

sustainable sanitation alliance

DISCUSSION PAPER

WASH for Health Prevention is the best medicine

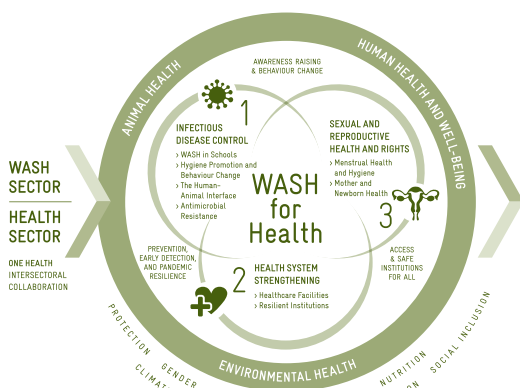
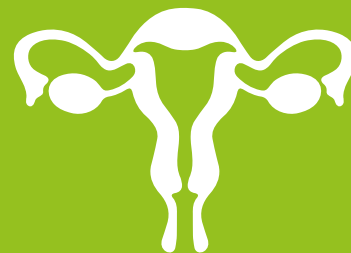
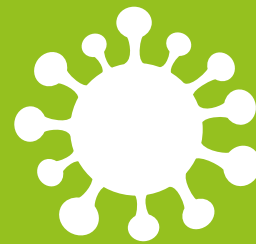
WASH is a key element for global health and pandemic prevention

VERSION 2.0



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THE APPROACH // Bringing the WASH and Health Sector closer together offers important opportunities to better achieve not only SDG 3 and SDG 6. In a range of areas, like 1. Infectious Disease Control, 2. Health System Strengthening and 3. Sexual and Reproductive Health and Rights, joint approaches and intersectoral collaboration are a pre-condition for achieving the goals. The One Health approach provides a wider perspective and helps to bring together key action fields shared by both sectors as well as connecting them with the broader SDG arena and cross-cutting topics (e.g., gender, nutrition, climate).

INTRODUCTION: (SDG) 3 + (SDG) 6 = 17

The 17 Sustainable Development Goals (SDGs) are interconnected and interdependent, requiring intersectoral approaches at all stages. To realize these goals, a strong commitment to global partnership and cooperation is needed since none of the SDGs can be achieved in isolation. Addressing one goal could lead to a direct or indirect impact on multiple SDGs, making the goals mutually reinforcing rather than mutually exclusive. Achieving one SDG is, therefore, more than the sum of its parts.

Numerous factors converge to shape the health of individuals and communities, as emphasized by the World Health Organization's (WHO) definition of health as "a state of complete physical, mental and social wellbeing and not merely freedom from disease or infirmity" (WHO 1946:1). These factors include the determinants of health, encompassing:

- › The social and economic environment,
- › The physical environment, and
- › person's individual characteristics and behaviours.

One such foundational component of human health, well-being and dignity is Water, Sanitation and Hygiene (WASH). Access to sufficient and clean water underpins every global health goal, yet billions of people still lack safe water, sanitation, and handwashing facilities. This doesn't just impact wellbeing. High disease burdens linked to waterborne infections and other health risks are the result. This intrinsic link between health and WASH becomes evident in many facets: Improving WASH conditions is a comprehensive and cross-cutting approach that not only addresses specific diseases, but prevents a wide range of waterborne diseases, plays a key role in the prevention and control of Neglected Tropical Diseases (NTDs) and aerosol diseases, and prevents the spread of multi-resistant germs. The newly published article by the Lancet on the Burden of disease attributable to unsafe WASH in domestic settings (2023) illustrates this prominently. According to the article, safe drinking water, sanitation, and hygiene can save at least 1.4 million lives and prevent 74 million disability-adjusted life years annually. Controlling zoonoses assigns WASH a central role in the comprehensive "One Health" approach. And today more than ever, pandemics like COVID-19 demonstrate the importance of hygiene measures to prevent and curb infectious disease outbreaks.

Access to WASH is however not only highly important for disease control and prevention. It is also essential for human wellbeing and dignity. Inaccessibility of appropriate infrastructure (e.g., toilets, washrooms, running water etc.) have consequences for one's health, wellbeing, as well as education, nutrition, dignity, and safety everywhere and for everyone.

