



Humanitarian and
Development Research
Initiative

WOMEN AND WASH IN NEPAL: KEY ISSUES AND CHALLENGES



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EXECUTIVE SUMMARY

This report has been jointly prepared by Western Sydney University's Humanitarian and Development Research Initiative (HADRI) and Nepal's National Disaster Risk Reduction Centre (NDRC). This report is thus the result of a strong collaboration between long-term organisational partners: HADRI staff and students have been working in Nepal on humanitarian and development issues — including water, sanitation and hygiene (WASH) — with NDRC and the University of Kathmandu Nepal for several years, and several Nepal-based scholars are Adjunct Fellows of HADRI.

The purpose of this report is to provide an overview of the main WASH issues in Nepal with a specific focus on the experiences of women, to set out gaps in knowledge and areas in need of future attention. It offers a stocktake of current research, programmatic interventions and knowledge gaps on WASH in Nepal. The report also highlights challenges for the future. It is based on a comprehensive literature and policy review as well as field assessments drawn from NDRC. The report firstly sets out the broader context in Nepal with regard to social, political, cultural and environmental practices including those that impact on WASH practices. It also records the progress that has been made in many areas of society in spite of significant challenges such as the 2015 earthquake. A literature review summarises existing knowledge in the WASH-related areas of health, hygiene and sanitation, noting the variances due to gender, caste, ethnicity, economic status and location. The report then reviews access to water, paying particular attention to gender, and participation of women in programme and policy design. A case-study approach illustrates how these WASH-related issues are experienced at the local level in four districts in Nepal, with a policy review setting out the major stages in WASH policy design and implementation since the 1970s. The report concludes by setting out gaps in knowledge and critical areas for future action.

Menang, Nepal
Photo by Nasib Pandey
(Source: Pixabay website)



Acronyms

ADB	Asian Development Bank
BCC	Behaviour change and communication
DWSS	Department of Water Supply and Sewerage
GESI	Gender and Social inclusion
HADRI	Humanitarian and Development Research Initiative
HDI	Human Development Index
INGO	International Non-Governmental Organisation
MDG	Millennium Development Goals
NDRC	National Disaster Risk Reduction Centre
ODF	Open Defecation Free
SDG	Sustainable Development Goals
SPI	Standardised Precipitation Index
UNICEF	United Nations International Children's Emergency Fund
WASH	Water, Sanitation and Hygiene
WHO	World Health Organisation
WSS	Water Supply and Sanitation
WSUC	Water and Sanitation User Committees

1. INTRODUCTION

The United Nations Sustainable Development Goals (SDGs) identify seventeen areas on which the global community must concentrate to enable a transition to a more equitable society. Sustainable Development Goal Six (SDG6) — Clean Water and Sanitation — has six linked targets that aim to “ensure availability and sustainable management of water and sanitation for all”. To achieve these targets governments and other actors are required to provide Water Sanitation and Hygiene (WASH) services in resilient and culturally appropriate ways. Failing to adequately address WASH can have multiple consequences including disease outbreaks such as cholera and diarrhoea, and can also lead to loss of life. Women and girls are disproportionately affected with respect to access to WASH, and many programs designed to improve access to WASH are not gender inclusive. This is the case in Nepal, as will be detailed in this report.

Many vulnerable groups are disproportionately affected by the lack of sufficient WASH policies or institutional support. These include marginalised populations; people living with disabilities; poor populations; female headed households; pregnant and lactating women; senior citizens; children; ethnic minorities; and Indigenous populations. According to World Health Organisation (WHO) and the United Nations International Children’s Emergency Fund (UNICEF) out of the world’s estimated 7.3 billion people, some 2.1 billion — almost three out of every ten people — have less than adequate access to safe drinking water, while 4.5 billion — about six out of every ten people — lack safely managed sanitation service (WHO 2017). The lack of access to WASH also has major effects on health, hygiene, education and mortality rates. Each year over 340,000 children under five, nearly 1,000 children per day, die from diarrhoeal diseases from poor hygiene, poor sanitation or unsafe drinking water (WHO 2017).

As several reports have documented, Nepal as a country is rich in water resources, but it faces challenges with natural disasters, such as the recent earthquake, and developing WASH-related infrastructure, utilizing appropriate technologies, as well as having the necessary resources to ensure policies are implemented in a context of increasing urbanization (UNICEF n.d.; WHO & UN Water 2015). The Ministry of Urban Development is responsible for all matters related to sanitation and drinking water while the Ministry of Health and Population is responsible for hygiene promotion. Water supply schemes include rural, semi-urban and urban; gravity flow, pumping and combination of both; and large, medium and small scale. Most rural and semi-urban water schemes are managed by Water Users and Sanitation Committee (WUSC) whereas urban schemes are operated by a semi-government agency such as Nepal Water Supply Corporation (NWSC), with water supply in Kathmandu led by a public-private partnership (WHO & UN Water 2015). There are many specific areas in need of attention and improvement in Nepal that will be detailed in this report and illustrated in case studies. As the sub targets for SDG6 show, with greater efforts in targeted areas, improved outcomes can be realised (see Table 1 below).

This report sets out a general overview of the situation in Nepal and then provides details as to the WASH context in the country, paying attention to the needs of women. Drawing on a literature review and case studies it highlights priorities for future action and areas in need of attention.

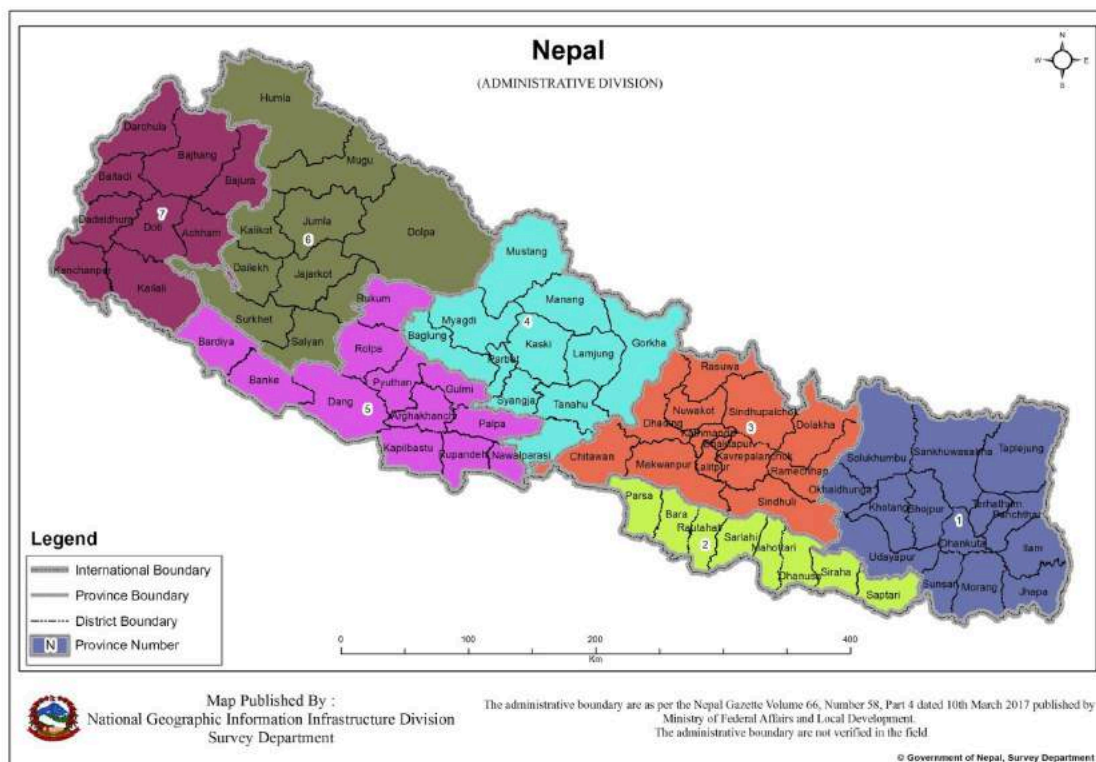
Table 1: SDG 6 Targets and Indicators

6.1	By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1	Proportion of population using safely managed drinking water services
6.2	By 2030, 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	6.2.1	Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
6.3	By 2030, 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	6.3.1	Proportion of wastewater safely treated
		6.3.2	Proportion of bodies of water with good ambient water quality
6.4	By 2030, 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	6.4.1	Change in water-use efficiency over time
		6.4.2	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	6.5.1	Degree of integrated water resources management implementation (0-100)
		6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation
6.6	By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes	6.6.1	Change in the extent of water-related ecosystems over time
6.A	By 2030, 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	6.A.1	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan
6.B	Support and strengthen the participation of local communities in improving water and sanitation management	6.B.1	Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

