: Human Development Report (2006), Beyond scarcity: Power, poverty and the global water crisis

Conditions for making PSP-based water reforms work

In practice, establishing PSP is controversial and fraught with difficulty and disappointments for all stakeholders. There are important conditions for making PSP work that exceed those required for reform of a public utility. Unfortunately, in most reform situations these are missing. They include:

- A clear government vision of what PSP will achieve;
- Robust water sector policy reflected in contract conditions, including strong policy in terms of serving the poor;
- An "unbundled" utility which has its assets, operations and regulatory functions separated;
- A competent, confident and independent regulator, free from political interference;
- A commitment from government to monitor how private sector companies comply with their contracts and deal with unexpected outcomes and changes in circumstances;
- The availability to the private operator of information on the utility infrastructure, networks, management and technical challenges;
- Government officials able and available to oversee the design of the contract, define the appropriate roles for the private sector and ensure a value-for-money selection of the contractor;
- Members of the public who are alert enough to scrutinize reforms

Source:

7.2.4 Instituting Effective Governance and Improved Management

Water utilities are among any country's most precious assets. How those utility assets are governed, managed and operated are critical to human development, when a developing country faces grave water security challenges.

While the urban areas in Nepal is growing rapidly, the three models (Water Boards, NWSC and small towns WUSCs put together) cater to less than 50% of urban areas (102/217 Municipalities). Urban WASH utilities have reached only a small fraction of the people while poor people and communities are particularly left behind in terms of reach and access.

The reasons why water utilities in Nepal are in a poor state include:

- Chronic under-financing due to the lack of stable, predictable and sufficient volume of finance;
- High population growth in urban areas without proportionate expansion in the services of utilities;
- Public utilities have been treated as social services;
- Insufficient operational and managerial autonomy;
- Poor governance, management and accountability – no regulatory mechanisms to monitor public utilities or make them accountable for performance;
- Inefficiency – government is often forced to financially 'prop up' failing and bankrupt utilities. The utility cannot expand to serve new customers and uses state funds inefficiently to serve existing ones, almost always the non-poor. This creates a downward spiral.

Innovative, integrated WASH solutions and institutional strengthening measures are therefore required to address growing urban water and environmental sanitation challenges to enable urban people to live, work and play in a healthy environment. The Government will address the WASH challenges in the urban areas by identifying the policy, institutional and implementation barriers to develop an urban water and environmental sanitation strategy in order to deepen and expand effective urban WASH services throughout the country.

As per the Local Self Governance Act (1999), overall responsibility for planning, implementation and monitoring WASH services lies with the Municipality. The functions and duties to be performed mandatory by the municipality are:

- To carry out plans on drinking water and sanitation in the municipal areas and operate, maintain and repair or cause to be operated, maintained and repaired the same; and
- To preserve rivers, streams, ponds, deep water, wells, lakes, stone water taps and utilize or cause them to be utilized properly.

7.2.4.1 Large Municipalities

Experience has shown that a national WASH utility model has many drawbacks including bureaucratic inefficiency and excessive political interference. In many successful countries, urban WASH services are increasingly managed by the local Water Boards with decentralized arrangements to foster improved services, efficiency and responsiveness to local citizens' needs and fairness based on pricing based on affordable costs.

Strategic Actions

- Urban WASH institutional reforms involving establishment and institutionalization of independent local Water Supply Management Boards will be expanded in the large Municipalities throughout Nepal and made functional in line with Water Supply Management Board Act (2006)[26];
- These local Water Supply Management Boards will develop a compressive WASH plan, manage, and operate water supply and sanitation services in municipalities with appropriate institutional arrangements and financing modalities - internal revenue, grants and external assistance (grant/loan);
- As per the Act, the Water Supply Management Board may itself operate the service or engage a service provider, as required, through license/agreement with the service provider. A Board can be constituted within one or more than one Municipality, being operated by any governmental body or corporation in the area;
- MoWSS (as technical lead ministry) and its Departments will give policy and guidance, technical inputs, implementation support and monitor the activities;
- MoFALD (as Governance lead ministry) will support in governance issues and improved coordination at different levels (national and Municipality).

Management Effectiveness

- Adequate investments will be made in infrastructure development (water treatment, storage, and distribution network);
- Governance reforms for greater institutional effectiveness including the setting of minimum service and performance standards;
- Strengthen more efficient and professional management of the utility including changes to the utility's financial structure, and revenues (tariffs) generation;
- Approaches for reaching excluded and vulnerable urban populace, who remain locked out of progress in too many places, is critical

[26] The Board Act (2006) provisions that the sanitation service is also the responsibility of this Board but in reality, sanitation service has not been placed under the jurisdiction of water supply management board wherever such board has been established

- An enabling environment to ensure a proper regulatory environment that protects the rights of consumers and safeguards the objectives of WASH service providers is absolutely essential.
- Citizens engagement will be promoted through their enhanced role to demand for and secure their rights on water services and to hold service providers to account to increasingly comply with water distribution schedule.

7.2.4.2 Towns

The second amendment (2007) to the NWSC Act (1989) provides the legal basis for the transfer of ownership of water and waste water services owned by NWSC to any designated organization as decided by the Government. At the same time, it also opens door for NWSC to engage private companies to operate and manage its systems under management contracts.

Strategic Actions

- The urban WASH reform initiatives of transferring NWSC towns to new local Water Supply Management Boards (WSMB) to develop manage, and operate water supply services will be expanded to more willing towns.
- The Local Water Boards will be supported by providing necessary funds and technical assistance.

7.2.4.3 WUSCs in Small Towns

Institutional strengthening, regulatory mechanisms with defined responsibilities for asset creation (WUSC are now the operators while the GoN is the asset owner), maintenance, financing, cost recovery and expansions are the key components for enhancing WASH services in small towns.

The main issue with WUSCs is that although they are well motivated and even exhibit strong management skills, strengthening their human, technical and financial resources remains an issue. As more towns access the benefits of the small towns water and sanitation project, each new WUSC requires both general and customized capacity building support.

Strategic Actions

- As towns demand increases, development of business plan for WUSCs and process guidance framework for the appropriate legal structure will be developed. Such a business plan will include utility management guidelines - relevant standard operating procedures for technical trouble shooting, operation and maintenance, consumer complaints redress and handling emergencies. WUSCs will be assisted in accounting, and financial management, including preparation of financial statements and audit requirements.
- WUSCs will be encouraged to form Water Supply Management Boards to strengthen their institutional capacity to serve its consumer with enhanced autonomy and independence.
- The legal position of WUSCs will be strengthened as the owners of the water supply and sanitation assets providing them with defined authority and accountability, in order to make them independent and autonomous to take initiatives to undertake further improvements in the service delivery to the consumers.

7.2.5 Implementation Strategies

7.2.5.1 Coverage and Functionality

Water supply in most municipalities and towns are inadequate in terms of overall coverage, water quantity, and quality. Water supply is typically intermittent, with many towns having access to water only a few hours each day. People who do not have access to piped systems use traditional water sources which are typically unprotected, so water quality is usually poor. Inadequate water services and poor sanitation habits have resulted in people using nearby, but often contaminated, sources.

Reliable information on coverage, system performance and service delivery of all water utilities are not available due to lack of benchmarking and monitoring and evaluation of urban water supply and sanitation utilities. Some attempts are being made to this end, however. SEIU has completed bench marking study to monitor and track the performance of WASH utilities in small towns and some NWSC served urban areas.

Strategic Actions

- The Sector will consolidate upon the Benchmarking and Performance Assessment of Service Providers, which was initiated in early 2013, to develop capacity for monitoring functionality and performance of Nepal's urban water supply service providers as an instrument for improved performance of the urban water supply utilities. Recent publications 'Water Service Provider Data Book (2013-2014), and the one before that, capture the critical performance indicators of piped water supply providers, with service areas ranging from 500 connections to well over 10,000 populations; and
- Such Benchmarking and Performance Assessment will be accelerated and made a permanent feature of urban sector monitoring by expanding coverage to all large, medium and small utilities. Findings from assessments will help design appropriate capacity building programmes while also instilling performance improvement measures to improve service delivery, efficiency and accountability.

7.2.5.2 Water Source Protection and Conservation

The catchment areas of urban water sources are largely unprotected from human encroachment and climate change which are the common causes of source pollution, source depletion and conflict on use of water sources.

Appropriate measures will be taken to protect water sources from unforeseen human activities and from potential climate change impacts in the catchment areas that adversely affect the quality and quantity of water sources.

Strategic Actions

- The influencing catchment areas of the surface and ground water sources of water supply sources will be defined and the service provider will be made responsible to protect and preserve the areas to safeguard the quantity and quality of water;
- Use and preservation of archaic and historic water sources like stone spouts, kuwas, wells and ponds, etc will be encouraged for recreational and aesthetic purposes. As an exception, use of such historical water sources as complementary sources of water supply in water scarce areas of the towns and cities will be permitted with adequate catchment protection and water treatment;

- Over extraction of ground water will be strictly prohibited through appropriate regulation and standards;
- Recharge methods to augment water sources will be promoted; and
- Utilities will have integrated adaptation and contingency plan.

7.2.5.3 Adherence to Environmental Protection Laws

It is now being increasingly realized that weak compliance of existing environment laws during the construction and operation of urban water and sanitation projects is causing environmental degradation at local level and adding to the climate change.