Recognizing the critical role of environmental determinants such as the availability of WASH-services in improving health can lead to significant gains in population health outcomes. The economic arguments for WASH as a best buy-in, countless benefits and a myriad of positive effects are well expounded in the developed concept paper for the interactive dialogue on Water for Health: Access to WASH, including the Human Rights to Safe Drinking Water and Sanitation, co-convened by WHO and UNICEF, were discussed at the March 2023 UN Conference on Water. In addition to the latest figures from the JMP reports on the status of WASH globally, the paper also points to the strong interlinkages that WASH has to a manifold of SDGs. This Discussion Paper serves as a supplement to the WHO/UNICEF concept paper cited above and other streams in this direction, focusing specifically on the relationship between SDG 3 and SDG 6, and showcasing successful best practice examples of cooperation between the two sectors. Although the rationale for collaboration between the health and WASH sectors is clear, the practical implementation presents challenges such as differences in terminology, priorities, funding issues, and complexity, making the HOW of collaboration a real obstacle. It is essential to explore ways of overcoming these challenges and expound on the best practices to facilitate successful cooperation. Achieving the SDGs and improving global health outcomes requires a concerted effort between the health and WASH sectors, making it imperative to address the practicalities of collaboration.

The discussion paper follows the organizational structure of the graphic presented on the first page. It explores various areas, like 1. Infectious Disease Control (p. 4–9), 2. Health System Strengthening (p. 10–11) and 3. Sexual and Reproductive Health and Rights (p. 12–14), where joint approaches and intersectoral collaboration are a pre-condition for achieving the SDG 3 and SDG 6. The One Health approach, as per the One Health High-Level Expert Panel (OHHLEP) definition, provides a wider perspective and helps bring together key action fields shared by relevant sectors and cross-cutting topics (e.g., gender, nutrition, climate). Towards the end of this paper, we will discuss the barriers and solutions related to WASH for Health (p. 15).

1. WASH IN INFECTIOUS DISEASE CONTROL: PREVENTION, EARLY DETECTION, AND PANDEMIC RESILIENCE



A key learning from the COVID-19 pandemic is that the world has significantly underinvested in pandemic preparedness and response (PPR) capabilities and thus, pandemic resilience must be strengthened worldwide. The goal is to prevent epidemics as best as possible while preparing health systems for coping with disease outbreaks and potential epidemics or pandemics. Investing in WASH is a core element of health emergency preparedness, response, and recovery to prevent and mitigate the impacts of epidemics, pandemics, and future health emergencies.

WASH also plays a key role in the fight against endemic diseases. Marginalized populations without adequate sanitation and in close contact with infectious vectors and domestic and wild animals are those worst affected. Cholera, Typhoid, and many NTDs are linked with poor WASH and can result in a vicious cycle of poverty or death. Currently, the WHO classifies 20 diseases and conditions as NTDs, affecting more than 1.7 billion people (WHO 2023a). The intricate interplay between WASH and many NTDs becomes particularly evident when we examine the modes of transmission that are pertinent to both domains. NTDs encompass a diverse group of diseases caused by various pathogens, including parasites, bacteria, and viruses. Crucially, the modes of transmission for many NTDs often intersect with key WASH factors. Some NTDs are waterborne, spreading through contaminated water sources, which underscores the vital role of clean water and proper sanitation in preventing their transmission. Ensuring access to safe drinking water and sanitation facilities is essential to mitigate this risk. Additionally, certain NTDs are transmitted through unhygienic practices, highlighting the importance of promoting good hygiene behaviours. Vector-borne NTDs, where insects or animals act as carriers, also emphasize the significance of vector control and habitat management – aspects that align with WASH strategies.

Thus, WASH plays an important role in both the prevention but also the care and management of morbidities (e.g., personal hygiene and washing is essential in the treatment of leprosy and leishmaniasis, and a key for rabies where immediate wound washing reduces infection risk and death up to 80%) – with a functioning health system as inevitable.