Table 1: SDG6 (Available from : <https://sustainabledevelopment.un.org/sdg6>)

2. BACKGROUND – CONTEXT IN NEPAL

Nepal is a landlocked country with high mountainous ranges and low valleys situated between India and China. It has a Federal structure with seven provinces, 77 administrative districts and 753 local governments. The seven Provinces and their capitals from east to west are: Province 1: Biratnagar; Province 2: Janakpur; Province 3: Hetauda; Province 4/Gandaki Pradesh: Pokhara; Province 5: Butwal; Province 6/ Karnali Pradesh: Birendranagar; and Province 7/Sudurpaschim Pradesh: Godawari. Nepal's population is estimated at 28.8 million people (UN Women 2017). It has a variable climate with temperatures ranging across provinces from tropical to Arctic (Udas 2014). The following section describes the main social, political, economic and climatic attributes in the country.



Map: Nepal, Provinces and Administrative Districts (Government of Nepal, Survey Department)

SOCIAL COMPOSITION

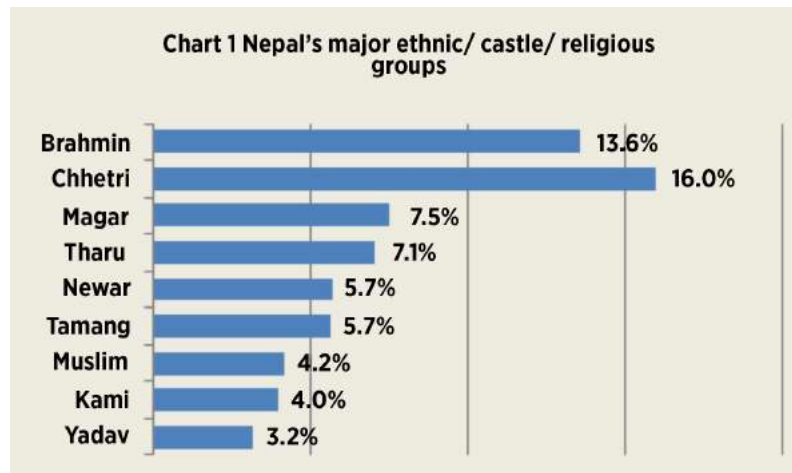
Nepal is ethnically, religiously and culturally diverse with approximately 81% of the population Hindu, 9% Buddhist, 4.5% Muslim, 3.0% Kirant/Yumaist, 1.4% Christian and 0.9% other/no religion (Nepal Central Bureau of Statistics, 2015). About 45% of the population speak Nepali as their first language with 122 other languages spoken.

Nepal's caste system, see Table 2 below, is very similar to that of India and while to some extent caste and occupational practice are linked, this is also overlaid somewhat with ethnicity and language. The caste system determines social status, individual income, and privileges in life in the form of power and money (Khosla, van Wijk, Verhagen, Francis & Arce 2004). The result is that the caste system is still socially important, although the legal ability to discriminate

based on caste was formally abolished in 1962 (Bennett 2005). The highest castes of Brahmin and Chhetri are overrepresented as a percentage of population in the government civil service, as traditionally only these groups were permitted to study (Udas 2014). Poverty is often more common among specific ethnic communities. For example the proportion of the Tharu ethnic group living below the poverty line in Nepal is double that of the Newars, traditionally of the Kathmandu Valley (Udas 2014). Caste differences also impact on access to water. Low caste Hill Dalits have the lowest access to the improved drinking water (70%), which is well below the national average (82%) (Udas 2014). Furthermore, only 4.6% of Terai Madhesi Dalits have access to improved latrines, whilst for other caste groups this number is closer to 60% (Udas 2014).

There are also differences in education between caste groups such as the literacy rates of the lower caste Dalits and the higher caste Brahmin and Chhetri. In healthcare, 70% of women from the hill Brahmin caste and Newar ethnic groups are receiving antenatal care, compared to 35% of Muslim and Janjati (indigenous) women (Udas 2014). It is therefore critical to include an analysis of ethnicity, caste and religious groups in any WASH programming, as will be seen in later sections (for more information see Section 3 - Case Studies).

Table 2: Nepal's major ethnic, caste and religious groups
(Source: Shrivastava, 2012)



GENDER

Gender discrimination is a significant social issue in Nepal, and it has severe effects on growth and development. Gender intersects with class and caste, and the factors combine for all people in determining a person's social status. This is especially so in education, employment and marriage, and it is doubly the case for women. While caste-based discrimination is illegal, and an increase in awareness about caste-based discrimination has resulted in a decrease of direct caste-based discrimination over the past decade, as will be detailed in this report caste-based discrimination still affects access to resources such as water.

The caste system operates under patriarchal principles and once a woman marries a man, she assumes the husband's caste. This creates a dependency on the man (Maya Dhungana 2006), especially in cases of 'marrying up' into a higher caste. Male children are seen as key providers for the home, and are given extra privileges from birth. At the same time, within a patriarchal family dynamic, female children have reduced opportunities for education, social development and freedom. The result is entrenched gender discrimination against girls and women, with physically disabled women an especially disadvantaged group in terms of social stigma and limited support (Maya Dhungana 2006).

Nepali culture inherently also favours males over females in matters of citizenship, land ownership and political rights. In citizenship a child of a male Nepali and a foreigner has automatic citizenship, but any child of a female Nepali and a foreigner is required to have a male relative sponsor her application for citizenship (White 2009).

With sustained campaigning for gender equality, the proportion of female students enrolled in basic education (grades 1-8) has increased to 50.5%, while female teachers at primary, lower secondary and secondary levels now represent 42.2%, 28.0% and 17.7% respectively of the education workforce. Out of 1,379,278 students in grade 9-10 in the year 2015-16, a majority (708,007) were girls (Flash Report 2015-16). The civil service is now almost 20 percent female, compared to nine percent in 2008 (Shrestha 2017), and 15.78 percent in 2014.

Nepal's Maoist movement has also contributed to a greater involvement of women in politics. Women occupied less than 6% of seats in the parliament until 1999, but this expanded to 33% in 2008. There are currently 29.8% of women in the parliament elected in 2017. The 2017 local elections, the first held for almost two decades, resulted in 40% female representation in various local governments. Again caste is a critical factor — Dalit women ('untouchables') alone constitute 47% of women in parliament (Thebe Limbu 2017). Those electoral outcomes were largely facilitated by legislated gender quotas that mandates 40% female representation at ward membership level, and which ensures at least one female candidate for either mayor/ chief or deputy mayor/chief position at municipality or rural municipality level. It is important to note that Dalit women's relatively high representation among women in politics is mainly due to another government initiative, the 'Dalit women ward member quotas' (UNDP Nepal 2018).

POLITICAL CONTEXT

From 1768 to 2008 Nepal was an independent kingdom, sometimes known as the Gurkha Kingdom. Until 1950 Nepal had an absolute monarchy, but a revolt in 1951 led to King Tribhuvan moving to accept constitutional monarchy with newly formed political parties. When he died in 1955, King Tribhuvan's son Mahendra succeeded him and in 1960 King Mahendra dissolved the parties and popularly elected government in favour of a "partyless" system. On King Mahendra's death in 1972 his son Birendra came to the throne at the age of 27. King Birendra called for reform and announced a referendum in 1980 on the system of government in which a majority of people opted to retain the existing non-partisan system. Consistent pushes for reform compelled King Birendra to restore multi-party elections in 1990.