The Government, designers and service providers will take concrete measures to ensure that the environment laws are fully complied during the construction and operation of water supply and sanitation projects.

Strategic Actions

- The environment awareness and environment compliance monitoring programs will be made mandatory for all water supply and sanitation projects at construction and operation stages;
- The water supply and sanitation development plans in urban areas will be guided by and implemented in accordance to Environmental Improvement Plans of the concerned towns and cities;
- The water supply and sanitation professional and technicians will be sensitized to the requirement of the environment laws, and expertize will be developed within the sector agencies to carry out environment assessments in accordance to the prevailing environment laws; and
- Existing design guidelines will be reviewed and updated to ensure that the service facility designs minimize the adverse environmental impact during construction and operation of the projects.

7.2.5.4 Alternative Technologies

Use of advanced technologies adopted by developed countries in urban water supply provisions have appear to be unaffordable in Nepali socio-economic conditions and greatly restricts expansion of service coverage due to high investment and operation costs. Cost effective and affordable technologies will be promoted, where required.

Strategic Actions

- Roof top rain water harvesting technology will be promoted in geographical areas with high occurrences of rainfalls and where water supply by conventional means is not feasible;
- Development of artificial lakes and ponds will be considered to hold abundant wet season flow of small rivers and streams to supply communities in dry seasons when source water is greatly depleted;
- Where feasible, the water supply system in mid-hills and along southern foot hills will be designed based both on surface and ground water sources to supply most of water supply from surface sources and deficient water from ground water sources; and
- Management of watershed ecosystem in line with integrated water use will be facilitated.

7.2.5.5 Environmental Sanitation

With the growing urban population and massive extension of towns and consequences thereof, the need for effective planning and delivery of environmental sanitation services remains one of the major intractable challenges facing the sector, Municipalities and the small and emerging towns in Nepal.

As per Census 2011, 91% of urban population has access to sanitation. While 30% of urban population has their toilets connected to sewer system and 48% to the septic tanks, effective management of on-site urban sanitation systems thus far has remained a neglected component.

Urban environmental sanitation and its impact on environment and public health is an important issue that will become more critical in the days ahead. Furthermore, urban sanitation is more complex than rural sanitation because it includes issues such as management of wastewater, storm water and solid waste, land issues and it involves multiple agencies and heterogeneous communities.

7.2.5.5.1 City Sanitation Plan

In order to address the issue of urban sanitation, GoN has introduced policies such as Urban Water Supply and Sanitation Policy (2009); Bagmati Action Plan, and Solid Waste Management Act (2012). More recently, the Government has launched the “Safa Sahar” (Clean City) Programme, which includes five components – waste management; water and wastewater management; greenery promotion, pollution control and city beautification. The challenge now is to build local capacity and prepare and invest in plans to implement these polices.

City Sanitation Plans are strategic planning processes for citywide sanitation sector development through sewered, decentralized and on-site systems, integrated approaches involving Reduce, Reuse, Recycle and Recover and demonstration of replicable models. To manage water resources, water safety plans (WSP) exist. The City Sanitation Plan will include the following major components as appropriate, with due consideration on slums and informal settlements:

- Accelerating and achieving ODF status in all cities;
- Effective management of wastewater through sewerage with treatment and drainage systems;
- Faecal sludge management and treatment; and
- Strengthening sustainable solid waste management systems.

Strategic Actions

- Based on the National Sanitation and Hygiene Master Plan and Total Sanitation Guidelines, and "Clean City Programme", Municipalities will be supported to prepare a city-wide sanitation plan and guidelines. To meet the total sanitation principles, a city needs a strategic approach;
- A citywide sanitation plan and strategy covers technical aspects, including strategies and programmes for the development for appropriate infrastructure for domestic and industrial wastewater and non-technical aspects, including strategies for the development of non-physical aspects such as community awareness and participation, (b) policy and regulation, (c) institutional capacity, (d) private sector engagement, (e) NGO engagement, (f) financing and tariffs, and (g) monitoring and evaluation.

Guidelines for preparing city sanitation plan include the following:

- Developing sanitation in all parts of the city (citywide), including for the poor residential areas, slums and informal settlements where the health risks are highest;
- Employing appropriate technologies that are suitable to user needs, while ensuring that they are relevant to the city's actual conditions, comply with technical standards, and prevent potential impacts;
- Fostering better use of existing sanitation services, which becomes the basis for developing new services. Encouraging the development of community-based sanitation services, especially in areas where public and private services are difficult to establish;
- Strengthening and enabling institutional and regulatory frameworks to accelerate sanitation services development;
- Enhancing synergy among the actors in sanitation development, including municipality, the private sector, NGOs, and others with DWSS as the technical agency. Engaging stakeholder groups, including women groups, in sanitation planning, in line with their respective capacities;
- Promoting awareness of health and hygiene behavior while creating demand for better sanitation services;
- Increasing funding from sources other than municipality, such as from the national and local bodies, development partners, the private sector. Creating opportunities and incentives for private sector initiatives in the development and operation of sanitation services;
- Adopting step-wise sanitation development as available resources allow.

These approaches and guidelines will also serve as main resource materials during training to municipalities.

7.2.5.5.2 An Institutional Home for Urban Sanitation Services

Even more than urban water services, environmental sanitation suffers from lack of a clear policy on institutional roles and responsibilities that has led to fragmented project mode of working.

Kathmandu Valley: Agencies currently involved in sanitation services in Kathmandu Valley include KBWSMB, Municipalities, High Powered Committee for Integrated Development of Bagmati Civilization. In Kathmandu Valley, KVWSMB is the main agency responsible for development and management of sanitation service as per WSMB Act, and KUKL is providing sanitation services under the provisions of license issued by KVWSMB. However, the sanitation service provided by KUKL is more focused on sewerage not covering other aspects of sanitation.

There are still other agencies like Kathmandu Valley Development Authority, DoR, and Users Committees who are involved mostly in construction of sanitation infrastructure. However, due to lack of coordination between the agencies and each agency plans and implements sewer system as per their specific requirement without any consideration of long-term planning and design. This has usually resulted in poorly designed and constructed sewer system. The individual property owners are responsible for construction and maintenance of sewers within their compound and the connecting part outside, leading up to the public sewer.

The involvement of multiple agencies in repair and maintenance of sewers has created lot of confusion among customers and they are sometimes forced to spend considerable time finding

appropriate agency to solve their problem. KUKL collects all sewerage service charges from the customers but it does not respond to all wastewater customer complaints. There is therefore a clear need to define the main agency who is be responsible to provide the sanitation service to the residents of Kathmandu Valley.

Other Municipalities: In other small towns/emerging towns in Nepal, the Municipality, DWSS, DUDBC, I/NGOs, and WUSCs are involved in urban sanitation provision. The Municipality and/or Users committees are the only agencies who carry out operation and maintenance of the services. The Water Supply Management Board Act provisions that the sanitation service can also be the responsibility of this Board but in reality, sanitation service has not been placed under the jurisdiction of Water Supply Management Board wherever such Board has been established. In Hetauda municipality, where Hetauda Water Supply Management Board has been established under WSMB Act, the Board has been entrusted the provision of water supply services but the waste water service provision rests with the Municipality. There is clearly a lack of clarity in defining the role of agency responsible for development and management of sanitation services in urban sector.

Small Towns: Some of small/emerging towns are still VDCs and they do not have the organization structure to look after sanitation. Capacity of local bodies for implementation of sanitation and sustainable operation and maintenance of sanitation is very much lacking.

Strategic Actions

- Develop and define a dedicated institutional home and regulatory framework on urban sanitation services for all Municipalities, city and small towns in Nepal;
- Strengthen institutional, management and operational capacities for development of a sanitation plan and implementation. Assessment of the existing sewerage network and update of the sewerage connection database, and an asset management plan are the prerequisites; and
- Community participation and public education for health, hygiene, and behavior change in water conservation and wastewater management practices will be internal components.

7.2.5.5.3 Technological Options for Urban Sanitation Systems

In the urban context, the broad category of “improved” sanitation provision can be thought of as a sanitation “ladder” extending from pour-flush using water and septic tanks, through to households connections to sewers and the provision of municipal wastewater treatment and drainage systems.

Moving from open defecation at one extreme to the safe collection, storage and disposal of human excreta and the treatment or recycling of sewage effluents poses different challenges in different contexts. For high-density urban areas sewerage systems have obvious advantages. Connections to feeder sewers and trunk sewers are the safest way to separate people and drinking water from human waste: an age-old human development challenge. But where the reach of the sewerage network is limited and the unserved population is large, the capital costs of developing a sewerage system capable of connecting all households can be prohibitive. Under these conditions onsite sanitation or decentralized systems may be the most viable short- to medium-run option.

Sewerage

A sewerage system is an expensive system – for anyone. Conventional sewerage systems require vast investments and also tend to be expensive to operate and maintain. They are also

dependent on a well resourced institutional set-up, with an advanced regulatory and enforcement framework and well trained staff to function properly. Many utilities are not able to meet these criteria and are extra challenged to meet the complex demands for service provision in growing cities typified with rapidly expanding unplanned settlements.