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Photo: Improving handwashing with soap among school children in Cambodia. © GIZ, Fit for School, Cambodia

The Global Strategy on Water, Sanitation and Hygiene to Combat Neglected Tropical Diseases (WHO 2021a) sets out the critical role of WASH for the prevention, care and management of NTDs, and calls for strengthened partnerships between the WASH and NTD programmes to improve access to WASH among populations at highest risk of diseases of poverty. The road map sets global targets and milestones to prevent, control, eliminate or eradicate 20 diseases and disease groups. It is built on three pillars that will support global efforts to control, eliminate and eradicate NTDs: (1) Accelerate programmatic action, (2) Intensify cross-cutting approaches, and (3) Change operating models and culture to facilitate country ownership. A toolkit that provides step-by-step guidance to NTD programme managers and partners on how to engage and work collaboratively with the WASH community can be drawn for the published second edition by WHO and the NTD Network on WASH and Health working together: a 'how-to' guide for neglected tropical disease programmes (2023).

1.1 WASH IN SCHOOLS

Schools offer an excellent opportunity to implement holistic health and WASH measures, aligning with the One Health approach. They have the advantage of reaching a substantial population, with a particular focus on a vulnerable group – children. Schools play a pivotal role in instilling lifelong healthy WASH behaviours, especially in terms of hygiene practices. Moreover, they can positively influence parents and the broader community. Beyond being spaces where children spend a significant part of their day, schools naturally serve as the intersection point for the three domains of One Health, allowing for practical and effective implementation. The school environment significantly impacts child health and wellbeing, as well as the transmission of pathogens and other health-related risks. The transmission mode of infectious diseases requires schools to step-up their efforts for WASH – particularly for safe drinking water and facilities for handwashing, as well as increased surface hygiene throughout the school facilities. On the other hand, the school as an institution provides a setting for implementing and managing practical One Health and NTD measures within its scope of action.



PROJECT EXAMPLE: FIT FOR SCHOOL APPROACH (GIZ)

The Fit for School Approach, developed under the GIZ Regional Programme Fit For School is a comprehensive strategy for implementing water, sanitation, and hygiene programmes in schools, which includes daily handwashing and toothbrushing, regular deworming, waste management, and cleaning to combat high-impact diseases. By addressing these key determinants of health in a single intervention package, along with improved access to clean water, washing facilities, and appropriate sanitation, the approach is an effective tool for improving school health. The example of deworming demonstrates how measures to combat NTDs can be integrated with WASH programmes in schools, which are an ideal entry point for reaching a large target group efficiently.

The Fit for School approach provides technical support to governments and ministries to collaborate effectively across different sectors, develop and implement comprehensive and supportive policy frameworks, establish monitoring and recognition systems, and build capacity for practical implementation and management at different organizational levels. Collaboration across sectors such as health, education, and nutrition are crucial in preventing and controlling NTDs, and a One Health approach in schools can promote such collaboration, with lessons learned from implementation potentially applicable to other settings beyond education.

› More information: www.fitforschool.international

Photo: Mass deworming measures for school-age children.
© GIZ, Fit for School, Philippines

1.2 HYGIENE PROMOTION AND BEHAVIOUR CHANGE

Hygiene Promotion and Behaviour Change is a systematic approach to encourage the widespread adoption of safe hygiene practices – something that was also crucial during the COVID-19 pandemic. Improved hygiene behaviour reduces stigma, prevents spread of diseases, reduces malnutrition, and maintains health, thereby enhancing dignity and improving the wellbeing of children and adults alike. Good hygiene behaviour must be supported by access to clean water and sanitation as well as hygiene products. Then, sustained hygiene behaviours and practices will lead to better health – handwashing with soap alone can reduce diarrheal diseases by 30% and acute respiratory infections by 17% (Ross et al. 2023). It also plays an important role in reducing the transmission of outbreak-related pathogens such as Cholera, Ebola, or COVID-19.

Conscious hygiene behaviours such as sneezing/coughing in the bend of the arm or tissue can help prevent the spreading of the virus, so does thorough cleaning of frequently touched surfaces and objects. Experts and institutes around the world recommend frequent and proper hand hygiene as one of the most effective measures to interrupt infection pathways. Besides critical times, there is also a big emphasis on the way hands are washed. In some cases, physical distancing can be a way of reducing the risk of infection.

