

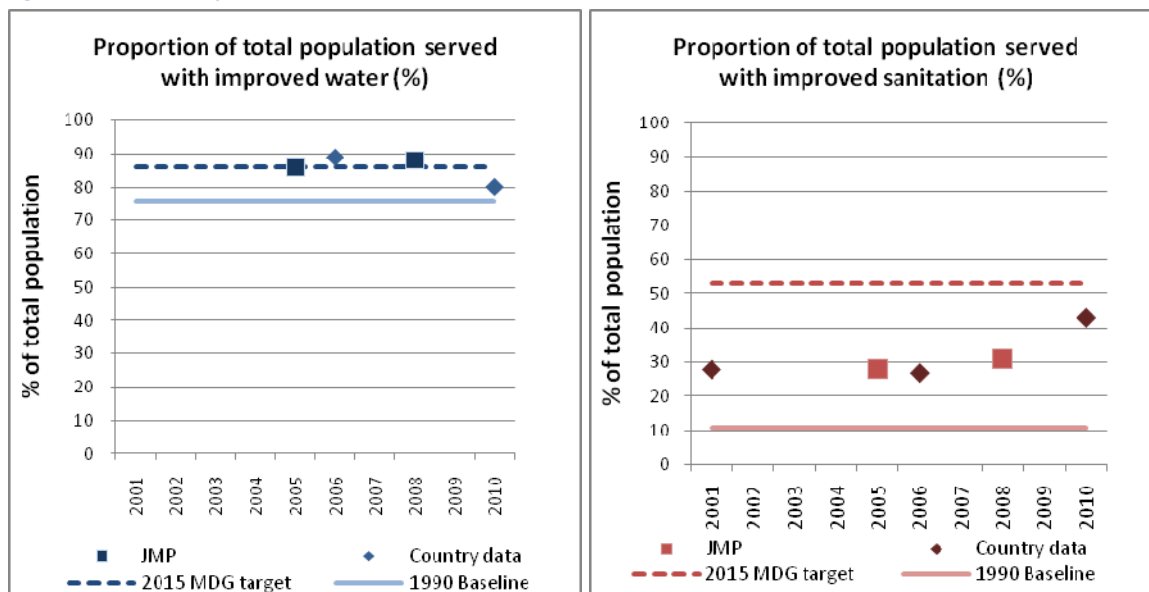
Headline issues

- Significant institutional reform is proposed, to address current weaknesses including sector fragmentation, non-standardised project approaches, overlapping responsibilities of government agencies, and weak institutional leadership. However, more work is needed close the gaps between policy frameworks and their implementation.
- Rapid urbanisation is exacerbating water supply constraints as well as poor solid waste management and wastewater infrastructure in emerging towns, urban areas and the Kathmandu Valley.
- There is a significant shortfall in available funds needed to address infrastructure and institutional requirements
- It is estimated about half of existing water supply schemes are partly or totally dysfunctional.
- There are large regional disparities in coverage. Sanitation coverage lags in mid- and far-western development regions and Terai districts.
- Open defecation is ubiquitous across rural Nepal and is a key focus of sanitation and hygiene master plan 2010-2017.

Coverage and WASH related health statistics

The Nepal targets under the Millennium Development Goals (MDGs) are to provide 86% of the total population with access to an improved drinking water source and 53% with access to improved sanitation by 2015. Statistics from both Government of Nepal and the 2010 WHO-UNICEF Joint Monitoring Programme (JMP) suggest Nepal has already exceeded the MDG target for improved water coverage (Figure 1, left) but is on track to meet sanitation targets (Figure 1, right).^{1,2} In 2010 more than 50% of the population practiced open defecation.²

Figure 1: Access to improved water and sanitation



Source: DFID, WHO/UNICEF Joint Monitoring Program (JMP) (2010) data for 2008³ and Government of Nepal (GoN) (2011)⁴

However, there is a danger of overstating service coverage, particularly in relation to improved drinking water services, as official coverage figures do not accurately represent an adequate service level for quality, quantity, accessibility and reliability.⁴ Furthermore, the sector risks not meeting the rural water MDG targets since access to improved water was less than 40% in rural areas in 2010.^{5,6}