Strategic Actions

- A systematic planning for sewerage network in all large cities;
- Construction and expansion of sewerage system including network and connections with modern wastewater treatment plants and treatment facilities;
- Interceptor sewers along the river banks;
- Energy generation through sludge digestion and gasification;
- Decentralized wastewater treatment systems in low-income areas;
- Prohibiting construction of sewerage in toles without an approved Municipal plan

Decentralized Wastewater Treatment System (DEWATs)

DEWATS are typically adapted in urban and peri-urban low income areas where access to centralized sewer and wastewater treatment systems is limited. DEWATS are designed to be low maintenance with no technical energy inputs, are not mechanized and are designed, implemented and operated with strong community participation. Some DEWATS have been installed in Nepal since 1997 as an alternative to conventional systems.

Strategic Actions

- The guiding principle in DEWATs will focused on quality rather than quantity to ensure sustainable management;
- The following conditions will be met: (i) availability of suitable Government or community land; (ii) willingness and participation of the community during design, implementation and operation and maintenance; (iii) identification of suitable communities that do not have access to the centralized sewer network; (iv) development of operation and maintenance plan including identification of fund availability; and (v) establishment of appropriate design criteria.

Storm Water Drainage

Both combined and separate sewerage systems are being used in Nepal. While Kathmandu Valley adopts combined system, Biratnagar and Birgunj have adopted have adopted separate systems**.** For many Municipalities, particularly the recent formed ones, the concept of management of both municipal sewage and storm water drainage is yet to emerge.

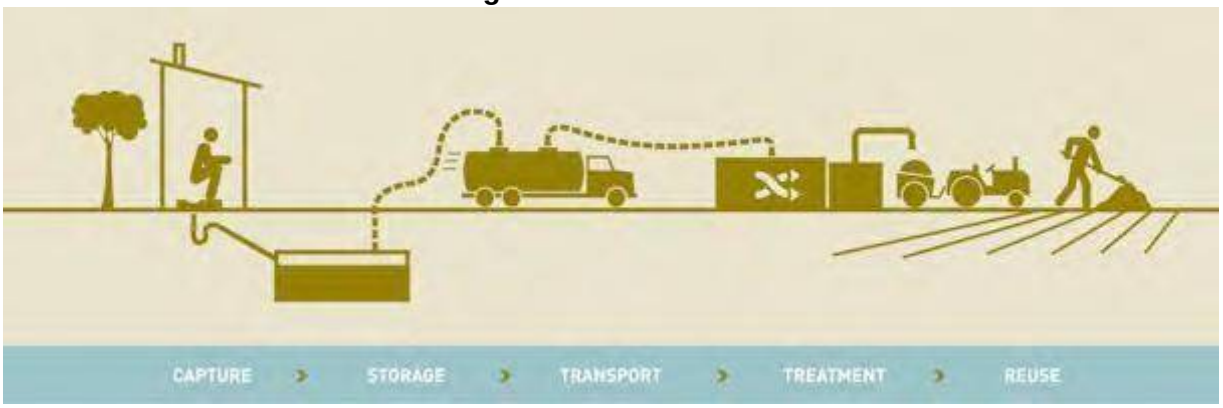
Strategic Actions

- Preparation of drainage master plans and provision of priority drains in towns with flooding risks; and
- Separation of storm water drainage along all black topped road.

Fecal Sludge Management

Fecal sludge possesses an environmental health risk if not treated and disposed of on water bodies and land. There is currently a lack of demonstrable city-wide level Fecal Sludge Management (FSM) model in Nepal. Even major cities like Kathmandu and Pokhara do not have operational faecal sludge treatment systems in place. Some private sectors are engaged in the emptying and collection business in some towns. But in the absence of disposal and treatment facilities, the sanitation service chain remains incomplete. Additionally, there is a lack of O&M and business model supporting long term sustainability of FSM systems.

Fig 17: FSM Value Chain



(add source of diagram)

Strategic Actions

- FSM is increasingly becoming a priority development agenda for the national government, local bodies, communities and households for advancing total sanitation particularly in small towns;
- A systems perspective in FSM, shown above, refers to addressing the entire sanitation value chain from the point of generation to treatment and end use. Following a national workshop on FSM organized by DWSS in March 2015, sample designs for septic tanks and FSM treatment plant, an operational manual and institutional and regulatory framework are being developed to aid operationalization of FSM in small towns in Nepal;
- When properly managed or treated, human excreta and urine represent valuable resources for agriculture, eg when kept separate as an organic fertilizer or when combined as a biogas to generate energy. Reduce, Reuse, Recycle options will be explored on FSM considering health, legal, technical, and social issues.

7.2.5.5.4 Public Sanitation Services

The shortage of public wash rooms has become the single biggest problem for commuters in the capital Kathmandu and other large cities. Cutting back on water intake or holding back on urination because there are no clean and affordable public toilets nearby, can cause health problems, like kidney failure and urinary tract infections. There are only **X** public toilets to cater to the Kathmandu Valley's 2.5m strong population. The public wash rooms in Municipalities and cities are not only unhygienic but are not sensitive to children and differently-abled persons.

Strategic Actions

- Research and development to establish effective public toilets in key public areas;
- Provide technical assistance to Municipalities to develop standards and guidelines for the establishment of gender and differently-abled toilets;
- In densely populated city like Kathmandu, public toilets will be viewed as a business model for sustainable sanitation service delivery;
- An operational model with cross subsidy or support from corporate bodies will be explored;
- No new schools, colleges, bus stands, dispensaries will be permitted without gender friendly and differently-abled toilets; and
- Exploring mobile sanitation services where required.

7.2.5.5.5 Environmental Monitoring and Compliance

Surface water sources, especially in urban areas, have been heavily polluted by the discharge of untreated wastewaters and dumping of septic sludge from on-site sanitation systems. Densely located on-site sanitation facilities, such as septic tanks and pit-latrines, in urban localities have been posing risk of ground water pollution. To minimize such risks appropriate environmental monitoring measures will be taken in a phased manner to improve waste water management and to prevent surface and ground water pollution.

Strategic Actions

- The Government will set wastewater quality standards[27] for discharging all kinds of wastewater into natural water bodies and agricultural lands. The standards will be enforced in order of priority setting according to the severity of pollution of surface and ground water sources;
- Preferences will be given to the application of wastewater, with appropriate treatment meeting wastewater quality standards, on agricultural lands against the discharges into the surface waters;
- Hospitals, commercial establishments and industries will be required to treat their wastewaters on-site before so that they meet the wastewater standards before they are discharged into the public sewers;
- Establishment of a properly equipped laboratory on waste water compliance monitoring.

7.2.5.6 Cost Sharing and Financial Sustainability

From a commercial perspective, the aim for WASH service providers is to generate enough revenue to cover their recurrent costs, with the capital costs of expanding infrastructure covered through a mix of cost sharing between public spending, investment from the service provider and community contribution. From the human development perspective there is a limit to cost recovery through tariff. That limit is the point at which water and sanitation services become unaffordable to poor households. Targeting full cost recovery would put water security beyond the reach of millions of people now lacking access to water services.

The present practice for the water systems in the large Municipalities is that GoN provides 100% capital costs while citizens pay tariff fixed by the Water Tariff Fixation Committee. Included in the water bill is some charge for meeting sewerage cost as well. On the other hand, in the small towns, GoN provides 70% of the capital cost while users pitch in 30% with 5% upfront cash and 25% of capital cost payment through tariff over a 20 years time. Sanitation too is a joint responsibility with 85% of the capital cost borne by the GoN and the rest 15% shouldered by the local bodies/WUSCs in small towns.

It is essential that economic costs involved in operating Urban WASH services are jointly shared and recovered at an appropriate level to ensure their long term sustainability and ownership.

Strategic Actions

- Flexible financing mechanisms with appropriate cost-sharing will be adopted depending upon socio-economic, geographic, technological and institutional characteristics for specific urban systems;

[27] The standards for the treated wastewater have been set in the Urban Environment Management Directives (2011) but there is no clarity on the arrangements for monitoring and regulation and penalties for non-compliance.

- Tariff system will be a function of affordable norms in Nepal while ensuring poor segments of the society are not left out. Specific measures (such as output-based aid[28]) will be adopted to ensure poor have access to and benefit from services;
- Care will be taken in system development, operation and maintenance to reduce financial burden to consumers by rationalizing designs, social audit practices through promotion of structured public consultations and introducing favorable financing; and
- Adequate funding to deal with wastewater treatment, management of waste in an appropriate manner shall be made available by the Government within its resources on a priority basis for the urban areas.

7.3 Disaster Risk Reduction

In many locations**,** communities report source depletion resulting into inadequate quantity of water – the reason they attribute are unprotected source environment and possible impact of climate change. The goal of integrating disaster risk management in WASH is to mitigate the impact of hazards on WASH services while ensuring rapid service recovery and sustained services after disaster.

Strategic Actions

- Mainstreaming disaster risk reduction and climate change in the new Water Supply and Sanitation Policy and Act to create an enabling environment to address risk and vulnerabilities;
- Source protection, and augmentation where possible, to be made mandatory in project surveys, designs and implementation;
- Improving community resilience, among others, by increasing the physical robustness of WASH assets, rehabilitation of infrastructure and mitigating disaster risk through improved analysis and practices;
- Improving adaptive capacity against floods and landslides through community based water resource management which includes extending and sustaining improved water supply services, increasing water storage capacity, strengthening the monitoring of water availability, quality and use, facilitating community-level risk assessment while ensuring use of technologies and innovation that are best adapted to changing climates and water saving practices in domestic consumption and agriculture;
- Developing and implementing relief, response and recovery including strengthening capacities of community, service providers and coordinating agencies such as V WASH , D WASH and M WASH CCs; and
- Allocating upto 5% budget of the WASH sector for climate change and disaster management and to timely reinstate projects affected by disasters.