In the last two decades two political events have deeply affected Nepal. The first is the civil war that endured from 1996-2006. During King Birendra's rule a decade-long armed insurgency (civil war) was fought between the Communist Party of Nepal (Maoist) and the government. The fighting ceased in 2006 with some 17,000 people having died. There are estimated to be 83,000 people still internally displaced as a result of this conflict (IDMC 2017). The insurgency disrupted social life, especially with respect to public safety, migration, education and employment.

ECONOMIC SITUATION

Nepal is sometimes characterised as a poor aid-dependent low-income country, when in reality it is resource rich (Udas 2014). Nepal's negative balance of trade and its partial aid dependency limits the government's capacity to build and systematically fund services such as education and healthcare. Nepal is classified as one of the world's least developed states with a Human Development Index (HDI) of 144 out of 188. Its income distribution is measured at 32.8—using the Gini co-efficient with 0 being perfect equality and 100 being perfect inequality — which is about the same as Switzerland (32.5) (IndexMundi 2018). Nepal has generally met many of the Millennium Development Goals (MDG) aiming to halve extreme poverty and hunger, with poverty falling from 38% in 2000, to 21.6% in 2015. However, in 2015, 16.4% of the population was living on less than US\$1 per day (NPC 2017: 14). Estimates from the World Bank suggest that the 2015 earthquakes and aftershocks pushed an additional 2.5-3.5%, or 700,00 people, of the country's population into poverty (World Bank 2015). Nepal's average GDP/capita has also increased from US \$862 in 2017 to over US\$ 1000 in 2018 (Kathmanu Post 2018).

Regarding trade, historically Nepal has maintained an open border policy with India, and there are no border or immigration restrictions for citizens of either country. Nepal's exports and imports are mostly with India; 54% of Nepal's exports go to India, and over 69% of its imports come from India.

Along with male absenteeism due to insurgency in the rural villages, women had to take more responsibility within the household and in the private sphere. Additionally, a large number of women joined the Maoists. As a result, women grew accustomed to being involved in politics and in security forces (Adhikari 2015). These steps forward in Nepali women's public participation have helped bring the issue of gender equality to the forefront of the political agenda.

The second significant event was the massacre of the Nepali royal family which occurred on 1 June 2001 when Crown Prince Dipendra shot and killed his parents King Birendra and Queen Aishwarya, and eight other relatives, before shooting himself and dying three days later. King Birendra's brother Gayendra became King after the royal massacre and quickly moved to control government. Between October 2002 and June 2006 King Gayendra held absolute power against popular demands. Eventually King Gayendra's confrontational tactics united his opposition, including the Maoists, and over two million Nepalis took to the streets to protest against the monarchy. Parliament was reinstated in April 2006, and then it moved progressively to terminate the role of the monarch in Nepal's political and social life, and to nationalise property owned by the royal Family. Nepal is today the Federal Democratic Republic of Nepal, a multiethnic state, with over 125 different ethnic groups.

Nepal's exports include carpets, beverages, textiles, tea, plastic, and vegetables, while imports are fuel, apparel, gold, iron and steel, machinery and equipment (IntraCen 2018). The trade imbalance with India is one reason Nepal has a significant Balance of Payment deficit, and recorded a negative current account balance of \$167 million USD (Investopedia 2018), making it difficult for the government to devote resources to public programs (Trading Economics 2018). The current account is partly offset by the role of remittances, with around two million Nepalis living outside of Nepal (about 7% of the population). Many males work in construction in the Gulf States, however women under 30 years of age are officially banned from travelling to the Gulf since 2012 in response to Nepali women being subjected to sexual abuse and sexual servitude in the same countries (CBS 2016; Pyakurel 2018).

Nepal has recorded GDP increases over the past decade, with the strongest growth periods being in 2016 (7.9%) and 2017 (6.3%). Within Nepal, services is the major sector (51.5%) followed by agriculture (13.5%) and industry (13.5%). Within services travel and tourism has seen growth, with a 12% increase in investment in 2015. This sector employs 4% of the workforce and contributes around 5% to GDP. Other sectors of the economy have fewer opportunities, so many Nepalis seek employment opportunities abroad.

Agriculture is the major income source of income for about 64 % households of Nepal and in 2016 agricultural production accounted for 31.1% of the national GDP (Kathmandu Post 29 May 2017). Without adequate fresh water sources that are proximate to communities, women and girls are usually tasked with collecting water to bring home. The time taken out of the day to collect the water impacts on a girl child's education, a woman's employability and household productivity. This is known as 'time burden' (World Bank, WHO & UN Water 2015), and this phenomenon is exacerbated by the marginalisation and discrimination of females in many spheres of Nepali society.

Apart from the physical exertion involved in fetching water, women and girls can be subjected to sexual assault from men as they collect the water, as well as attacks from wild animals such as elephants and tigers (World Bank, WHO & UN Water 2015). In addition, if the water source is not a protected borehole well or from a piped supply, the community is forced to rely on surface water, or contaminated wells, all of which put the community at a greater risk of contracting water-borne diseases and infections (World Bank, WHO & UN Water 2015). All of these risks are in addition to the economic burden placed on communities, and women in particular, due to the requirement to collect water.

CLIMACTIC CONDITIONS

With its location high in the Himalayas, Nepal's per capita water availability and forest cover is more than twice the South Asia average (World Bank 2018). In recent years Nepal has been experiencing very erratic rainfall which has led to food insecurity with climate induced disasters such as droughts affecting the cropping calendar of farmers (Kathmandu Post 12 October 2017). Generally drought was a source of vulnerability in rain-dependent agriculture in the hills and mountains of Nepal but it is now a wider problem for other districts (Ghimire et al. 2010; Gumma et al. 2011; Wang et al. 2013). Although Nepal produces electricity through its hydroelectric system, the drought has led to a decline in energy production, so it also buys electricity from India, and experiences frequent power cuts. Nepal has less irrigated agricultural land than other low-lying states, so farmers have to rely on monsoon rains. In Nepal about 80 % of the total annual rainfall occurs during the summer monsoon from June to September (Shrestha 2000), which is why the monsoon has been considered as the most important season for agriculture for summer crops such as paddy, maize and millet, which comprise nearly 80 % of the

total national cereal production of Nepal (Gautam and Regmi 2013). Drought and rising temperatures have left farmlands in the districts with extensive cracks in the soil and affected crops (Prasain 2015). Trend analysis of the standardized precipitation index (SPI) reveals a clear tendency toward more droughts over the past decades, and this trend is more evident over an even longer time scale. Both drought frequency and intensity in recent years were found to have increased. Among the drought years, the summer seasons of year 2004, 2005, 2006, 2009 and the winters of the years 2006, 2008 and 2009 were the worst since 1981, and have been experienced by almost all areas of central Nepal (Dahal et.al 2016). The next section reviews the existing literature on women and WASH in Nepal, paying particular attention to knowledge gaps and areas of policy and implementation in need of improvement.

Nepal Mountain view taken from Kalinchowk Village
Photo by Bijay Yadav (Source: Pixabay Website)



2. LITERATURE REVIEW

The existing literature shows that Nepal has made significant progress in its Water Supply and Sanitation (WSS) and WASH sectors over the past few decades, however systemic issues remain such as limited support from grassroots level committees, and a shortage of institutional support. The country has shown its commitment to achieving WASH related development goals that are currently holding back the overall development of the country (see later section Policy Review). For instance the proportion of the population with access to improved water sources nearly doubled between 1990 and 2006, from 46% to 82%, and the sanitation coverage increased significantly from 6% to 39% (UNDP 2005, Ministry of Health and Population/New ERA/Macro International 2007). In 2010, water coverage was estimated to be around 79% for the population in the valley (Shrestha, Aihara et al. 2013). These successes can be attributed to the consistent united efforts made by the Government of Nepal and its development partners. However, despite these landmark achievements WASH related disparities persist in the country and relate mainly to gender, caste, ethnicity, economic status and location (ADB, DFID et al. 2012). The following section outlines some of the major themes arising in the literature on Nepal and WASH with specific attention paid to gender.