The linkage between lack of WASH coverage, diarrhoeal incidence and infant mortality is evident.⁵ Diarrhoea is the second largest killer among under-fives in Nepal, and shows an increase in areas with poor sanitation coverage and hand washing practices.⁵ WASH-related health statistics for Nepal are shown in Table 1 below. The WHO recorded total WASH-related deaths of 22,231 per year is far higher than those cited in government sources (12,700 in 2010).⁶

Table 1: Summary health statistics

Infant mortality (deaths per 1,000 births) ⁷	48.2
WASH-related DALYs (% of all DALYs) ⁸	11%
Total WASH related DALYs (years) ⁸	888,642
Total WASH related deaths per year ⁹	22,213
WASH related proportion of deaths (%) ⁹	9%

Sources: World Bank and WHO as shown in endnotes

Finance trends

The 2006 Interim Constitution of Nepal prioritises social sector development including provision of water and sanitation underscoring MDG commitments and the Government's 2004 national target of universal drinking water and sanitation coverage by 2017.¹⁰ Current annual water and sanitation investment is NPR 4 billion (US\$55.5M)^{4,11} which is allocated nearly equally between urban and rural areas, although the most recent available census data from 2002 shows approximately 85% of population resides in rural areas.¹² The government's Joint Sector Review recommends an additional annual commitment of NPR 3.5 billion (US\$48.5M) is required to meet the 2017 national target of universal coverage. This additional funding is on top of existing commitments to institutional reform and investment of US\$317M¹³ in the Melamchi Water Supply Project (MWSP).⁴ The GLAAS report of 2010 indicates that Nepal does not have needs-based investment programmes for any of rural or urban water supply or sanitation, however that ones for urban water supply, and rural sanitation are under preparation.¹⁴

The MWSP, due for completion in 2013, is being developed to fill a significant gap in water supply and sanitation services in the Kathmandu Valley. It will rehabilitate a water source, construct and improve wastewater treatment plants and distribution systems and finance a river water diversion scheme. The project scope and budget were revised halfway through implementation in 2008, due to political events and the withdrawal of three co-funding partners including the World Bank.¹³ The ADB remains the major donor providing over 40% of the project finance (US\$137M), while the local funding component from GoN is 28% (US\$90.6M). The remaining funds are being provided by Japan Bank for International Cooperation (JBIC), Japan International Cooperation Agency (JICA), the OPEC fund for international Development, and the Nordic Development Fund.¹³

In recognition of the special effort needed to increase sanitation coverage, the GoN formulated a separate budget line for sanitation and hygiene as a standalone programme under the Department of Water Supply and Sewerage.¹⁵ However this has not resulted in a significant increase in investment, and typically sanitation has been afforded 20% of the water supply budget allocation.¹

In addition to new infrastructure, there is an overwhelming need for increased financing to sustain existing assets. The Joint Sector Review reports that nearly half of existing water supply schemes are partly or totally defunct.⁴ The 2004 Water Supply and Sanitation Sectoral Strategic Plan recommends 20% of the overall water supply budget, and 10% of the rural water supply and sanitation budget be allocated for this purpose however in practice allocations are less than 1%.⁴ This information implies that if functionality and quality of service are taken into account in definitions of coverage, then actual coverage is much lower than it might currently appear.

Sector governance

Nepal is intending to move towards a sector wide approach (SWAp) for WASH with a sectoral periodic plan and agreed results framework. Nepal's current WASH sector governance is highly fragmented. There are overlaps in responsibilities and roles at all levels and a dominant emphasis on project-oriented approach to delivery.^{3,5,6,16} The Government of Nepal has outlined its intention to address these issues and gradually adopt a SWAp to WASH in its Three Year Plan Approach Paper (2010/11 – 2012/13).¹⁷ There is some reticence from stakeholders who understand SWAp only as a basket funding mechanism and do not wish to lose their control of fund execution.⁴ Gender Equality and Social Inclusion (GESI) principles are advocated in numerous policies and are identified as an area in need of improvement.^{4,5,18}

In terms of capacity, the sector is highly constrained and demonstrates weak governance at the local and district government levels, although no recent study exists that adequately evaluates available skills and capacity.¹ There has been little use made of the private sector's management skills and many WASH projects are currently led by NGOs who, whilst excelling at behaviour change programs, commonly do not have sufficient technical skills to fill the significant gaps in service delivery.¹ A strategy is required to identify critical needs and address skill deficiencies by developing the capacity of local government officials and draw on skills from the private sector.