7.3.1 Restoring and Rebuilding WASH Services Post Earthquake

The April 25, 2015 massive earthquake that struck Nepal and a series of after shocks have caused a heavy damages and loss to WASH infrastructure depriving sustainable access of WASH services to the people and communities in 31 affected districts.

The net total value of damages and change in economic flows to the water and sanitation

sector is estimated at NRs 11.4 billion at pre-disaster prices, of which NRs 10.5 billion pertains to infrastructure and physical assets. The total needs for recovery and reconstruction, using the principle of building back better, is estimated at NRs 18.1 billion, of which 25% is needed for FY 2015-16, 40% for FY 2016-17 and 35% for FY 2017-18.

The findings from the WASH PDNA show that out of a total 11,288 water supply systems in the 14 severely affected districts, 1,570 sustained major damages and 3,663 were partially damaged and that approximately 220,000 toilets where partially or totally destroyed. Likewise, of the total 16,433 water supply systems in the 17 moderately affected districts, 747 sustained major damages and 1,761 were partially damaged and approximately 168,000 toilets where partially or totally destroyed. In addition, 6 DWSS buildings have completely collapsed, and a further 47 have suffered partial damage in the affected districts.

Table 12: Summary Table with Damage, Loss and Needs

Nos. of districts	Damages, NRs (b)	Losses, NRs (m)	Total effects NRs (b)	Total effects US$ (m)	Recovery needs NRs (b)	Recovery needs US$ (m)
31 districts	10.5	873	11.4	114	18.1	181

Source: PDNA, NPC, June 2015

Strategic Actions

Short-term activities: These will build on the ongoing emergency response and run through July 2016 giving priority to:

- Temporary or provisional repairs to water systems;
- Rebuilding of toilets and handwashing;
- Resumption of the ODF campaign, household water treatment;
- Restoring and strengthen institutional capacity to coordinate and implement short-term recovery needs; and
- Undertaking disaster preparedness measures. Rehabilitation of damaged projects will be also be carried out during the period.

Medium to long-term recovery activities: These will be implemented from July 2016 through to July 2018 with sharp focus on building back better with priority on:

- Continuation of rehabilitating and constructing of new rural and urban water systems;
- Implementing the water safety plan;
- Resuming at-scale of the Social Movement for Sanitation;
- Implementing urban sludge management;
- Building community and institutional capacity in disaster risk management;
- Strengthening governance especially among service providers;
- Strengthening sector monitoring, including for equity; and
- Completing the planned sector reform processes that are embodied in the Sector Development Plan.

8 Sector Capacity

From sector governance perspective, the key objective of WASH sector is to enhance institutional and management capacity of the sector stakeholders (both supply and demand side) to define and achieve shared sector objectives, solve challenges, and address emerging sector development needs in a broad context and in a sustainable manner.

While the WASH sector has a stock of capacity building and training materials, they are developed for individual organization's needs and requirements, and hence not used sector wide. Most of the packages focus only on project planning, implementation and construction of the WASH projects with less consideration for sustainability of services.

8.1 National WASH Training Center

Each sector agency has been planning and implementing its own training activities. Where convenient, cooperation arrangements are organized between and among the agencies or projects. At the core of these training efforts is the Central Human Resources Development Unit (CHRDU). In June 2014, the ministry approved the renaming of CHRDU as National WASH Training Center with a view towards transforming it into a WASH sector training leader. The NWSSTC is an ISO 9001:2008 Quality Management System certified training center.

N WASH TC is located in Nagarkot, about 26 kilometers from Kathmandu. The office in DWSS Panipokhari is merely considered as a liaison office. The Training Center is equipped with necessary office, auditoriums, classrooms, hostels tools and logistic support to carry out training activities. All classrooms and auditoriums are fitted with modern audio visual equipment. In addition, N WASH TC has also set up a WASH Museum, a Hand Wash Resource Center and an Eco-san Resource Center. It has different models such as toilets with various onsite treatment set-ups, composting and other resource recovery facilities, rainwater harvesting, water treatment processes and others.

Vision: The N WASH TC's vision is to equip the Nepal WASH sector with competent, capable and knowledgeable human resources for effective and efficient sector planning, service delivery. The N WASH TC envisions a Nepal WASH Sector in which people manage their water and environmental resources in a sustainable manner, and in which, all sections of society, especially the poor and the underprivileged, can enjoy the benefits of the services.

Mission: To ensure the availability of motivated, competent, responsive, respected and certified WASH sector managers and policy makers, project managers and engineers, and service delivery managers and technicians. N WASH TC seeks to contribute to the establishment of a transparent, accountable and fair working environment. It develops innovation, provides new knowledge, and promotes the uptake of technologies and policies.

N WASH TC strives to be the leader in all WASH training and development activities in Nepal. As the Center of Excellence, it will act as a "lynch pin" for all training and development activities in the WASH sector. N WASH TC will not compete with other WASH training providers, rather, it will try to enhance the capacity of all in-house training units of WASH agencies of GoN and other training providers.

N WASH core components include**:**

- Training for water sector professionals, engineers, scientists, consultants, policy makers, WUSC members, users and other stakeholders;
- Research that establishes strong linkages between policy, practices and the empowerment of people. Technical issues such as: (a) development and optimization of appropriate technologies that are socio-economically and environmentally sound, (b) soft issues, like community dynamics and their management skills, marketing and business opportunities, cost-benefit estimates of implementation, and (c) impact on livelihoods and productivity that provide access to safe water and sanitation;
- Water sector capacity development, based on identified needs for water sector ministries and departments, municipalities, DDCs, VDCs, coordination committees, water boards, water utilities, education training and research institutes, industries, NGOs, private sector organizations, WUSCs, communities and users;
- Partnership building and networking for WASH at the national and international levels, through programmes like Water Operators Partnership (WOP); and
- Standards setting for training for agencies in WASH sector.

Current Training Policies, Programmes and Practices: Besides providing cost-based services, majority of training programs are sponsored by N WASH TC itself through its regular budget. N WASH TC provides training and consulting services to many Government agencies, (I)NGOs and CBOs, Water Utilities and Consumers. N WASH TC regularly updates and publishes training manuals, books and guidelines.

8.2 Capacity Development Plan

Strategic Actions

- N WASH TC has recently completed a comprehensive capacity assessment identifying pertinent target groups and training modules for different levels from the central to local and communities. Based on institutional, operational and technical requirements, a sector wide capacity building plan will be developed to address present and future capacity requirements.
- A Capacity Building Fund will be established at N WASH TC to address sector-wide capacity building requirements in an integrated manner and to thereby enable the training center to increasingly become a "center of excellence" with state-of-the-art skills, knowledge and competence.
- Compared to rural WASH institutions, urban management models and approaches are still evolving. The responsible institutions are confronted with the rapid pace with which urban settlements are becoming stressed with the lack of water and sanitation services due to rapid urbanization and growing number of Municipalities. Capacity development is an urgent need for improving the ability of water sector professionals and service providers to better plan and manage water and environmental sanitation including solid, liquid waste and faecal sludge management for urban residents. This warrants a focused attention with necessary investments for capacity building measures for developing institutional capacity and credible sector professionals for effective urban WASH management.

8.2.1 Capacity Building Manuals and Guidelines

Strategic Actions

- WASH manuals, guidelines and other relevant training materials for capacity building will be reviewed, updated and adopted. The prominent ones include: equity and inclusion framework, urban utility, disaster risk reduction/emergency preparedness and response and others identified areas;
- Technical manuals including operation and maintenance are required for different types and components of urban and rural WASH; and
- Manuals will be both in English and Nepali languages as appropriate for the intended user group.

8.3 Innovation, Research and Development

Research, innovation and learning are central to sector development in Nepal. The sector needs to continuously review, refine and adapt its programming, approaches and technologies to make sure that the work is sustainable, innovative, relevant and effective. Rapid urbanization, rural-urban migration, and densification of urban agglomerations, in combination with the climate change continuously challenge the WASH community in provision of innovative and sustainable solutions concerning safe and reliable water supply and sanitation services.

Strategic Actions

- Based on sector-wide identification of additional research and innovation that are required which have a bearing on overall sector development, research topics and innovation areas will be identified and implemented; and
- The federal structure in Nepal will have a significant bearing on the governance and management of WASH services which will have to be addressed through development of appropriate of institutional models, strategy and approaches.

9 Sector Coordination

The efforts of the last five years in which the sector has tried to move from a fragmented, multi-institutional-set up to a more harmonized, collaborative and effective environment are already paying off. The sanitation movement throughout the country has shown the efficacy of WASH Coordination Committees of joint-up working modality, networking and stakeholder wide collaboration, especially at district level. The two successful national Joint Sector Reviews have further generated appreciation, confidence and commitment among all sector actors for common purpose and plan which will be consolidated in the years ahead.