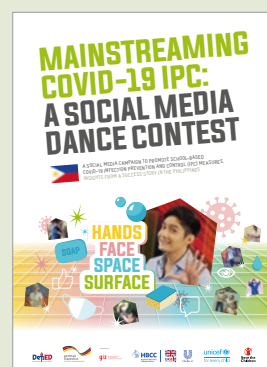


PROJECT EXAMPLE: DeveloPPP: HARNESSING THE POWER OF HYGIENE AND BEHAVIOUR CHANGE IN SCHOOLS TO FIGHT COVID-19 (GIZ, UNILEVER, HBCC)

While many countries have successfully controlled the COVID-19 pandemic with non-pharmaceutical public health measures, extended school closures have had significant negative impacts on children's health, education, social development, and well-being. Maintaining essential measures like physical distancing, masking, and hygiene can effectively control community transmission rates, allowing schools to remain open safely. Vaccination is also crucial to prevent severe cases and build population resilience. Repeated messaging, reinforcing vaccination mandates, and improved hygiene protocols are essential for preparedness and response – for COVID-19 and beyond.

To address these challenges, the develoPPP.de partnership between GIZ and Unilever was expanded to integrate pandemic preparedness and response measures for schools in Indonesia and the Philippines, with support from the Hygiene and Behaviour Change Coalition (HBCC). The initiative was further extended to support Ministries of Education in Indonesia and the Philippines with continued pandemic management and increased vaccination uptake. A collaboration with the Ministry of Health in both countries for the vaccination campaign ensured aligned messaging.

Hygiene communication remains crucial, and efforts focus on promoting personal and environmental hygiene, as well as vaccination messaging through mass and social media channels. Regular monitoring and institutionalization of these measures will be facilitated for sustainability. Existing education sector governance structures and platforms will be leveraged to scale-up and mainstream the approach. Sharing knowledge and lessons learned through online platforms will enable mutual learning for schools, governments, and development partners beyond the project's scope.



Photos: Pandemic preparedness and response measures for schools in Indonesia and the Philippines. © GIZ, Unilever, HBCC

1.3 THE HUMAN-ANIMAL INTERFACE

In the examples before, we have seen that WASH is a fundamental element for ensuring human health and wellbeing and a key factor in disease control. However, humans are not the only entities to consider in disease control. The interaction between humans and animals also plays a crucial role in the transmission of zoonotic diseases. It is well-established that a significant proportion of infectious diseases in humans, including emerging ones, originate from animals. Data shows that about 75% of all newly emerging infectious diseases in humans have originated from animals. That's three out of four new diseases that spilled over from animals to humans (World Organisation for Animal Health 2023).

To effectively address WASH challenges concerning animals and zoonotic diseases, the One Health approach becomes essential. This approach recognizes the interconnectedness of human, animal, and environmental health and emphasizes the inclusion of animal welfare in policies and activities aimed at promoting clean and sanitized water access, water management, climate change, and gender equality. A holistic approach is vital, involving collaboration with stakeholders from diverse backgrounds, all working together towards a shared goal.

Evidence has shown that neglecting animal-related WASH issues, such as the management of animal waste, slaughtering practice, and livestock farmers' hand hygiene or unhygienic handling of food of animal origin, can lead to the spread of infectious diseases through the feco-oral route. While human sanitation management receives increased attention, the safe management of animal waste/manure and hygiene at the human-animal interface often remains overlooked. There are also gaps in understanding the importance of hygiene and sanitation practices among livestock keepers. Many lack awareness of (zoonotic) disease transmission, and access to sanitation materials like soap and clean water is limited. The lack of proper hygiene during interactions with animals poses a risk of disease transmission, making it imperative to address these issues as part of the WASH and health frameworks. Moreover, zoonotic pathogens can persist outside of humans, perpetuating the risk of disease outbreaks even after human infections are cured. Therefore, the effective management of animal waste disposal is crucial to prevent environmental contamination and potential waterborne diseases (Yasobant et al. 2022). To address WASH challenges concerning animals effectively, research and interventions at the human-animal interface urgently need to be intensified. Comprehensive risk assessments should include animal-related aspects to ensure a more holistic understanding of disease transmission. Additionally, promoting proper hygiene and sanitation practices during animal interactions is essential to minimize the spread of zoonotic diseases.