Despite the need for additional funding noted earlier, the public sector is unable to absorb 100% of current levels of donor commitments. The GLAAS Report¹⁴ notes this as common amongst surveyed countries, which they attribute to factors ranging from the quality and efficiency of country procurement systems to local availability of the required technology, human resources or other local conditions. The 2011 Joint Sector Review shows that actual spending against budgeted allocation in the social sector overall stands at around 85%, and around 86% for drinking water and sanitation budget lines.⁴ Budget utilisation dropped significantly during 2004-5 and 2009-10 to around 30%⁴ – possibly demonstrating the effects of political conflict on capacity to approve national budget and its implementation in time.

In terms of the overall sector's institutional arrangements, the National Planning Commission officially has final sign off on all development policy and planning, while national policies and action plans identify the Ministry of Physical Planning and Work (MoPPW) as the coordinating ministry for the WASH sector, acting through its two operational arms: the Department of Water Supply and Sewerage (DWSS) and the Nepal Water Supply and Sewerage Corporation (NWSC). DWSS leads the sector, having qualified staff at both the central and local levels and an independent sector training institution.⁴ NWSC's main focus is to deliver urban water supply and sewerage management.⁴

Significant institutional change is proposed for Nepal's WASH sector, although plans for implementation are not set out.. The Sanitation and Hygiene Master Plan 2010-2017 sets out the changes to be implemented within the next few years that restructure and rename existing institutions⁶ and the Three Year Approach Paper outlines the Government's intention to move towards a sector wide programmatic approach.¹⁷ Numerous levels of coordination exist to accelerate vertical and horizontal collaboration towards water and sanitation outcomes.

These include multi-stakeholder Sanitation and Hygiene Coordination Committees at the Regional, District, Municipality and VDC level (R-WASH-CC, D-WASH-CC, M-WASH-CC and V-WASH-CC).⁵

The Sector Efficiency and Improvement Unit (SEIU) was established under the MoPPW as a secretariat to facilitate joint WASH sector review and program planning towards the national sector targets.⁴ This unit will establish linkages for local planning with national planning and budgeting by having a regular review and planning process between the centre and local WASH coordinating bodies. It will play a key knowledge sharing and support role in the move towards SWAp and identify needs for capacity building.⁴ The SEIU is currently held under the Joint Secretary of DWSS but is understaffed.⁴

Subsector governance

Urban water and sanitation

The Urban Water Supply and Sanitation Policy (2009) sets out the Government's commitments to improved water and sanitation provision. It includes guidance on infrastructure, institutional arrangements, cost recovery and financing, private sector partnership and enhancing access of the poor to WASH infrastructure and decision making.⁴ The Water Supply and Tariff Fixation Committee fixes tariffs for service providers. SEIU is responsible for monitoring service delivery and harmonising major indicators through the MoPPW.

Within metropolitan areas, two bodies operate as utilities providing water supply and sanitation services. The NWSC manages water supply, sewerage and drainage services for 22 urban areas outside the Kathmandu Valley. Water services within the Kathmandu Valley are managed by Kathmandu Valley Water Supply Management Board and operated by KUKL, a company established under a public-private partnership.^{1,4}

The DWSS focuses service provision activities in district headquarters, semi urban areas and municipalities outside the Kathmandu Valley and also implements water supply and sanitation programs through the Small Town Water Supply and Sanitation Sector Project. The World Bank, GIZ, ADB and Water Aid Nepal are also focussing their work increasingly in secondary towns, small towns and emerging centres (See Donor environment below).