HYGIENE, SANITATION AND HEALTH

Hygiene is the first component in disease prevention. Good personal hygiene means people do not invite disease and they thus have better health. Even with adequate hygiene practices in place, appropriate education is required to cement public understanding of the dangers of disease from unsafe practices. There is a clear need for sustained education on how to reduce the risk of disease and infection to create long-term healthcare sustainability (World Bank, WHO & UN Water 2015). The three components to consider when addressing the needs of hygiene are accountability, capacity and responsiveness. Firstly, it is essential to identify the responsible parties, to hold them to account for their actions and inactions, and to ensure they remain effective in meeting the needs of the people for improved WASH services. Second, the institutional support needs to be in place to meet the needs of citizens and to achieve the capacity goals of the WASH objectives for all concerned. Thirdly it is vital to monitor how the government responds to the issue of inadequate WASH systems and healthcare issues, so as to move away from the existing 'top down' perspective of the WASH sector.

Maintaining a healthy nation begins with promoting good hygiene, safe and clean drinking water and adequate sanitation services. Without improved sanitation, healthcare facilities and water sources, the risk of a disease outbreak dramatically increases. Open defecation and exposed faecal matter, combined with the lack of effective waste management strategies, are some of the confounding factors which ultimately link to diseases and cause loss of life. While the absence of toilets at schools and in homes is itself a concern, without adequate lighting for communal toilets in public areas, vulnerable groups (including women and girls) needing to use toilets are left with a higher risk of violence, sexual assault and danger (Fisher 2006).

WASH projects in Nepal have largely focused on hand washing, declaration of open defecation free (ODF) campaigns, and other awareness activities. Most of these projects have a behaviour change and communication component (BCC) in them such as the development of pamphlets, radio stories, rallies etc. However there is evidence to show that WASH behavior at the individual, household, and institutional level has not substantially changed (Budhathok 2018). BCC is a multilevel interactive process which needs to be designed to influence an individual's recognition and is mediated by an individual and community's social, cultural, political, and environmental context. This can be shaped over time with a systemic approach paying attention to the wider institutional setting (Laukka 2016).

Nepal's education system is affected by the inadequate supply of safe drinking water and safely managed sanitation services. Nepal has 34,782 schools, of which 79% report they have a toilet. Over half of these schools (56.7%) report they have a separate toilet for girls (World Bank, WHO & UN Water 2015) but this means many female students are faced with using the same toilet as boys, so they choose to defecate in the open. The World Bank, WHO & UN Water (2015) have expressed concern about access for children with disabilities to sanitation, and that general school sanitation and hygiene management is of just a basic standard (i.e. soap available, hand washing dispensers and safe drinking water areas). Additionally, many Nepali children are unable to attend school due to sickness from unsanitary conditions or due to the burden of collecting water for their families from distant location from their communities. Without appropriate sanitation services, many children are dehydrated and unfocused in school (World Bank, WHO & UN Water 2015).

Existing literature indicates that women and girls bear the major burden of inadequate WASH facilities in Nepal and are particularly vulnerable to water insecurity. Women play a central role in managing and safeguarding household water but have limited access to water and are more vulnerable to poor sanitation and hygiene management facilities. They are also at a higher risk of physical health complications such as urinary tract infections and uterine prolapse, conditions often coupled with psychological and emotional distress.

As was noted earlier in this report, there is a recognition that while men and women need to be involved in order to promote efficient and sustainable water and sanitation services, specific interventions are required to ensure equitable access for women and disadvantaged groups. As will be explained next there remains a gendered preference in allocating technical jobs to men, the result being a limited participation by women in programmes, and policy design and implementation of WASH-related projects.

PARTICIPATION IN POLICY DESIGN AND PROGRAMMING

The patriarchal system embedded in Nepali culture limits women's agency and participation in WASH related policy and practice. Bhandari et al. (2005) highlight that women are not involved in the planning, operation, or maintenance of drinking water supply in Nepal (Bhandari et al. 2005). Although the Government of Nepal and its development partners have prioritised Gender and Social inclusion (GESI) in policy, which encourages the increased involvement of women and marginalised communities, its implication in practice is often constrained by patriarchal culture (Udas and Zwarteveen 2010, ADB, DFID et al. 2012). For example, the Government of Nepal made a provision to increase women's participation in Water and Sanitation User Committees (WSUCs) by having a mandatory 33% of female committee membership. While the policy seemed effective on paper, in practice the women were often nominated for certain positions in WSUCs without their consent (Udas and Zwarteveen 2010). In other cases, women who lack necessary skills were selected for posts – it was common to nominate a woman who could not read or count to serve as WSUC "treasurer". These female committee members thus had limited or no involvement or influence in the decision-making processes (ADB, DFID et al. 2012). A WaterAid report (2009) highlights that women were restricted from participating in social and community work due to household activities and responsibilities. The report further points out that although women are interested in participating and attending meetings they are restricted by social norms that also often prevent them from speaking out (WaterAid 2009). Women have limited time for attending meetings and participating in community work. Men, likewise, consider the costs of women's participation largely in terms of a zero sum game, recognising that if women become involved in community work men will have to do more household work. Statistics show low female participation in all key project meetings where although women's participation was high during the demand phase, it was much lower in latter phases, especially the critical design phase (ADB, DFID et al. 2012).

Despite these challenges there have been some successes that demonstrate that the importance of involving and including women in project activities right from the preparatory and design phases is critical in making a program successful, as the table below sets out. Taken from an Asian Development Bank (ADB) report, it shows the positive impact of women participating in development projects. Our findings indicate that most of the successful WASH projects had women contribute more effectively to water projects than men. Involvement of women and their participation in decision making from the beginning was a prerequisite for the project's sustainability. This has also been a key element in explaining why International NGO (INGO)-installed projects moved forward to sustainability at a faster rate in terms of performance compared to those of NGO and Government Organisations (Regmi and Fawcett 2001, Bhandari, Grant et al. 2005).

The gender stereotype that women cannot perform maintenance and repair tasks, coupled with the patriarchal system, makes it difficult to involve women in technical jobs in water projects in Nepal (Regmi and Fawcett 2001; Bhandari, Grant et al. 2005). While women are increasingly being employed in technical jobs, they are still limited by constraints such as safety issues and resistance from the community (Rautanen and Baaniya 2008). Additionally, existing literature suggests it is difficult for women to sustain these jobs, especially after the project is completed (ADB, DFID et al. 2012). There is also evidence that shows that organisations often exclude women through formal or informal membership rules and practice in natural resource management (Zwarteveen and Meinzen-Dick 2001). Another study revealed that the majority of the government irrigation department staff were male, which led to a linking of professional performance to notions of masculinity, which then stood in the way of achieving any progress towards gender goals (Udas and Zwarteveen 2010).

Findings of an ADB Gender Equality Project

Positive experience of increased participation of women led to:

- Reduction in time required to transport water as women have the primary responsibility to fetch water
- Improvements in sanitation that will contribute to improved health outcomes and safety for young girls and women
- Achievement of participation targets for women and disadvantaged groups - committees led by women were more proactive
- Improvements in women's status and empowerment - enhancing women's skills in technical jobs led to increased management capacity and enhanced leadership skills
- Increased opportunities for women to earn income

Source: (Asian Development Bank 2015: 6-9)

Table 3: Findings of an Asian Development Bank Gender Equality Project on women's participation

ACCESS TO WATER

Research reveals a gender disparity in access to water, and that access to water sources are inclined to benefit men, and economically better households, with also a difference in rural and urban areas in Nepal (ADB, DFID et al. 2012, Leder, Clement et al. 2017). There are cases when women do not have direct access to water, or even the right to water, and are dependent upon male mediation or upon "open access" for water. The only way in which women could obtain rights to water was through inheritance, upon the death of their husband (Zwarteveen and Meinzen-Dick 2001). Other social norms around menstruation, purity and pollution further restricted women and low-caste members from drawing water from certain sources. The ADB (2011) has highlighted that aid organisations prefer to work in settlements that are less remote both in rural and urban Nepal. This has led to the exclusion of their services to the poorest groups, such as the Dalits, who live in areas difficult to access.