ANIMAL WELFARE AND ACCESS TO WATER (WORLD HORSE WELFARE AND THE DONKEY SANCTUARY)

Working equids (horses, donkeys, mules, and hinnies (donkey/horse hybrids) exemplify this interconnection. It is estimated that worldwide, mainly women and girls spend up to 200 million hours collecting clean water every day (Farley 2018) and working equids play a critical role in access to water for many of these women and girls (Maggs et al. 2023). The support these animals provide can significantly reduce the time needed for collecting and transporting water, leaving more time for other activities, such as going to school (Maggs et al. 2021). The role these animals play can be crucial, especially in rural and remote areas, where vehicular use is more challenging due to limited infrastructure or challenging terrain (Rodrigues et al. 2017; Watson et al. 2023) – transporting water to supply their households and communities, to be used by humans and animals, such as livestock or the equids themselves (Vasanthakumar et al. 2021). For instance, 80% of survey respondents in remote and mountainous regions in Tunisia relied on their donkeys or mules to access and carry clean water (Grace et al. 2022). Working equids may also have a potential impact on water sanitation and disease prevention, as they support waste collection in some regions (Shah et al. 2019).

If working equids were unavailable to collect and transport water it could result in water insecurity, especially for remote communities. Using a One Health, One Welfare lens, the health and welfare of working equids, is therefore pivotal: not only when considering their importance as individual sentient beings, but by recognising that good health and welfare ensures they can perform their daily tasks efficiently and sustainably, without putting at risk the access to water for humans and other animals, especially in remote areas or during periods of drought (Clancy et al. 2021). Animal welfare can be thought of in terms of five domains of needs, explained further in Mellor et al. 2020. Safeguarding the welfare of working equids, therefore, facilitates community's wellbeing.

Photo: When a devastating drought gripped Namibia, Kerirorere and her donkey, Dendu, traveled 7km twice a day to collect water. © The Donkey Sanctuary, 2017

1.4 ANTIMICROBIAL RESISTANCE (AMR)

In the world of modern medicine, the discovery of antibiotics marked a groundbreaking achievement, saving countless lives by effectively combating bacterial infections. However, this medical triumph has encountered an alarming adversary known as Antimicrobial Resistance (AMR). As bacteria, viruses, parasites, and fungi evolve, they develop mechanisms to resist the drugs designed to eliminate them. AMR, often called the “Silent Pandemic”, threatens the effective prevention and treatment of an ever-increasing range of infections with WHO declaring AMR as one of the top 10 global public health threats facing humanity (WHO 2021b). AMR’s impact on the economy is considerable. Besides causing death and disability, it leads to extended hospital stays, the requirement for more costly medications, and financial burdens for those affected. In 2019, a total of 4.95 million deaths were associated with bacterial AMR including 1.27 million deaths per year which are directly caused by bacterial AMR (Murray et al. 2022). If left unchecked, the number of deaths due to AMR could increase to 10 million annually by 2050.

Halting the emergence of AMR requires a comprehensive approach involving promoting responsible antibiotic use, strengthening surveillance, investing in research for new treatments, fostering international cooperation, and implementing stringent regulations in healthcare and agriculture. Additionally, poor sanitation and limited access to clean water and hygiene are significant contributing factors to the spread of antimicrobial resistance and its associated diseases. Access to clean water, sanitation and the ability to perform basic hygiene measures such as hand washing with soap are essential in combating and preventing AMR. Every year, many millions of cases of human diarrhoea are treated with antibiotics. Universal access to WASH could reduce this number by 60% (WHO/FAO/OIE 2020). In addition to their justified use and life-saving effects, antibiotics are often used as a “quick fix” for dysfunctional health systems, including inadequate or no access to WASH. Therefore, improving sanitation, access to clean water, and providing basic handwashing and hygiene facilities are crucial steps in reducing the spread of infections and the need for antibiotics, making it an integral part of the strategy to mitigate this global health threat. Healthcare facilities also play an essential role in both preventing and mitigating AMR: Improving all five pillars of WASH in healthcare facilities, such as clean water, sanitation, hygiene, medical waste management and environmental cleaning will all contribute to safer working and care environment and the reduction of infections and opportunities for resistance to develop. The human-animal interface also becomes relevant for the topic of AMR. The overuse and misuse of antibiotics for example in livestock farming and companion animals contribute to the emergence of drug-resistant bacteria that then can be transmitted to humans through direct contact or the food chain.

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PROJECT EXAMPLE: WASTEWATER-BASED EPIDEMIOLOGY STUDIES AT COLUMBIA UNIVERSITY

Columbia University researchers led by Prof. Kartik Chandran have been testing wastewater to reveal the state of public health for over a decade. Chandran’s studies had previously focused mainly on public health threats such as antimicrobial resistance, including antibiotic resistant bacteria and antibiotic resistance genes.