There is discrepancy between JMP and GoN data for urban sanitation coverage. JMP suggests that less than half of households in urban areas have access to improved sanitation services with 37% utilising shared facilities,¹⁹ whereas the GoN states that urban coverage has remained around 80% since 2000.¹⁶ Very few urban households (12%) are connected to a sewer or drainage system and most urban centres, including large cities (Kathmandu, Pokhara and others), do not have a sufficient sewerage system.⁶ Where wastewater treatment systems exist, they are often in poor condition or not functioning. For example, there are five wastewater treatment plants in the Kathmandu Valley (estimated population of 2.5 million) ranging in size from 0.5ML/d to 16.4ML/d and including aerated lagoons, oxidisation ditches and stabilisation ponds. Of these facilities, only the Guhyeswari facility is operating efficiently, servicing a maximum of 200,000 people.¹⁸

Rural-urban migration poses an additional risk to sector targets by stretching limited urban water and sanitation infrastructure. In the Kathmandu Valley only a fraction of the estimated water demand of 320 million litres per day can be met: available daily supply is only around 120 million litres in the wet season, and 70 million litres in the dry season.²⁰ Water quality is also declining due to poor treatment and supply infrastructure.¹⁸ Planned advancements in the supply of water will not meet the expected rate of increase in demand within the Kathmandu Valley and other town centres.¹⁸ The Melamchi Water Supply Project, intended to rectify the supply

gap, has not progressed at the planned pace.¹³ Therefore it is possible that the strong gains Nepal has made in improved water coverage for urban areas will be reversed in the future.

Rural water supply and sanitation

For water supply and sanitation schemes serving fewer than 1,000 beneficiaries, the Department of Local Infrastructure Development and Agriculture Roads (DoLIDAR) is the lead agency, under the Ministry of Local Development (MLD).⁴ The Local Self Governance Act (1999) allows for District Development Committees and Village Development Committees to plan and manage small water supply and sanitation infrastructure, with technical guidance and support from the MLD through District Technical Offices. Community level management is preferred but has been hampered by low capacity and insufficient post-construction support, in addition to political difficulties which limit the activities of local officials.¹ DoLIDAR's WASH activities are only a small element of their development portfolio and therefore sector experience is somewhat limited.⁴

The Rural Water Supply and Sanitation Fund Development Board (RWSSFDB) was established in the 1990s, funded mainly by the World Bank. RWSSFDB is a semi-government body and, together with DWSS and DoLIDAR, is a key coordinating agency in the Sector Steering Group (SSG). The RWSSFDB or 'Fund Board' promotes rural sanitation and hygiene by coordinating and mobilising NGOs.⁴ Since its inception the 'Fund Board' has signed on 70 NGOs as partners for rural water and sanitation initiatives. Human resources are limited and capacity needs are met by out-sourcing.⁴ The current World Bank's support to the board has been extended till 2012 after which continuation of this board is uncertain. The Joint sector review report 2011 has suggested to focus on district and village WASH-coordination committees for efficient and effective management of rural WASH services.

The 2004 Rural Water Supply and Sanitation National Policy and Strategic Action Plan aims to improve service delivery by decentralising implementation of rural sanitation schemes to local authorities such as regional and district WASH committees, district development committees and other local organisations working towards Open Defecation Free (ODF) status. The GoN's Hygiene and Sanitation Master Plan 2010-2017 outlines plans to establish a fund to support communities in efforts to achieve ODF status, but it is not clear if this fund is yet in practice.⁶

The RWSS Policy and Strategic Action Plan limits the Central Government's responsibilities to the coordination of financing, policy and monitoring of the sector through the National Hygiene and Sanitation Steering Committee (NHSSC), chaired by the MoPPW who also coordinates the sanitation sector.^{6,10} The NHSSC also reports to the Ministries of Health and Population (MoHP), Education (MoE) and Local Development (MLD).

There has been a recent shift in emphasis of sanitation sector towards 'movement based' or behaviour change programs rather than strictly focusing on infrastructure provision and toilet construction.⁵ Currently sanitation and hygiene interventions, for both urban and rural areas, are being approached through behaviour change and knowledge generation schemes. The main approaches promoted throughout the country include School Led Total Sanitation (SLTS), Community Led Total Sanitation (CLTS), Community Led Total Behaviour Change in Hygiene and Sanitation (CLTBCHS) and Sanitation Revolving Loan Fund (SRLF) programs. The focus is on communities achieving ODF status and addressing hygiene priorities through handwashing, personal hygiene, safe water handling and environmental sanitation promotion.³ The Netherlands Development Organisation (SNV), UNICEF and the NGO NEWAH play key roles in supporting this sanitation and hygiene promotion work, particularly in the Mid- and Far-West, and, CARE, Helvetas and other international and local NGOs are also active in conducting CLTS programmes.²¹ The National Stakeholders Platform under the Government leadership has highlighted the need for donors, NGOs and community based organisations to move towards a common

approach to sanitation and hygiene behaviour change to strengthen the message and improve uptake by local communities.³