The ADB report also highlighted exclusion based on wealth, caste, disability etc. (ADB, DFID et al. 2012). A case study of the Asari Drinking Water Supply System (ADWS) in eastern Nepal demonstrates how prevailing power relations and cultural differences of gender, caste and wealth heavily influenced access to water from community taps. This example shows the gradual individualisation of community taps, alongside a quasi-privatisation of the management of the system, with individual tap owners coming to act as de facto small entrepreneurs who provide water services to others in return for in-kind or cash payments. Those who lost access to water through a community tap were mainly from poorer households – many of them belonging to marginalised and disempowered communities, including tenants and the landless (Udas, Roth et al. 2014).

The Himalayas Nepal Mountain
Photo by Kamila S. (Source: Pixabay website)



WASH AND HEALTH

In less developed countries such as Nepal, women more than men experience stress related to water scarcity or limited water supply. Women have the primary responsibility in most households of performing chores such as ensuring there is adequate water for cooking, cleaning and other purposes. This requires them to undertake tasks that include walking and waiting to collect water from public water sources, or searching for a water vendor, public wells or tankers (WaterAid 2009). Among women living in areas with a poor water supply service level (around 4-7 hours per week), 'difficulties in house-work related to water' and 'difficulties in basic activities related to water' were associated with psychological distress. In comparison with other domains, washing hands, drinking, and cooking were directly linked to survival or physiological outcomes (Aihara, Shrestha et al. 2015). Women also felt more responsible for the health of their family members, and the threat of an illness due to economising water use for drinking, cooking, and washing hands, owing to a water shortage, may lead to the deterioration of a women's well-being. Unhygienic environments and inadequate hand hygiene can also cause a diarrhoeal disease burden, particularly among small children. Recent research in Nepal shows linkages between water scarcity and psychological and emotional stress (Aihara, Shrestha et al. 2015; Aihara, Shrestha et al. 2016). It shows responses of 'lost opportunity costs and social interactions', 'difficulties in house-work' and 'difficulties in basic activities' were domains associated with psychological distress among women. Research shows that women suffer from adverse health complications such as urinary tract infections and uterine prolapse due to bladder retention and fetching water from far distances.

Another important aspect required for women and girls to remain healthy is adequate access to WASH services, including clean water for washing cloths used to absorb menstrual blood, and having a place to dry them, having somewhere private to change clothes or disposable sanitary pads, facilities to dispose of used cloths and pads, and access to information to understand the menstrual cycle and how to manage menstruation hygienically (Mahon and Fernandes 2010). Lack of menstrual hygiene management services is also of major concern with girls' access to education. Girls are discouraged from attending school without adequate toilet facilities, especially during menstruation (WaterAid 2009, Mahon and Fernandes 2010). In a study conducted by WaterAid in Nepal over half of the respondents reported being absent from school at some time, owing to menstruation. Lack of privacy for cleaning and washing was the main reason given (41 per cent), with other key factors being the lack of availability of disposal systems and water supply (WaterAid 2009). In 2017 Nepal reformed its laws on ostracising women during their menstrual cycles (Kshetry 2018). It is now an offence to exclude women "with violators who force women into exile facing punishments of up to three months in jail or a fine of 3,000 Nepalese rupees, or about \$29" although it remains to be seen how well this law is implemented (Sedhai 2017).

PSYCHO-SOCIAL IMPACTS OF RESOURCE SCARCITY

Research suggests that resource scarcity has not only adverse physical effects but also impacts emotional well-being. There is mounting evidence that insecure access to food can lead to anxiety, distress and decreased quality of life (Stuff et al 2005; Weaver & Hadley 2009; Sharkey et al 2011). Similar linkages have been made to insufficient or uncertain access to water. Like food, water fulfils a basic human need, and insufficient access to safe water can have adverse health effects such increased prevalence of diarrhoea amongst children and poor health amongst women in developing countries. It can also affect psychological health and quality of life. For instance, people living in water-insecure regions will spend a large portion of their time collecting water. (Y. Aihara et al. 2016)

Our findings also suggest that women and girls in Nepal bear the major burden of inadequate WASH facilities in Nepal and are particularly vulnerable to water insecurity. Women play a central role in managing and safeguarding household water but have limited access to water and are more vulnerable to poor sanitation and hygiene management facilities. This may affect not only their physical but also psychological health and well-being. At present there is very limited literature in Nepal (Y. Aihara et al. 2015; Y. Aihara et al. 2016) to showcase these linkages and further research is required to positively contribute to this literature and create evidence that can inform policy and programmes.

The next section of this report utilises a case-study approach to illustrate how WASH-related issues are experienced at the local level in four districts in Nepal.

3. CASE STUDIES: KEY FINDINGS FROM THE SINDHULI, SUNSARI, BANKE AND SURKHET DISTRICTS

This section is based on a study of WASH needs in four selected rural and urban municipalities -Sindhuli (Province 3), Sunsari (Province 1), Banke (Province 5) and Surkhet (Karnali/Province 6) (see Figure 1 for more details). Sunsari and Banke belong to the Terai (plain) district whereas Sindhuli and Surkhet are hill districts. The study is based on primary consultation with residents and key WASH stakeholders including both government and non-government stakeholders. Secondary documents were also reviewed to assess the overall WASH status in the study districts. The findings show that the water and sanitation need in these districts is partially met. Most of the available WASH services are not sustainably managed.

Further stress on WASH services is likely as water sources have been drying up in the past one or two decades due to climate change. The standard provisions of water, sanitation and hygiene are also challenged by the behaviour of an individual and households that are conditioned by the long practiced sociocultural context. More specifically, the patriarchal mind set; involvement of women (mostly) in household chores; and existing discrimination based on the gender, social class, caste and marginalization have been contributing challenges in proper WASH provisions. Beyond these factors, availability of sufficient financial resources is also one of the main constraint on WASH standards. These all factors have contributed to unequal access to WASH services in the case-study sites.