Most recently, and since the beginning of the pandemic, Prof. Chandran’s group has been testing wastewater from several communities, including large cities, and Columbia University residence halls to identify signs of the novel coronavirus before a widespread outbreak of COVID-19 can occur.

As established by several studies by now, people infected with SARS-CoV-2 shed the virus in their faeces and other bodily fluids even before they show symptoms of COVID-19. (To date, there has been no definitive evidence that the COVID-19 virus can be transmitted through non-respiratory body fluids.) Wastewater-based tracking has revealed that SARS-CoV-2 prevalence in wastewater can, in some cases, precede clinical evidence of infection. That buys decision makers valuable time to assess and take actions, such as additional testing, quarantine, or following up with close contacts.

At Columbia, where nearly 1,000 undergraduates currently live on campus, scientists have collected waste samples from four dormitories. Testing involves sampling wastewater from pipes in the building, concentrating the genetic material in the sample, and then analysing the sewage to detect SARS-CoV-2 and other viral genomic material.

Chandran’s results have revealed (in addition to known mechanisms of SARS-CoV-2 health impacts) that there could be several other hitherto uncharacterized ways by which SARS-CoV-2 could impose health burdens. Future wastewater-based epidemiology and environmental surveillance studies could benefit by focusing on large-scale diagnoses of unknown (the what-else) microbial interactions with human hosts via sequencing-based approaches, rather than just targeted tracking.

> More information: <https://kchandranlab.wixsite.com/kclab>

Photo: Columbia tests campus wastewater for coronavirus.

© Columbia / Engineering, www.youtube.com/watch?v=xJ_Cejr9A_A&t=13s

The “Technical Brief on Water, Sanitation, Hygiene and Wastewater Management to prevent Infections and reduce the Spread of Antimicrobial Resistance” authored by WHO, FAO, and OIE, serves as a valuable resource to guide the integration of WASH, and wastewater management components into comprehensive national action plans (NAPs) addressing antimicrobial resistance. This report not only compiles evidence and underscores the co-benefits of actions within each sector but also offers a diverse array of actionable measures that can be adapted and enhanced to align with the specific circumstances of individual countries. Surveillance helps in monitoring the trends of resistance over time. This information is invaluable for researchers, healthcare agencies, and policymakers to understand how resistance is evolving and where interventions are needed. To address the urgent need for the monitoring of AMR, the WHO initiated the Global Antimicrobial Resistance and Use Surveillance System (GLASS) in 2015, aimed at filling knowledge gaps and guiding strategies at all levels. GLASS is designed to gradually integrate data from various sources, including surveillance of AMR in the environment (WHO 2022a). The Systematic monitoring of wastewater (hospital effluents, market or slaughterhouse effluents, surface waters or other environmental samples) for the presence of pathogens, their distribution, concentration, and composition can make an important contribution to the containment but also to the prevention of AMR and other epidemics. For example, pilot projects during the COVID-19 pandemic have shown that (waste)water-based investigations can be a complementary tool for policy decisions with public health relevance. Epidemiology based on wastewater monitoring plays an important role in the global early detection of health threats and trends (such as epidemics) and represents a more cost-effective alternative to other forms of monitoring. Multi-resistant germs (AMR), resistance genes and antimicrobial residues can be detected in wastewater as well. Particularly with regard to the “silent pandemic” of antimicrobial resistance, the targeted detection of AMR trends, hotspots as well as spread and transmission paths within and between sectors is necessary to enable targeted control of AMR.

2. STRENGTHENING HEALTH SYSTEMS TO IMPROVE SERVICES AND RESILIENT INSTITUTIONS



Health systems are resilient if they can protect human life and provide quality health services before, during and after a crisis to the population in need. For health systems to effectively manage infection prevention and control (IPC) they need to be people-centred, evidence-informed, and resilient to climate change, emergencies, and outbreaks. Functioning and safe WASH services in institutions are a prerequisite for IPC and quality health care. If WASH services in healthcare facilities (HCFs) are underperforming, the safety of patients and health workers is at risk and the health system thus not resilient. Strengthening these through increased availability and sustainability of safe WASH incorporating water, sanitation, hygiene, environmental cleaning, and healthcare waste management is imperative to responding to, mitigating, and recovering from future emergencies and pandemics. Ensuring equal, universal access to safely managed WASH services can reduce global diseases by 10% annually (WHO 2012). By breaking transmission cycles, WASH tackles the causes of many infectious diseases. Increased hand hygiene in HCFs alone could prevent up to 50% of infections during treatment (WHO 2021c). Improving WASH in communities and public institutions (HCFs, schools) cannot only prevent diseases and the overreliance and misuse of antibiotics that contribute to AMR, but also enhance the quality of care.