9.1 Steering and Coordination Committees

Strategic Actions

- The existing National Sanitation and Hygiene Steering Committee (NSHSC) will be reconstituted as National Water Sanitation and Hygiene Steering Committee (N WASH SC) so as to integrate water, Sanitation and Hygiene. It will be led by Minister for Water Supply and Sanitation in close cooperation from Local Development, Health and Education, and Environment to provide direction and oversight to WASH development, regardless of the aid modalities used while ensuring a clear institutional accountability;
- Similarly, the existing National Sanitation and Hygiene Coordination Committee (NSHCC) will be reconstituted as National Water Sanitation and Hygiene Coordination Committee (N WASH CC) to allow for a more coherent and engaged planning for improved coordination in the sector;
- The WASH Steering and Coordination Committees both at the national and local levels will have enforceable authority for ensure that the policy steering and coordination take place to ensure political buy-in, ownership and improved operations;
- These Committees will have a yearly plan of operations prepared which brings in adequate amount of legitimacy to the sector issues and decisions taken thereof. The implementation of the coordination plan will be assigned to a single point of responsibility;
- Procedures and reporting requirements will be established for these multi stakeholder platforms to allow for a meaningful participation of all relevant stakeholders for robust engagement and decision-making and monitoring processes at different levels; and
- Given the nascent structures, the Coordination Committees at the respective local levels will be strengthened to take up their planning and coordination functions in more effective manner through the development of ToRs.

Table 13 provides new steering and coordination committees at different levels while sector institutional framework is shown in Annex 2.

Table 13: Sector Steering and Coordination Committees

Level	Existing	Rename	Remarks
National	National Sanitation and Hygiene Steering Committee	National WASH Steering Committee (NWASHSC)	Led by Minister, MoWSS
	National Sanitation and Hygiene Coordination Committee (NSHCC)	National Water, Sanitation and Hygiene Coordination Committee (N WASH CC)	Led by Secretary, MoWSS
	Sector Thematic Working Groups (8)	Sector Thematic Working Groups (9) with the addition of Urban WASH Thematic WG	Lead (GoN) with co-leads (DPs)

	Sector Efficiency Improvement Unit	Sector Efficiency and Coordination Improvement Unit (SECIU)	Led by Joint Secretary, MoWSS
Regional	Regional WASH Coordination Committee	Regional WASH Coordination Committee (R WASH CC)	Led by Regional Administrator
District	District Water Supply and Sanitation Coordination Committee (DWASH CC)	District Water Sanitation and Hygiene Coordination Committee (DWASH CC)	Led by DDC Chair
Village	Village Water, Sanitation and Hygiene Coordination Committee (VWASH CC)	Village Water, Sanitation and Hygiene Coordination Committee (VWASH CC)	Led by VDC Chair
Municipality	Municipality Water, Sanitation and Hygiene Coordination Committee (MWASH CC)	Municipality Water, Sanitation and Hygiene Coordination Committee (MWASH CC)	Led by Mayor

9.1.1 Sector Efficiency and Coordination Improvement Unit

Since 2009 the Sector Efficiency Improvement Unit (SEIU) in MoWSS has been the instrument to support and encourage sector coordination and knowledge management. It has worked as the sector secretariat and facilitator to important sector development processes, such as the drafting of an overarching WASH policy and Act and SDP, the capacity building for bench marking and performance assessment of water service providers, sector communication strategy and capacity building and human resources development, with the National Water Supply and Sanitation Training Centre.

Strategic Actions

- The SEIU will be renamed as Sector **Efficiency and Coordination Improvement Unit** (SECIU) to better address emerging challenges on policy, coordination, accountability and responsiveness in the sector. It is only through broadening its current role will SECIU be able to take up its functional responsibilities as the Secretariat to the WASH Steering Committee and Coordination Committee more effectively.
- The key role of SECIU will be to promote improved sector governance and effectiveness through policy development and guidelines, monitoring of policy compliance, building the foundation for and facilitating effective implementation of SDP, organization of JSRs, learning, sharing and innovation for sector development. The key objectives of SECIU are:
    - Act as the WASH Sector Secretariat to enhancing sector coordination and governance;
    - Support formulation of the WASH Sector Development Plans: 2016-2020; 2021-2025, 2026-2030 and their revisions and monitoring;
    - Support MoWSS and the sector in strengthening policy dialogue through the preparation of policy dialogue series and implementing special tasks in institutional development, policy reviews, and efficiency improvement etc;
    - Developing tools, mechanisms and guidelines for enhancing accountability, transparency and responsiveness;
    - Organizing joint sector reviews and preparing annual performance reports and performance benchmarking of service providers; and
    - Undertaking and supporting research development on sector-wide identified priorities; and promoting innovation and knowledge management in the sector through learning and sharing events and other appropriate measures

- The SECIU will be fully institutionalized within MoFWSS structure with in-house capacity through dedicated skilled human resources, budget and a Business Plan. SECIU will have access to "Sector Governance and Accountability Fund" with contributions from national budget and financing from interested DPs.

9.2 Coordination Systems and Networking

9.2.1 Joint Sector Reviews

The joint sector review (JSR) is defined as a forum for sector performance assessment, policy guidance, coherent approach to planning and budgeting. Open to all stakeholders, JSR brings together a broad spectrum of stakeholders comprising of government officials, development partners, NGOs, civil society and the private sector in a single platform to discuss the key challenges that the sector faces, review the progress made and establish key undertakings and targets for the sector until the next JSR.

During February and March 2014, the WASH Sector held its 2nd Joint Sector Review. The process concluded on April 1, with the adoption of a resolution, signed by sector Ministries and representatives of DPs and CSOs.

Strategic Actions

- National Joint Sector Review will be organized bi-annually. For each JSR, discussions, presentations and contributions will be guided by a pre-determined theme originating from recent sector developments, policies and implementation experiences;
- Joint Sector Review will assess the sector progress, achievements of Thematic Working Groups and formulate actions until the next review period;
- Regional review meetings will be organized in between National Joint Sector Review Meeting in the subsequent year to disseminate sector progress, draw from local successes and solicit feedback from the local stakeholders; and
- Based on identified priorities, specific agreements will be concluded between Ministries/Departments for enhancing cross sectoral linkages and collaboration potential.

9.2.2 Thematic Working Groups

Following the first Joint Sector Review (2011), eight Thematic Working Groups (TWGs) were established. These are: (1) Institutional Framework and Capacity Building, (2) Sector Financing, (3) Monitoring and Evaluation, (4) Functionality and Sustainability. (5) Sanitation and Hygiene, (6) Water Quality, (7) Gender Equality and Social Inclusion, and (8) Disaster Risk Reduction and Climate Change Adaptation. These TWGs identify key issues under each theme, and prepare action plans on priority issues that need addressing by the sector, ultimately feeding into the development of sector performance report and subsequent JSR discussions. The composition of Thematic Working Groups is given in Annex 2.

Strategic Actions

- TWGs will be further strengthened with dedicated GoN leadership to advance the JSR declarations and subsequent Action Plans with support from co-leads from the respective DPs;

- An additional TWG on Urban WASH will be established to bring urban stakeholders in a single platform to finds ways and means to address urban WASH challenges as Nepal rapidly urbanizes;
- Each TWGs will share their outcomes with each other, SECIU, MoFWSS and stakeholders at regular intervals; and
- SECIU will provide horizontal coordination support between the TWGs

9.2.3 Sector Stakeholder Group

The existing Rural Water Supply and Sanitation Policy/Strategy (2004) and Urban Water and Sanitation Policy (2009) have clearly delineated the formation of the Sector Stakeholder Group (SSG) for sector dialogue and coordination. The SSG meetings are held every year to bring all sector stakeholders for reviewing sector progress and share sector knowledge.

Strategic Actions

- Organization of SSG meetings every year focused at sector performance, networking and linkages; and
- Documenting and sharing of the SSG meeting outcomes

9.2.4 Learning and Sharing Events

MoFWSS, through SEIU, has set up a systematic monthly sharing and learning mechanism for the sector referred to as learning exchange meetings. Many sector agencies and professionals actively participate in these learning exchanges which provide an excellent forum for dissemination of knowledge and sector information.

Strategic Actions

- Further strengthen learning exchanges by preparing an annual calendar of events; and
- Identify and implement priorities for learning and sharing based on assessment of gaps on sector knowledge.

9.3 Development Partners

Development Partners will coordinate their country-level WASH operations as part of their commitment to improve harmonization under the Paris Declaration (2005) and The Accra Agenda for Action (2008) to enhance aid effectiveness, shared responsibility and mutual accountability.

Strategic Actions

- This coordination will be further strengthened through Development Partners WASH Group that facilitates communication within the Group and joint-up linkages with the government, avoid duplication and reduce transaction costs, with a nominated lead and co-lead representing a spectrum of development partners.