Community Water and Sanitation User Groups (WSUC) were established to encourage community participation (especially women) in the design and implementation of rural water and sanitation projects.¹ It is mandatory for at least one female representative to be in the committee. The Federation of Drinking Water and Sanitation Users Nepal (FEDWASUN) is an umbrella organization of water and sanitation users' groups that works to improve governance in the sector by strengthening the 'voice' of users and civil society.¹⁹ It has a focus on advocacy for equitable, transparent and justifiable distribution of facilities to users, and encouraging meaningful participation of beneficiaries, including men and women, poor, marginalized and disadvantaged groups.²²

However, the government recognises that there are still many socially excluded communities (including women) that lack a consumer voice and more work needs to be done to improve representation.^{1,4}

There is concern that the GoN's coverage figures for rural areas may be overstated due to a lack of proper account of functionality of existing systems. The government acknowledges that there is insufficient post-construction support for water supply and sanitation projects and consequently a high proportion of existing water supply and sanitation infrastructure is in a state of disrepair.⁴ A clearer picture is needed to determine whether coverage statistics take into account the decline in water quality and service delivery that occurs over time when repairs are not made (see Finance trends and Sector monitoring).

Rural figures also do not sufficiently describe the large regional disparities in sanitation service provision. The levels of rural sanitation coverage varies widely, from 24-27% in the remote Mid-West and Far-West Development Regions to 51% in the West.⁶ There is less variation for improved water supply, as often the most remote regions are located in the mountains or hilly areas where there are more freshwater sources servicing rural communities.⁵

Health and hygiene

The Nepal Health Sector Programme - Implementation Plan II (2010-2015) identifies WASH interventions as essential preventative measures to move towards national health goals⁵ and this has created some cross sector complementarities. For example the Ministry of Health and Population's programme on 'control of disease' complements the sanitation promotion activities of the DWSS,¹⁰ and the Ministry of Education has incorporated some sanitation contents into the secondary level courses and, similarly, introduced environmental education at the primary level¹⁰, supporting some of the behaviour change outcomes of the SLTS programme (see above). Similarly the School Sector Reform program has given emphasis to inclusion of disadvantaged groups including girls, and specifies separate school toilets for girls.²³ At the village development committee (VDC) level, health staff and school teachers may take part in sanitation and hygiene campaign work and cooperate with DWSS and International NGOs (INGOs)/NGOs on this matter.²¹

Climate change and water resources

Nepal is highly vulnerable to climate change and the increased incidence of natural disasters. In particular, Nepal faces the danger of glacial melts, with 20 potentially dangerous glacial lakes posing the risk of outburst floods to outlying communities, as well as the threat of more frequent landslides, which can destroy water infrastructure in mountainous regions.²⁴ The Himalayan range serves as an important source of freshwater for 1.5 billion people living in its floodplains who depend on seasonal melts of ice to sustain dry water river flows.²⁴ Climate change and the decline in alpine ice cover pose a serious threat to downstream water sources, both within Nepal and the surrounding region. The Ministry of Environment serves as a focal ministry for climate change

related activities and has recently established a climate change management division.²⁴ Nepal’s vulnerability to climate change is noted to increase from ‘high’ to ‘severe’ over the next two decades (see Table 2).²⁶

Table 2: Status of water resources and climate vulnerability

Renewable water (ML/population) ²⁵	7
Overall Climate Vulnerability factor 2010 ²⁶ (on scale of <i>Acute, Severe, High, Moderate, Low</i>)	High
Overall Climate Vulnerability Factor 2030 ²⁶ (on scale of <i>Acute, Severe, High, Moderate, Low</i>)	Severe
Environmental Vulnerability Status ²⁷ (on scale of <i>Extremely vulnerable, Highly vulnerable, Vulnerable, At risk, Resilient</i>)	Vulnerable

Rivers flowing through the Kathmandu valley have sufficient flow to dilute the city’s untreated wastewater during the wet season. During the dry season, flow is significantly reduced but there is no additional capacity to manage untreated wastewater and rivers become equivalent to open sewers.¹⁸ Poor management of solid waste is seen by the public as the greatest environmental problem in urban areas, which risks contaminating water resources.²⁸