Yet, half of HCFs globally and 68% in least developed countries (LDCs) lack basic hand hygiene services. This makes for 3.85 billion people being exposed to the immediate risk of infectious disease transmission simply because they cannot wash their hands when working or being treated at their HCF. Aspects of sanitation and hygiene at HCFs in LDCs are equally alarming, with only 20% basic sanitation and 53% basic water services (WHO/UNICEF 2022). This deprives health care workers, patients, and students of a fundamental tool for preventing and controlling the spread of infectious diseases.

Photo: Waste segregation in the Tribhuvan University Teaching Hospital (TUTH), Kathmandu, Nepal.
© GIZ / Umong Shahi, 2020

Globally, women comprise 70% of health and social care workers and almost 90% of nursing and midwifery workforce (WHO 2020). The health and safety of healthcare workers, including nurses, midwives, and community health workers, are endangered due to the absence of clean water, decent toilets, and good hygiene practices. Specifically, female healthcare workers face an extra layer of risk during menstruation, pregnancy, and childbirth, which further compounds the existing safety challenges. These unique circumstances increase their vulnerability to life-threatening infections, emphasizing the urgent need for improved WASH facilities and hygiene practices in healthcare settings to protect the health and safety of all healthcare workers.

Investing in targeted capacity building for health workers, such as midwives, as well as management and data systems, is essential to make reproductive health services more resilient and strengthen health systems sustainably. Infra-structural measures such as the construction of birthing centres and hospitals, with adequate WASH provision, can improve access to basic healthcare with a specific focus on reproductive health.



PROJECT EXAMPLE: WASH IN HEALTHCARE FACILITIES (WATERAID)

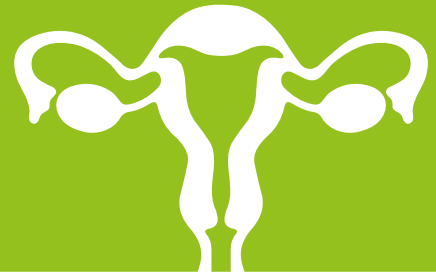
Barriers to inclusive and sustainable WASH in HCF exist at multiple levels that need to be addressed through system strengthening efforts. In Malawi, WaterAid has been working to model inclusive and sustainable WASH in HCF for scale-up by the Ministry of Health across the country. At the Chikweo Health Centre, for example, the system strengthening approach led to a collaborative effort involving the community, the facility, and government entities at district and national levels. At the community level, income-generating activities were identified to support the operation and maintenance of the HCF. Within the facility, capacity strengthening initiatives were undertaken, including IPC and WASH training, waste management, hand hygiene, and environmental cleaning. Improved IPC and WASH guidelines were developed and implemented, along with improvement plans executed by healthcare staff. Regular supervision from a district IPC coordinator ensured progress and support. Additionally, an Operation and Maintenance committee composed of HCF management, health workers, and community members was established to troubleshoot, conduct minor maintenance, and manage resource mobilization. At the district level, a life-cycle cost analysis exercise helped government officials plan for sustainable WASH services. WaterAid supported the district council in developing SDG-responsive District Strategy Investment Plans (DSIPs) to increase the allocation of funds to WASH. At the national level, the successful WASH model implemented at Chikweo Health Centre was showcased to the Ministry of Health and other stakeholders, influencing the adoption of WASH package designs and standards in other HCFs across Malawi through presenting to the Safe Motherhood sub-technical working group, and is influencing other WASH stakeholders to adopt the package.

Key learnings from this project include the importance of engaging with and supporting government at multiple levels for decision making and action to ensure ongoing ownership of improvements and scaling-up best practice models of WASH in HCFs. Community involvement and ownership contribute to financial savings, improved quality care, and effective communication between the community and local government. Lastly, evidence generated from studies and projects can be leveraged to influence national strategies and promote further action on WASH in HCFs to achieve Universal Health Coverage.