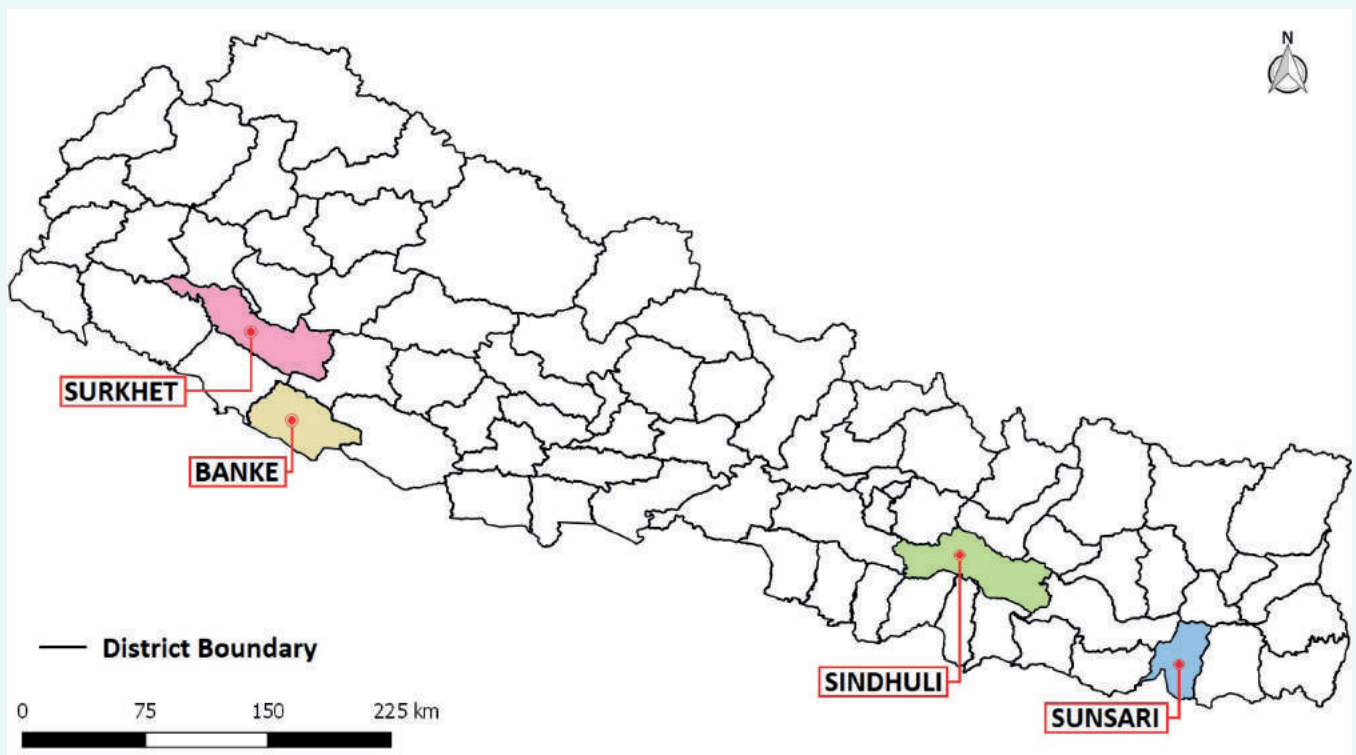


Figure 1: Study sites

SOCIAL INCLUSION ISSUES: PARTICIPATION AND ACCESS

The findings from different community case studies show mixed results. In Kohalpur (Banke district) there is a water and sanitation users committee called “Sana Sahariya Khanepani Sansthan, Kohalpur, Banke.” There are 11 members in the committee with eight men and three women (less than 33% of committee members). The respondents mentioned that the committee is not inclusive, because the members are nominated through political influence. Significantly they noted that all

the key positions on the committee (Chairperson, Vice Chairperson, Treasurer and Secretary), are occupied by men. Respondents also noted that the process for the formation of a WASH annual plan is not participatory and not inclusive of women, Dalits, Janajatis, people with disabilities and youth who are not informed about or invited to attend such planning activities in the Municipality.

While male members in the family contributed to household activities such as cooking, washing, and working in the kitchen garden, indicating that attitudes to the gendered division of work in the households are changing, most of the communities assessed noted that the participation of women in WASH committees is minimal and not satisfactory. Respondents stated that low participation rates of women were due to the lack of female leadership positions in the committees, and heavy workloads.

The case studies show a lack of WASH knowledge as well as a lack of access to information and resources on local WASH plans and projects also contributed to the exclusion of the women, children, and marginalized groups from WASH Committees. While the involvement of women, children, Dalits, people with disabilities and ethnically marginalized has increased in recent years, their role in decision making was found to be insignificant. (e.g. Paanbari, Dharan Municipality 6, Sunsari District). At the same time poor households are deprived of water due to their inability to afford it.

HYGIENE RELATED ISSUES

Women in the case study sites were aware of maintaining personal hygiene, eating nutritious food and doing light work during menstruation. Respondents noted that bathing and cleaning is their priority at this time, however women in rural settings stated that they were unable to afford commercial pads, and mostly used pads made from old cotton saris or bed sheets (Jhangajholi, Sindhuli).

Adolescent girls from Shree Prabhat Secondary School in Baijnath Municipality (Banke District) mentioned that it is very difficult for them to request sanitary pads from teachers because menstruation is a very personal issue and they don't want to discuss it with them. Only one girl said that she requests sanitary pads from a female teacher.

The girls also commented that during menstruation it is very difficult for them to come to school due to menstrual cramps and back pain, and said that they have to take painkillers to come to school. Sometimes they are also absent from school for a day or two. The main menstrual hygiene management issue identified was the disposal of used sanitary pads. Another major concern of the women was the lack of provision of bathing facilities along with toilets. Most of the women do not find it safe and secure to bathe in the river or nearby water sources. At present people in the community have started to realize that menstruation is a natural process and the practices need some attention (UNICEF 2018).

WATER SHORTAGES

At Bheri Ganga Municipality in Surkhet, respondents mentioned that during times of water shortage people go to the river to collect water. They noted that travel to collect water takes approximately two to three hours, and that women and children are the most involved in fetching water and doing household chores. Times of water shortage place considerable stress on women as the long hours taken to fetch water affects their domestic work routine. Increased time fetching water affects women's time management for the whole day and often leads to conflict among family members as a lack of time means that women struggle to keep the house clean, cannot prepare meals on time, send the children to school on time, or other family members to work on time. (Jhangajholi 3, Sunkoshi; Focus Group Discussion with members of youth and child clubs, Sindhuli District).

Water shortage also affects children's schooling and study as the time it takes to collect water and complete chores means that they cannot attend school on time and do their homework. The respondents noted that children experience mental stress during times of water shortage as they sometimes go to school without having their morning meal, and are on occasion sent back home by their teachers when they cannot reach school on time.

Overall this case study review shows that there is an urgent need for improvement through partnership with local government to implement the different aspects of the WASH-related activities. The evidence suggests four areas of interventions for gender and social inclusion in WASH sector: capacity building of the local government; awareness raising; strengthening the civil society organizations (example: women cooperatives, children's clubs, etc.); and improvement of WASH infrastructure.

4. POLICY REVIEW

Though the Department of Water Supply and Sewerage (DWSS) was established in 1972 as the lead agency for the drinking water supply and sanitation sector of Nepal, the issue of defecation was taboo for discussion until recently and therefore most government officials did not want to talk about sanitation. A systematic effort towards sanitation promotion in Nepal dates back to the 1980s, supported by the United Nations Declaration of the International Decade of Drinking Water Supply and Sanitation (GoN 2011). Since then, the promotion of sanitation practices has been taking place as an integral component of water supply projects. In the recent years, sanitation has been recognized as the basis of health, dignity and development. Below is the chronological history of sanitation initiatives undertaken by the Government of Nepal and other stakeholders from 1972 onwards, constituting more than 90 sanitation initiatives over 44 years.

SANITATION INITIATIVES IN NEPAL

1972	Establishment of the Department of Water Supply and Sewerage (DWSS)
1980	UN Declaration for International Drinking Water Supply and Sanitation Decade
1987	Initiation of Community Water Supply and Sanitation by UNICEF Nepal Water Supply Corporation Act (1989) and subsequent amendment
1992	Water Resources Act Establishment of the Environmental Sanitation Section (ESS) at DWSS
1993	Janata ko Khanepani Ra Sarasafai Karyakram, (JAKPAS), MPPW/ World Bank (Pilot 1993-1996) \
1994	Nepal National Sanitation Policy and Guidelines for Planning and Implementation of Sanitation Program, MPPW, KAP study on sanitation, DWSS/UNICEF
1996	National Policy on Solid Waste Management Establishment of Rural Water Supply and Sanitation Fund Development Board (1996-till date) Environment Protection Act
1997	Initiation of Child to Child Approach on Sanitation and Hygiene Promotion, UNICEF/NRCS/NEWAH 20 Year's Water Supply, Hygiene and Sanitation (WASH) strategies, Water and Energy Commission Secretariat (WECS) Environment Protection Regulation
1998	Establishment of the Steering Committee for National Sanitation Action (SCNSA) National Water Supply Sector Policy (Policy and Strategy), MPPW Drinking Water Supply Regulation Establishment of Department of Local Infra Structure Development and Agricultural Roads (DOLIDAR)
1999	Development of Basic Sanitation Package, DWSS and UNICEF Five Year Action Plan on Environmental Sanitation Promotion, DWSS Local Self Governance Act, MLD
2000	Publication of Nepal State of Sanitation Report , DWSS/UNICEF/SCNSA Initiation of an annual National Sanitation Week, SCNSA School Sanitation and Hygiene Education (SSHE) program in 15 districts, DWSS/ UNICEF Draft National Sanitation Policy 2000 and revision in 2002, DWSS Water Resources Management Project (WARMP) in six districts of the mid-western and far-western development regions (2000- 2012), Helvetas Kathmandu Valley Water Supply and Sanitation Sector Policy