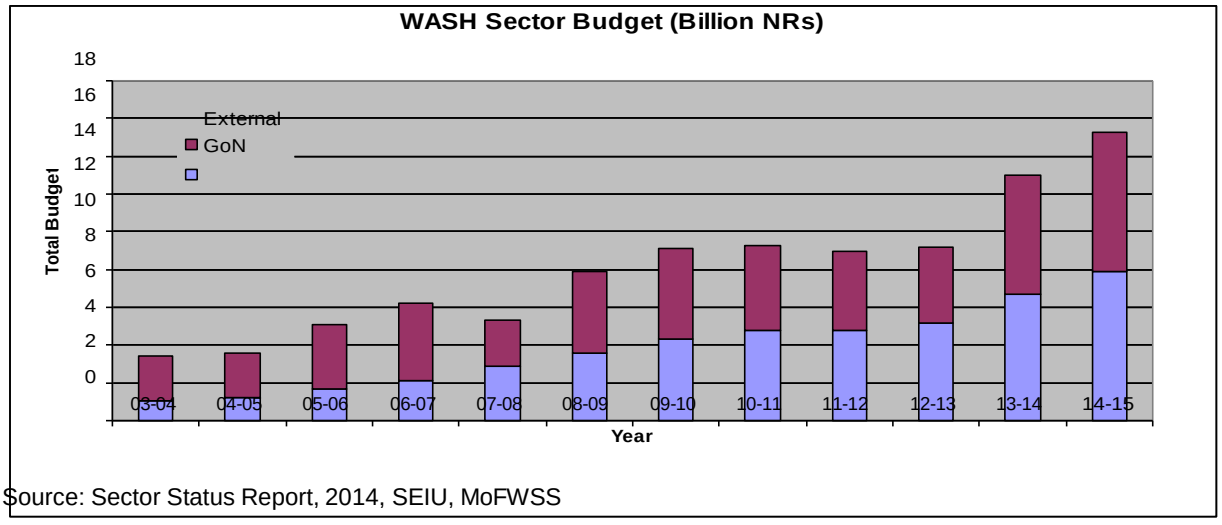
10 Sector Financing

No credible national plan on WASH should fail due to lack of finance. The financing to WASH services is the key to deepening and promoting "healthy and liveable communities and cities" in Nepal where every men, women and children can live, work and play and unlock their potential for development.

Sector financing is perhaps the least developed component amongst the five building blocks. In the absence of consolidated financial information at the national and district levels, sector financing remains poorly tracked. The sector has undertaken limited analysis to analyse flows, efficiencies, expenditures, and value-for-money. The main source for sector financing is through the central government transfers coming from MoFWSS and MoFALD, significant loans from ADB and WB, and grants from UNICEF, Embassy of Finland and WHO and other bilateral agencies.

Fig 17 provides annual budget allocation trend both form internal GoN sources and development partners. Budget from local bodies and from (I)NGO are not included in the Fig shown below. In the absence of total picture, considerable proportion of sector finance appears to be off-budget, which should be accounted for and included as part of sectoral spending.

Fig 17: WASH Sector Budget



Source: Sector Status Report, 2014, SEIU, MoFWSS

(Sector financing strategy is being developed separately but as an integral part of SDP (the outline below is intended as pointers)

10.1 Fiscal Situation of GoN
10.2 Finance Requirements and Gaps (rural and urban by components)
10.3 Financial Flows and Aid Management

10.4 Financing Models (Pooled funds, non-pooled funds, direct, local bodies' block grant, off budget, private sector, contribution, revolving funds)
10.5 Absorption and Utilization Capacity

Strategic Actions

- The WASH sector will formulate a WASH sector financing strategy to finance implementation of WASH Sector Development Plan. The sector finance strategy will articulate financing needs for SDP implementation to realize sector goals and targets, identify financing gaps and avenues for meeting the gaps, and develop financing models for SDP implementation. Such a strategy will be able to: (a) finance national and local WASH plans with a focus on un-reached and un-served areas (b) allocate X% to address functionality, (c) seek avenues for additional financial resources to address growing urban WASH challenges in the Municipalities, emerging and small towns, and (d) explore grants and loans from development, commercial, financing banks for improving service levels;
- There will be enhanced transparency in resource allocation, particularly from national to local levels with budget breakdowns; and
- Joint financing agreements between GoN and DPs will be increasingly used to improve sector alignment; an essential aspect is a commitment on the donors' side to a policy of progressive alignment with national systems, leading to donors' use of government systems and a move towards longer term predictable funding to enable better planning and implementation.

It is useful to consider the financial and other resources that are available to the nation to fill the gaps in WASH. While excluding the issue of transfers of finances (subsidy) to the poor and the unserved, but rather considering the opportunity of an average household, and aggregating this to the national account, the following resources are available.

Public:

- Government funding derived from the national budgeting process (sourced from various taxations and other income accruing to the state);
- Funding provided through loans and grants from development banks and other financial institutions government bonds

Public/private:

- Loans from national financial institutions (TDF and similar);
- Various hybrid arrangements that would defer payments for initial investments to the principal: PPP modalities such as BOOT/BOT.

Service related:

- Water rates, sanitation and sewerage transport and treatment charges, paid for by consumers, industries, institutions, etc. to KUKL, similar water boards, local water supply providers and community water supply user committees, and adequate for the cost recovery and regular operation and maintenance.

Investment for local service improvement:

- Connection charges that include a component to compensate for past investment or future improvement;
- Water and sanitation/sewerage rates that include a surcharge for future improvement;

- Private (bonds - possible for those who receive pensions or remittances) or local loans from local financial institutions;
- Other contributions to facilitate local service improvement: in kind, through voluntary work

11 Sector Performance Monitoring and Evaluation

Effective sector performance is a function of reliability of sector information as a basis for setting realistic targets and monitoring sector performance. Establishing sector information management systems linking inputs, outputs and outcomes is therefore absolutely essential.

11.1 WASH Results Framework

The SDP's main instrument for programming, implementation, and monitoring and evaluation, consists of a Results Framework with Key Performance Indicators (KPIs). Aligned to SDG targets on WASH, the Results Framework is clustered into six components:

- Improved and sustainable water supply services;
- Improved and sustainable sanitation services and hygiene behavior practices;
- Pollution to ground and surface water sources is controlled within national standards;
- Harmonized and aligned WASH sector through governance reforms, improved coordination and inter agency collaboration;
- Strengthened institutional and management capacity to plan and deliver WASH services effectively at national and local levels; and
- Improved transparency, responsiveness and accountability

The Results Framework is given in Table 14.

Table 14: WASH Results Framework

Goal: Improved health and quality of life through equitable and functional access to safe water and sanitation services and sustained hygiene behavior practices for all - everyone, anywhere, everywhere

Impact Indicators

- % reduction in water borne diseases;
- % reduction in school drop out rates among female students due to enhanced access to water and sanitation services;
- % reduction in infant and child morbidity and mortality rates; and
- % increase in the Human Development Index (HDI)

Outcomes		Outputs		Baseline (2015)	Means of Verification
Results Areas (2030)	Key Performance Indicators (2030)	Areas (2020)	Key Performance Indicators (2020)		
1. Adequate, safe, accessible, acceptable affordable water supply services are used by the entire population	• % of people, disaggregated by: (a) location (b) source type, and (c) wealth quintile use improved and sustainable water supply services that meet nationally defined indicators for basic service level - Table X) • % of unserved people, disaggregated by (a) location, (b) source type, and (c) wealth quintile, use improved and sustainable water supply services that meet nationally defined indicators and basic service level - Table X) • At least 25% of population, disaggregated by (a) location (b) source type, and (c) wealth quintile use medium to high level water supply services that meet nationally defined indicators (Table X) • % of households practice correct use of household water treatment technologies in line with recommendations of water	**Rural Water Supply Services** Output 1.1: Local WASH plans with provisions for (a) reaching the unreached, (b) improving water service functionality, and (c) new projects incl consideration for climate and disaster-resilient principles are approved by local councils, funded and implemented nationwide	1.1 All Districts achieve functional access to basic water supply services, that meet national standards, for all		Local WASH Plans Coverage surveys CBS census District Health Surveys
		Output 1.2: Nationwide functionality programme implemented, including measures to rehabilitate projects damaged by disaster	1.2 Non-functionality of rural water supply services reduces to average of X% per District		Functionality reports
		Output 1.3: Principles of water safety and integrated use of water sources are adopted in WASH projects	1.3.1 No. of Projects adopting water safety measures 1.3.2 No. of Projects that are implemented based on consideration of integrated use of water		Progress reports WSP and WUMP traini reports
		Urban Water Supply Output 1.4: Water services improved and expanded to cover all population in 58 old Municipalities	1.4.1 All 58 Municipalities, achieve functional access to water services that meet nationally defined medium/high service levels		Sample surveys Bench marking reports

	safety measures		to all population including poorest quintile households 1.4.2 Non-revenue water decreased by 25% in Municipalities and towns		
		Output 1.5: WASH investment strategy prepared and implemented for all new 159 Municipalities that were declared in 2014 and 2015	1.5 % of new Municipalities achieve functional access to water services that meet nationally defined medium/high service levels to all population including poorest quintile urban households		Investment strategy do Project progress repor Utility reports
2. Improved sanitation services and hygiene behavior practiced by the entire population	• % of people by location, gender, and wealth quintile, practice total sanitation and hygiene behaviors as defined by National Total Sanitation Guidelines (2015) • % of school children, disaggregated by gender, practice hand washing at critical times • % of VDCs and DDCs are declared totally sanitized as per National Total Sanitation Guidelines (2015) • % of Municipality are declared totally sanitized National Total Sanitation Guidelines (2015)	**Rural Sanitation and Hygiene** Output 2.1: Sanitation promotion extended district–wide in all Districts in accordance with Sanitation and Hygiene Master Plan (2011) and Total Sanitation Guidelines (2015)	2.1 VDCs and % DDCs are Districts are declared ODF		Coverage surveys CBS census District Health Surveys District progress repor and ODF verification re
		Output 2.2: Sanitation and hygiene promotion and improved WASH services provided to schools, health institutions	2.2 X% of rural schools, and Y% of health community institutions meet national standards for child, gender and differently-abled friendly WASH services		Progress reports MoE WASH progress r Sample surveys for Jo Sector Reviews
		Output 2.3: Sanitation marketing introduced in X districts to complement community-based sanitation and hygiene promotion	2.3 In X districts, affordable options for improved sanitation are actively promoted and locally available to low-income households		Marketing strategy document(s) Project reports Sample surveys for Joi Sector Reviews
		Urban Sanitation and Hygiene Output 2.4: Sanitation plan prepared in X Municipalities and approved by their councils	2.4.1 Approved sanitation plans in % Municipalities are used for project implementation 2.4.2 % Municipality are declared ODF		Approved City Sanitati Plans and budgets