Donor environment

Foreign aid is generally project specific which contributes to sector fragmentation. A comprehensive sector finance study is required to determine gaps and inefficiencies and complement the move towards sector harmonisation and a SWAp. Donor coordination of the water sector in Nepal is managed through the water supply working group of the Nepal Donor’s Group, co-chaired by UNICEF-Nepal and the World Bank.¹⁹

Major donors in the WASH sector include the World Bank, ADB, Finnida, AusAID and UNICEF. WASH sector donors use a number of different modalities or project approaches and delivery processes. The World Bank’s Second Rural Water Supply and Sanitation Project, which commenced in 2008 (US\$41M), is a program that advocates a community driven development approach to water and sanitation improvements and is facilitated through the RWSSDFB or ‘Fund board’. ADB has been a key partner of the MoPPW, supporting policy development and investing over US\$300M in urban and rural water projects since 1984 (of which almost half is urban).¹⁹ In addition to being the major funder for the Melamchi Water Supply Project noted earlier, ADB is focusing on water supply and sanitation in secondary towns, emerging towns and other market centres.¹⁹ According to GLAAS, the three largest bilateral donors are Finland, Australia and United Kingdom¹⁴ however the UK is reported to have retracted from the Nepal WASH sector.

While UNICEF primarily focuses on advocacy and hygiene and environmental sanitation campaigns at the household and school levels, it also influences policy formation and implementation. UNICEF’s School Sanitation and Hygiene Education initiative has been implemented at the national level and in eight districts of Nepal.¹⁹ It provides input and support to government agencies and the policy process, in particular leading the revision of the National Sanitation Policy.¹⁹ UNICEF supports NGOs and government initiatives in 44 districts through capacity building/training, post implementation and support and funding major maintenance.¹⁹

In addition, many activities are undertaken by the NGO sector. NEWAH (Nepal Water for Health) is a local NGO active in delivering water and sanitation services for the poor and also involved in advocacy.¹⁹ INGOs such as Water Aid, SNV and Plan also play key roles, providing input to policy discussions and supporting project delivery by local NGOs and local authorities.^{1,14} SNV is strongly focused on sanitation and hygiene and supporting the Karnali region to advance in this area. WaterAid has a long history in Nepal and has financed major rehabilitation projects since 1987.⁴ They are moving into the Small Towns sub-sector for WASH,²⁹ and will primarily focus on advocacy, policy, research and documentation.⁴

Sector monitoring

The Nepal WASH sector has been characterised by strong project level monitoring (by donors and NGOs) but comparatively weak sector wide systems. Project level monitoring systems typically utilise donor approaches and are therefore not always comparable.³⁰ The 2010 GLAAS survey reports that there is currently no sufficient annual review process of performance and uptake of either drinking water or sanitation.¹⁴ The DWSS National Management Information Project (NMIP) survey (2010) collected quantitative data on water and sanitation coverage in Nepal however the range of indicators was somewhat limited, for example possession of latrines by household is the only indicator for sanitation coverage,⁴ and there is evidence of a large gap between the DWSS inventory and on-the-ground experience of actual functionality.¹

Health data is collected through the ten-yearly household population census, conducted by the Central Bureau of Statistics (CBS), providing a longitudinal overview of water-borne and water-related diseases. Nepal Living Standard Survey (NLS) also captures relevant social sector information. Finally, the Demographic Health Survey collects health information related to project impact every five years. New sets of information on WASH, health and education from these surveys will become available between 2011-2012.⁶

The MoPPW implemented a sector monitoring unit through the SEIU but this has been constrained by lack of resources. The MoPPW is moving towards a web based M&E system for rural WSS, bringing together inputs from the NMIP, CBS and other institutions. This system has been launched at www.rwash.gov.np.⁴

In December 2010, a Sector Stakeholders Group meeting was conducted to provide input to the first Joint Sector Review, which was conducted in April 5-6, 2011. This review included a thematic working group on Functionality and Performance Monitoring,³⁰ and the working group proposed that functioning of systems be incorporated into existing monitoring systems⁴ and that additional gaps in analysing capacity needs must be addressed by the government.¹

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