2001	Small Towns Water Supply and Sanitation Sector (WSSS) Project, DWSS and ADB
2002	Pilot project on Eco-sanitation, DWSS WHO Urban Environmental Improvement Project (UEIP), DUBC and ADB Strengthening of Environmental Administration and Management at the Local Level (SEAM-N Project) in Dharan-Biratnagar Corridor, Government of Nepal (GoN) /Government of Finland
2003	Community based Water Supply and Sanitation project started and now in operation in 20 districts, DWSS and ADB Nepal participated in the first South Asian Conference on Sanitation (SACOSAN) in Bangladesh Nepal WASH campaign initiated - NEWAH/SCNSA Development and piloting of Participatory Hygiene and Sanitation Transformation (PHAST) approach, DWSS/ RWSSFDB/UNICEF Piloting of Community Led Total Sanitation (CLTS) approach
2004	Rural Water Supply and Sanitation National Policy, Strategies and Strategic Action Plan Initiation of Hand Washing Campaign, DWSS/UNICEF National Policy and Strategy on Rural Drinking Water Supply and Sanitation
2005	Draft National Guidelines for Implementation of Hygiene and Sanitation, DWSS Assessment of National Sanitation Policy by WEDC/ UK Initiation of Sanitation Model District Chitwan, (2005-2011), SCNSA Initiation of Water for Asian Cities Program, MPPW/ UN-HABITAT
2006	Development of the Guidelines on School Led Total Sanitation (SLTS), SCNSA, DWSS and UNICEF Initiation of SLTS program approach, DWSS and UNICEF Nepal participated in second SACOSAN in Pakistan WASH program in the Karnali Region (2006-2010), Concern Worldwide Nepal Rural Village Water Resources Management Project (RVWRMP)-II phase in 10 districts of mid and far western development region, GoN/ Government of Finland Sanitation Model district concept introduced in Chitwan, Kaski and Tanahun districts Water Supply Management Board Act Water Supply Management Board Regulation Water Supply Tariff Fixation Commission Act Water Supply Tariff Fixation Commission Act Regulation
2007	Introduction of Sanitation Promotion Norms, DWSS Vision Paper (2007-2027), MPPW Development of Child friendly, Gender Friendly and Differently-abled (CGD) friendly process, tools and materials, UNICEF
2008	Nepal Country Plan for the International Year of Sanitation (IYS), SCNSA Nepal participated in the third SACOSAN in India Pilot Human Value-based Water, Sanitation and Hygiene Education, MoES and UNHABITAT Celebration of IYS and Global Hand Washing Day Rural Water Supply and Sanitation Project in Western Nepal in 9 districts of the western region (2008-2012), Government of Finland/ DOLIDAR

2009	Draft Solid Waste Management Act, MLD (revision of 1987 act) Urban Water and Sanitation National Policy, MPPW
2010	Establishment of Sector Efficiency Improvement Unit (SEIU) at MPPW Second Small Towns Water Supply and Sanitation Project (2010-2015) Development of Sanitation and Hygiene and Sanitation Master Plan, NSHSC “Aligning for Action to Make Diarrhea Epidemics a History” Surkhet Declaration and Nepalgunj Commitments for Community Approaches to Total Sanitation 2010 UN declaration- WASH as a human right
2011	Solid Waste Management Act
2012	Solid Waste Management Regulation Directives on Operation of Water Supply Services
2013	Water Safety Plan Environment Friendly Local Governance Framework Nepal Millennium Acceleration Framework for Sanitation
2014	Three Year Interim Plan (2014-2016)
2015	Dry Zone Water and Sanitation Implementation Guidelines Water Quality Surveillance Guidelines National Urban Development Strategy Constitution of Nepal WASH Act WASH Regulation Water Use Master Plan Instituted the Ministry of Water Supply and Sanitation
2016	SDP (2015-2030) has proposed following timeframe and overarching targets

Compiled by Uddhab (2018) with sources from GoN.

Janata ko Khanepani Tatha Sarsafai (JAKPAS), which translates into English as ‘People’s Drinking Water and Sanitation Program’, was the major breakthrough drinking water and sanitation program implemented with Japanese Grant Facility and World Bank support during the years 1993-96. It was a project which was piloted with a demand driven community-led participatory approach in the rural water supply and sanitation service delivery. Based on the experiences of JAKPAS, the Rural Water Supply and Sanitation Fund Development Board (Fund Board) was established in 1996 by the Development Board Act to implement rural water supply and sanitation schemes. A total of 945 water supply schemes were completed benefiting 600,000 people in 49 districts under the Rural Water Supply and Sanitation Project (RWSSP) 1996-2004. This success led to RWSSP-II (2004-2009) with some improvements in working modalities especially in some norms/ criteria based on the lessons learnt in the past

(Rural Water Supply and Sanitation Fund Development Board 2009). The RWSSP-II aimed to benefit additional 813,000 people through the construction of 1355 schemes. It eventually implemented 1173 schemes (i.e. 87% of the total target) in total but directly benefitted 833,163 people (i.e. 103 % of the total target) in 71 different districts.

For the urban areas, the government was helped by the ADB to work on similar issues in urban areas under a Small Towns Water Supply and Sanitation Sector Project in 2000. The project covered the investment requirements of the initial years of the government’s 15-year Plan for Small Town Water Supply and Sanitation Development focusing on sustainable infrastructure, climate change mitigation and adaptation, human development, regional cooperation and integration, public-private partnership, and good governance.

The first phase, quality water and sanitation services in small towns, has benefited over 1.2 million people in 69 towns with construction and upgrades of water pipes, treatment facilities and household connections, as well as septic tanks, drainage and public awareness campaigns. After successful completion of the First Small Town Water Supply and Sanitation Sector Project, ADB provided another \$45.1 million grant to implement the Second Small Towns Water Supply and Sanitation Sector Project. Following this, the Department of Water Supply and Sewerage started the Second Small Towns and Sanitation Project in 2009. This project had aimed to provide adequate safe water and sanitation facilities to almost 270,000 people living in 21 selected small towns in Nepal (Ministry of Water Supply and Sanitation 2017). A Third Small Towns Water Supply and Sanitation Sector Project was introduced between January to June 2017 with three objectives, namely to develop: (1) an efficient, effective, and accountable urban water supply and sanitation sector by establishing and implementing policies, establishing service standards, and enhancing sector coordination, (2) safe, accessible, and adequate water supply and sanitation facilities in 13 small towns, and (3) strengthen governance and capacity for project management and operation. The third stage project targeted infrastructure improvements in 26 towns with a population of 5,000 to 40,000 that show the potential for growth by having access to roads, power supply and telecommunications. This includes the upgrade or construction of water supply systems in up to 26 small towns, involving 1,450 kilometres of water supply pipelines; 78,000 household connections; and 26 water treatment systems with an estimated capacity of 50,000 cubic meters per day. The project is also providing 20,300 household toilets with septic tanks, as well as the provision of septic management facilities and equipment. Drainage systems and master plans are also being provided in towns with flooding risks. Training is being provided to help local water agencies modernize their operations and manage water rates, and to teach local communities public awareness on water conservation and public hygiene (Ministry of Water Supply and Sanitation 2017).

The sanitation program gathered momentum when the government of Nepal started implementing its Sanitation and Hygiene Master Plan 2011, with a broader aim to achieve the universal sanitation coverage target through the promotion of a campaign for “Open Defecation Free” (ODF) villages and districts. In Nepal a new concept of “Total Sanitation” has been introduced by Department of Water Supply and Sewerage (DWSS) /WHO since 2011 as a continuation of the ODF movement, with a comprehensive sanitation package including other aspects overlooked during the initial ODF campaign. Total sanitation basically includes five plus one (5+1) indicators of sanitation.