		Output 2.5: X number of urban households in targeted Municipalities connected to treated sewerage systems	2.5 X% of HHs, including Y% poor HHs, in targeted Municipality gain access to treated sewerage systems		Utility benchmarking re Project progress repor Sample surveys for Joi Sector Reviews
		Output 2.6: Drainage systems improved to alleviate flooding risks in priority areas of X towns	2.6 % reduction in number of flooding incidence in targeted locations		Project Reports Sample surveys for Joi Sector Reviews
		Output 2.6: Effective faecal sludge management systems established in low-income areas of X small/emerging towns	2.7 ….Volume/capita of faecal sludge in Y% towns is treated and safely disposed of in targeted towns		Project reports Sample surveys for Joi Sector Reviews
3. Pollution to ground and surface water sources is controlled within national standards	• % of wastewater and septage that meet national standards before being discharged/safely disposed of • % of waste water and septage safely reused based on the principles of reduce, recycle and recover	Output 3.1: Waste water/effluent quality standards are adopted, disseminated and enforced	3.1 Independent testing confirms % reduction in chemical and biological pollution of water bodies in Kathmandu and 50% of Municipalities		Independent test repor Utility benchmarking re
		Output 3.2: Commercial and industrial operations take action to ensure compliance with effluent standards	3.2 % of commercial and industrial operations fully comply with effluent standards on site		Test reports Sample surveys for Joi Sector Reviews
4. Harmonized and aligned WASH sector through governance reforms, improved coordination and inter agency collaboration	• Increased % of stakeholders align their WASH programmes in line with approved policy and SDP • Joint Sector Reviews exhibit % increment of satisfactory performance (traffic lights) on resolution/action plans of the sector • Independent regulatory body reports increased compliance to policy by the service providers with % reduction in policy-practice gaps every year • Random “drill” reveal sufficiency in institutional capacity and basic supplies to respond to	Output 5.1: Key policy and legal instruments are prepared, approved and disseminated	5.1 Adoption of WASH Policy, Act and Regulations, and Sector Development Plan including Financing Strategy		Approved Policy, Act & Regulation and Sector Development Plan
		Output 5.2: Institutional roles and responsibilities for urban and rural WASH services clearly defined in sector policy and operationalized	5.2.1 Institutional home on rural and urban WASH clearly understood by citizens to demand for their rights on WASH services		Sector policy and strat documents Perception reports
			5.2.2 WUSCs and WASH CCs are legally instituted		Related laws and asso policy directives
		Output 5.3: Independent regulator for WASH services legally constituted through reconfiguration of the Water Tariff Fixation Commission	5.3 Regulator is operational with annual plan of operations		Regulator Constitution Regulator annual repor

	disasters and emergency response in disaster prone areas	Output 5.4: Sector co-ordination structures are reconstituted and operationalized at all levels	5.4 Functional coordination mechanisms with critical sector events (JSRs, SSGs etc) and meetings (SCs, CCs, TWGs) take place as per published schedule and decisions are acted-upon		Minutes of Steering/Co ordination Committees Technical Working Gro Joint Sector Review R
		Output 5.5: Cross sectoral linkages strengthened and operational	5.5 % increase in MoUs between Ministries/Departments (MoFWSS, MoHP, MoE, MoFALD, MoEST etc) demonstrating cross sectoral linkages and collaboration		N WASH CC minutes JSR reports
		Output 5.6: Sector-wide Disaster preparedness and response mechanisms for WASH services updated, published and disseminated	5.6 Increased % of sector institutions institutionalize disaster preparedness and response mechanisms in their agency plans and budgets		Cluster meeting minute Emergency response p
5. Strengthened institutional and management capacity to plan and deliver WASH services effectively at national and local levels	• Increased % of projects are completed on time and on budget compared to last year • % number of annual local WASH plans, prepared through bottom-up planning process approved by respective councils, are recognized for quality and increased funding compared to the previous year • Sector financial performance meets expenditure targets demonstrating absorption capacity and leading to increased financing in the subsequent years	Output 6.1: Sector-wide capacity development master plan formulated and implemented with support from capacity building pooled fund	6.1.1 Implementation of capacity development master plan takes place as approved		Implementation plan re Training calendar Training reports
		Output 6.2: Essential technical, operational manuals/guidelines and tools on WASH prepared/updated and published	6.2 Manuals, guidelines and training materials are widely available		Technical and operatio guidance documents fo local level.
		Output 6.3 Sector Planning Monitoring and Evaluation Systems developed and operationalized for urban and rural WASH services	6.3.1 50% of service providers and utilities collate and disseminate WASH performance as per sector M&E guidelines		Local and national MIS reports

	• The sector is recognized, by GoN/international community, for bringing at least one innovation every year • % of urban WASH utilities adopt improved utility management systems (performance against distribution schedule, e-billing and payment for tariff, quality assurance, non revenue water)		6..3.2 Annual Sector Performance Report is prepared based on sector M&E systems and guidelines		Sector performance re Reports of Joint Sector Reviews
6. Improved transparency, responsiveness and accountability	• % increase in citizens, with a breakdown of women and poor. who believe that WASH sector is responsive and effectively delivering priority services	Output 6.1: Transparency, responsiveness and accountability in policy and service provision are improved	6.1.1 All WASH agencies and service providers visibly display "citizen charters" of their mandated functions in their premises and publications		Sample/perception sur Sector agency progres reports
			6.1.2 Annual sector plan, budget and sector performance report shared sector stakeholders and disseminated to citizens		Written responses to s performance report fro stakeholders and CSO Media coverage
			6.1.3 Grievance redress procedures operational for service users		Records of grievance c and actions taken
		Output 6.2: Strengthened capacity of Users Federation and CSOs to advocate for, and secure their rights on, improved WASH services	6.2.1 Users Federation/CSOs established in all the Districts and Municipalities		Progress reports Sample survey
			6.2.2 % of written cases tabled by Citizens, Users Federation and CSOs are acted upon within a month of written submissions		Progress reports

11.2 Information Management System and Reporting

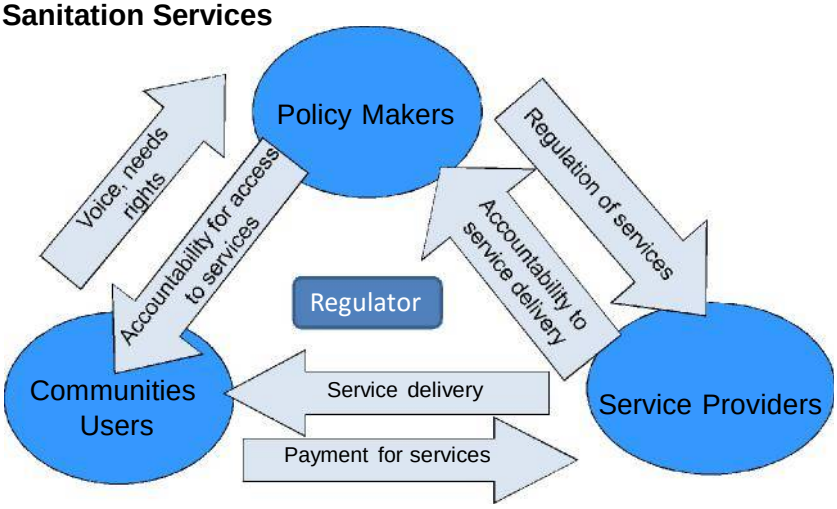
Strategic Actions

- Sector Planning Monitoring and Evaluation Systems will be developed and operationalized for urban and rural WASH services. This will be one of the major outputs during the inception phase of SDP;
- Annual operation plan with targets will be prepared and will have it approved at the WASH Steering and the Coordination Committees at different levels.
- Performance of the WASH sector will be assessed as per agreed sector plan and targets based on which an annual sector performance report will be prepared;
- At the local level, result-based fast track methods for collecting sectoral information under the leadership of WASH CCs will be implemented. Joint field visits to monitor annual progress and to draw lessons for instituting improvements, as appropriate will be integral component; and
- Sector M&E will be reinforced the Minimum Condition Performance Measures (MCPM) being applied by MoFALD.