The five indicators are household-centred, while the sixth continues to promote the ODF campaign:

- 1. Use of toilet**
- 2. Use of safe water**
- 3. Use of safe food**
- 4. Practice of hand washing with soap**
- 5. Practice of cleaning the house and surroundings**
- 6. Keeping a clean environment.**

Nepal's Sanitation and Hygiene Master Plan 2011 had envisioned some basic conditions i.e. the availability of a basic standard of drinking water. Acknowledging the need for both time and a fair amount of money to reach the total sanitation stage, the Plan suggested moving toward a sanitation and hygiene programme before reaching total sanitation. A total of 27 different tasks were to be achieved under the sanitation and hygiene program, and seven different responsibilities were mentioned in order to reach from the first stage to total sanitation (GoN 2011). Since then, the government of Nepal has declared 53 of its 77 districts as ODF. The Secretariat of National Sanitation and Hygiene Coordination Committee, which sits under the Ministry of Water and Sanitation, released a report in May, 2018 that claimed 400 Rural Municipalities (out of 460), 201 Municipalities (out of 260), 8 Sub-Metropolitan cities (out of 11), 3 Metropolitan cities (out of 6) and 3 provinces (out of 7) has been declared ODF (Government of Nepal 2015). Also Nepal's Sanitation Development Plan (2015-2030) which deals with the WASH sector is now being implemented with short-term, medium term and long term targets to improve WASH service levels to everyone. The Government of Nepal instituted the Ministry of Water Supply and Sanitation on 24 December, 2015 to achieve many national and international set goals and targets in water, sanitation and hygiene, intended towards the betterment of peoples' living standards.

There are some concerns about the focus on ODF as well as its limitations. According to the Joint Monitoring Program (JMP) report of UNICEF and the World Health Organisation (WHO) titled 'Progress on Sanitation and Drinking Water: 2015 Update and MDG Assessment,' 32% of the total Nepali population practice open defecation, while only 48% of people have improved sanitation facilities. The report was released in June 2015, but the data was gathered earlier, so the numbers do not reflect the damage and the loss of toilets caused by the April 2015 earthquakes, which badly affected 35 mountainous districts (National Reconstruction Authority GoN 2018). The government states that as at 16 September 2018, a total of 285,969 out of a surveyed 996,582 households have rebuilt their homes, and many districts have already been declared ODF. Reports by others state that the materials like toilet pans and rings for safety tanks are donated through various NGOs to meet the government target of 'toilets for all', but these same materials are collected by the poorest of the poor families at the village who have used them to hold feed for their domestic animals (Adhikari 2016).

The ODF campaign has limitations in the sanitation and hygiene program as it has focused more on private (household) toilets and ignored the importance of public toilets. ODF requires both public and private toilets as people cannot use another's household toilet when travelling. It is said that the ODF campaign has plans for public toilets but it is less of a priority. The town of Urlabari Jhapa (Morang district) announced it would construct 10 public toilets, and the government declared the village ODF in 2011, but none of the public toilets has yet been built (Basnet 2017).

As has been detailed earlier in this report, women and vulnerable groups are most affected by improper planning and gaps in implementation. UNDESA reports women tend to drink less water and eat less food during the day due to fears of having easy access to a toilet, resulting in health problems such as urinary tract infections. Women also have to wait until dark to defecate and urinate in the open (UNDESA 2018). Even if there are strategies to involve more women in planning implementing and monitoring hygiene related issues to ensure that there is ownership and responsibility of WASH issues by all involved, currently the gender mainstreaming of women into decision making processes in Nepal appears to be tokenistic due to patriarchy and social structures.

DISASTER RISK REDUCTION AND MANAGEMENT

In April 2015 Nepal was struck by a devastating 7.8 magnitude earthquake that killed 9,000 people, injured 22,000 and displaced 2.8 million. The initial quake and aftershocks affected some 8 million people (Asokan & Vanitha 2017). Nepal is today in a state of reconstruction and rehabilitation, and state-building efforts are constrained by existing levels of poverty, coupled with disease outbreaks and aid reliance which affect the speed of the development stages of disaster relief. Nepal relied on international aid support from agencies such as UNICEF to deliver the necessary supplies to affected people for the next two years following the disaster (Uprety et.al. 2017). Already vulnerable to disasters after the 2015 earthquake, Nepal was then hit by landslides and flash floods in 2016 in the hill districts in the Terai plain, which affected 212 people, and a major cholera outbreak in the Kathmandu valley, which killed 168 people (Uprety et.al. 2017). Another year later, widespread floods and landslides affected 28 of Nepal's 77 districts, killing 159 and injuring 45, damaging 191, 717 houses, and displacing 20,888 families (Asokan & Vanitha 2017). These statistics highlight the impact natural disasters have on rural regions, and their affects on healthcare, sanitation, hygiene, education and transport facilities.

The continuous disaster and disease outbreaks in Nepal are testament to the imperative for sound disaster mitigation and prevention, and for having targeted interventions and education in place for developing WASH systems (Uprety et. al. 2017). Cholera, dysentery, typhoid and polio caused by drinking unsafe and contaminated water are some of the leading causes of mortality. There are over 1.8 million people dying annually from drinking unsafe water across the world, yet 159 million people worldwide still use surface water as their main source of water (Reliefweb 2017). Due to high rates of cholera prevalence in Kathmandu, UNICEF distributed diarrhoeal disease kits for hygiene and sanitation promotion. Reaching 278,845 people within the Kathmandu valley, the distribution of kits enabled UNICEF to successfully address the needs of those in the most acutely affected areas (UNICEF 2016).

In conclusion Nepal has a goal to shift from least developed country status by 2022. This is achievable with sustained policies and a determined approach by its institutions (Reliefweb 2017). Focusing on gender discrimination and structural inequalities is an imperative when addressing the social exclusion of women, a factor that inhibits the sustained growth and development of society. While Nepal has moved from low to medium human development according to the HDI, evidence suggests that the social, economic and political empowerment of women can benefit society generally, especially in the area of WASH.

5. CONCLUSION

Through a literature and policy review, as well as detailed case studies articulating many of the WASH-related issues facing women in Nepal, this report has illustrated some key knowledge gaps and future programmatic areas in need of attention, which are set out below.

Knowledge gaps

- Nepal's status of being rich in water-resources is being affected by the growing impact of climate change and resultant water shortages that are having a dramatic effect on individuals, families and communities, with women and vulnerable groups being especially impacted. More work needs to be done to understand the impact of climate change including how to mitigate its affects;
- While there have been many recent improvements in the policy domain with regard to women's participation in areas such as the governance of water use, less attention has been paid to policy implementation. Thus specific areas of policy implementation where improvements in women's participation can be achieved need to be better understood in order to inform program design;
- Related to this, gender mainstreaming in policy design and learning lessons from other contexts can be applied to the Nepali context;
- There is a paucity of research on the psycho-social impacts of water scarcity such as stress and mental health, especially as it relates to women; and
- Given the prevalence of natural disasters and other shocks in Nepal and the wider region, further research is needed on disaster risk reduction and mitigation with a gender lens.

Future programmatic areas in need of attention

- Where there are measures in place to ensure women's participation in policy design and WASH programmes, greater effort must be put towards improving their participation, especially in water committees and other official structures, and ensuring this these measures are sustainable and address the needs of both urban and rural communities;
- At the same time, the capacity building needs of local government and other institutions with regard to WASH should not be overlooked;
- Civil society organisations such as women's cooperatives and children's clubs are vital stakeholders for WASH programmes and awareness raising activities. They should also be considered in future programming related to women and WASH in Nepal, especially on issues related to the psycho-social impacts of water scarcity; and
- The condition of WASH-related infrastructure in Nepal should also be addressed in any programmatic interventions.

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