11.3 Transparency and Accountability

Water integrity refers to the adherence of water stakeholders and institutions of governance principles of transparency, accountability and participation, based on core values of honesty, equity and professionalism. Integrity, by requiring that public interest be paramount, provides the basis for accountable WASH projects and service delivery. For good accountability in WASH services and operation, it is necessary that politicians, policy-makers and WASH service providers are transparent and accept responsibility for their actions and recognize that they should be called upon to give an account of why and how they have acted or failed to act.

Fig 18: Conceptual model of the Accountability Framework for Sustainable Water and Sanitation Services



Horizontal Accountability

- SDP will foster improved transparency and accountability measures to the beneficiaries and also to development partners who provide funding for the implementation of SDP.

As a whole, the sector is accountable, and will respond to feedback on its performance, to communities, development partners, sector stakeholders;

- Systematic annual and joint sector reviews including learning visits at the local level, publication and dissemination of annual sector performance reports and regular sector stakeholder group meetings are aimed at enhancing transparency and accountability in the sector. There is accountability for decisions taken and implemented so that stakeholders involved in decision-making are accountable to those affected by decisions;
- At the operational level, management will report on progress against agreed plans and budgets;
- The regulator can effectively take an interest into the relations between the stakeholders in the sector: Towards the state, the regulator can be part of the policy and plans; Towards service providers, regulator should oversee that they fulfill the agreed services, and with users ensure that consumer protection mechanisms are in place.

Vertical Accountability

- Public action by organized citizen, community groups and users associations can create regulatory impetus from below to enhance accountability and transparency. Institutional and management capacity particularly that of Federation of Water and Sanitation Users Associations (FEDWASUN) and other CSOs will be strengthened to augment users' voice and influence to improve sector policies and practices and sustain their rights to hold service providers and public utilities to account.
- The use of accountability tools such as report cards and social auditing give citizens a voice in enhancing transparency, improving accountability by assessing and publicizing performance of service providers and utilities, and reforming the water utility as appropriate. This model will be scaled up throughout the country. Where service provides and utilities respond to positive dialogue and action, there are tangible improvements in service delivery;
- Engagement of media will be strengthened to promote sector achievements and enhancing transparency and accountability in the sector. Securing good coverage of water issues on the radio, TV and in newspapers can be a great way to influence public policy and build pressure for reforms. It will also allow citizens to get their voices heard and provides water utilities with a right to respond.

11.3.1 Citizens Report Cards—voice as agency for change

Where administrative capacity and effective institutions are lacking to regulate effectively, social action by well organized community groups plays an important role in enforcing compliance with standards and information disclosure and reducing environmental damage. Civil society has to play an active role, pressing for reliable and authentic information and publicizing underperformance by water utilities. The use of citizens report cards in Bangalore, India, gave residents associations and community groups a voice in reforming the water utility, improving accountability by evaluating and publicizing utility performance assessments (Box X). That model has been widely exported. Where utility managers and municipal leaders have responded with dialogue, there have been tangible improvements in service delivery.

Box X: Ten years ago the Public Affairs Centre, an Indian nongovernmental organization (NGO) based in Bangalore, pioneered a new approach to regulatory oversight. Using public meetings and a questionnaire-based survey, it conducted a large social audit of perceptions about the public services provided by municipal authorities, including the Bangalore Water Supply and Sewerage Board. The audit, summarized in a citizens report card, highlighted weak customer orientation, high levels of corruption and perceived high-cost, poor-quality service provision.

Following a second audit in 1999, the state government and municipal agencies embarked on a process of structured consultation. The Bangalore Water Supply and Sewerage Board initiated joint programmes with local citizens groups and residents associations to improve services, extend connection to poor households and debate reform options. New grievance procedures were established to address corruption. By 2003 the social audit was registering real improvements, with poor households reporting a sharp reduction in bribes for connections and improvements in efficiency.

Since its inception the citizen's audit has been scaled up to cover rural and urban areas in 23 Indian states. It has also been exported to the Philippines, Tanzania, Ukraine and Viet Nam. In mid-2005 three Kenyan cities—Kisumu, Mombasa and Nairobi—launched a social audit on water and sanitation, bringing together residents associations, NGOs and service providers.

Source: Paul 2005; Adikeshavalu 2004

12 SDP Implementation

12.1 Inception Phase

This phase, during 2016-17, will consist of the following critical components. These are absolutely essential to ensure SDP begins in the right manner.

Institutional Arrangement for SDP Implementation: The MoFWSS has already given the role of facilitating SDP implementation to the SECIU for which funding has to be secured from internal source and DPs. It is necessary to strengthen SECIU roles and functions, with support from stakeholders, to facilitate SDP implementation.

Legislation, Policy and Operational Manual: The preparation of new WASH Act and Policy, and establishing/amending the present regulatory body and preparing and an operational manual for SDP will be completed during the inception phase so that these instruments can be fully applied during SDP implementation.

Sector Capacity*:* Capacity building of the sector stakeholders is fundamental to the success of the sector development and improved performance. Roll out of sector capacity building plan will commence during the Inception Phase.

Planning, Monitoring and Evaluation System: Sector Planning Monitoring and Evaluation Systems will be developed and operationalized for urban and rural WASH services. This entails design of Management Information System, recording and reporting at the national and local levels.

Agreement among Sector Partners: The key sector stakeholders including the DPs and the NGOs will enter into agreements to guide their implementation strategies in accordance with the SDP. Memorandum of Understanding (MoU) amongst key stakeholders the MoFWSS, MoFALD and DoLIDAR, MoE, MoHP, and Local Bodies, DPs, (I)NGOs and civil society will be given priority on the SDP shifts and alignments.

Coordination: WASH sector coordination structure will be streamlined by reorganizing the existing committees (Table 8), and functioning of thematic groups will be made more robust to guide the implementation of the SDP. These Committees and Groups will have amended set of ToRs and operating procedures.

Alignment of Development Projects: All new projects will be aligned to the SDP framework during their revisions.

Sector Finance Strategy: The MoFWSS, National Planning Commission and Ministry of Finance and other relevant government agencies would seek finance for SDP from the GoN sources and the DPs as per the Sector Financing Strategy. All sector plan and budget would be reflected in the WASH sector programme from FY 2016-17 onwards, while budget expenditure may have different modalities.

12.2 Implementation Phase

SDP will be tabled for approval during early 2016 allowing for full implementation of SDP from FY 2016-17. The added value of SDP implementation is a strategic compact between the GoN and sector stakeholders for aligned and harmonized sector based on shared responsibility and mutual accountability.

It will further contribute to sector development through policy dialogue and joint analytical work, focusing on policy issues such as sector governance, institutional reforms, financing and sustainability of investments, sector capacity development and sector performance.

12.3 Risk and Mitigation Measures

SDP foresees a number of internal and external risks that could significantly impinge upon its performance and effectiveness. These risks, along with mitigation measures, are given below:

Table 15: Risk and Mitigation Measures

Risk	Probability	Impact	Mitigation Measures
Internal			
Lack of political will to address sector reforms including enactment of new legal and policy framework as envisaged in SDP	Low	High	Lobby and influence for timely sector reforms and approval of legislative and policy instruments
Continued fragmentation of sector institutions with duplication of roles and responsibilities	High	High	Policy instruments clearly identifies institutional home for lead sector agency both for rural and urban WASH services
Inadequate institutional and management capacity of sector institutions and professionals	Low	High	Earnest implementation of sector capacity building plan Development of credible sector professionals to address urban WASH challenges and other themes of sector priority
Insufficient sector budget including absence of sector financing strategy to finance effective SDP implementation	High	High	Formulation of sector financing strategy as an integral of SDP and annual tracking of financial flows including that from non-state actors
External			
Prolonged political instability resulting in delay in the promulgation of new Constitution	Medium	Medium	Continued influence for WASH as a basic need and human right Regular situation reviews to feed into sector planning process
Local elections are not held as per schedule			Empowerment and strengthening of Local WASH CCs
Deterioration of security situation in	Low	Medium	Draw upon sector experience of operating in difficult security situations with people-

certain parts of the country			centered development with duty of care for staff and sector professionals
Frequent occurrence of large scale natural disasters	Medium	High	Disaster preparedness, emergency management and community resilience approaches to minimize the risks
Global economy remains unstable affecting flow of external assistance and priority for other sector such as education, health etc	Low	High	Ensure adequate funding from DPs to support for the realization of national goal and target

12.4 Reviews and Revision

Sector Performance: An Annual Sector Performance Report will be prepared by the SEIU/MoFWSS and shared with Government entities, sector stakeholders and DPs. As a minimum requirement, the Annual Sector Performance Report shall consist of the standard format of progress assessment of the sector against Results Framework covering the whole year with summary of results achieved against pre-defined annual targets.

Annual Reviews: Based on the Annual Sector Performance Report, an annual review will be conducted with the sector stakeholders during the fourth quarter of the year to jointly assess the performance of SDP and appraise the Annual Work Plan (AWP) for the following year. It shall focus on the extent to which progress is being made towards Results, and that these remain aligned to appropriate outcomes.

Mid-term Review: Mid-term review will be planned towards the end of the second year (2017) in the form of Joint Sector Reviews to track progress of SDP implementation, recommend adjustments to SDP, and formulate undertakings for the subsequent two years for the Thematic Working Groups.

SDP Revision: At the end of the fourth year (2020), SDP will be substantially reviewed by the sector stakeholders. Based on the review outcomes, SDP will be revised for implementation into the next cycle (2021-2025).