➤ More information: <https://washmatters.wateraid.org/water-sanitation-and-hygiene-in-healthcare-facilities>

Photo: Marriam Kadangwa, 19, filling a bucket with water from a tap installed through the Deliver Life 2 Project, Chikweo Health Centre, Machinga, Malawi. © WaterAid/Francis Chipanda, 2021.

3. SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS



The health burdens of poor WASH place additional health risks on women and girls for a number of reasons. Because women are the primary household managers of water and sanitation, poor WASH practices increase their exposure and thus risks for waterborne diseases, namely cholera, bacterial infections, and other diseases transmitted by contaminated water and poor WASH practices (WHO/UNICEF 2023). Collecting water from unimproved and unsafe sources increases the risks of disease and infection, such as infection from faecally transmitted diseases, such as ascariasis, diarrhoea (WHO 2023c). Taking care of sick family members, also a responsibility that falls primarily on women and girls, exposes them to greater health risks from other certain water and sanitation related diseases, such as trachoma (WHO 2022b). Women are also largely responsible for cleaning sanitary facilities, changing diapers and managing human waste, often without sufficient protection or water and hygienic supplies, increasing their exposure to disease. The lack of sanitation facilities can also affect women's health more negatively than men's because of cultural norms about female modesty that mean women avoid drinking sufficient water to minimize the number of times they must urinate, increasing urinary tract infections, chronic constipation, and other related disorders (WHO/UNICEF 2023).

Carrying water, again, largely done by women, comes with elevated risks of injuries and chronic pain. The physical burdens of fetching and carrying water reduce women's psychological wellbeing and their daily functioning. Risks of poor health outcomes are greater the greater the weight, the farther the distance, the more challenging the terrain, the more compromised the health of the carrier, and if she is pregnant, carrying a baby, or recently gave birth (Guzman et al. 2023).

Thus, access to safe and inclusive WASH plays a crucial role in combating gender inequality and discrimination, while also promoting sexual and reproductive health (SRH) service delivery and the realization of sexual and reproductive health and rights (SRHR). When clean water, safe sanitation, and personal hygiene are not easily accessible, vulnerable and disadvantaged groups, especially women, girls and people with disabilities, face significant health and safety risks.

Photo: Influencer and Goodwill Ambassador Kathleen Paton talks to students about menstrual products in a school toilet in the Philippines.
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These risks include gender-based violence and exclusion from daily life and mobility. Moreover, the lack of WASH can significantly impact reproductive health, including Menstrual Health and Hygiene (MHH) (3.1), and contribute to maternal and newborn mortality (3.2).

Therefore, everyone should have the right to quality care, dignity, and privacy in households, HCFs, and schools, including adequate WASH, regardless of whether they are patients, students, or caregivers. Thus, integrating WASH and SRHR interventions can significantly contribute to gender equality (SDG 5) and improve health outcomes and women's rights.

3.1 ACCESS TO MENSTRUAL HEALTH AND HYGIENE

Women and girls who are unable to manage their menstruation face challenges that compromise their education, work life, health and to navigate other aspects of their lives. Millions of women and girls worldwide continue to be marginalized and prevented from reaching their full potential because of their periods. More than 500 million people lack information, education, and access to appropriate menstrual products or sanitation facilities to manage their periods safely and hygienically (World Bank 2022). In many parts of the world, girls and women face disadvantages in school and other institutions due to inadequate infrastructure, lack of products, and knowledge. This means that schoolgirls, especially, may miss school due to menstruation (Sommer et al. 2015). Poor sanitation, the lack of menstrual hygiene products and not being able to wash hands after changing menstrual products can increase the risk of reproductive and urogenital infections and spread infections. Furthermore, poor menstrual hygiene management (MHM) can contribute to reproductive tract infections, which can result in future infertility and birth complications (Torondel et al. 2017). Additionally, managing menstruation can be an even bigger problem for people who are forcibly displaced or living in times of emergencies due to limited access to safe WASH facilities and hygiene products (Sommer et al. 2017).

To overcome these challenges, promoting inclusive and gender-transformative WASH interventions and safe menstrual health and hygiene (MHH) practices is fundamental to the health and equal economic, political, and social participation of women and girls and can serve as an entry point to SRHR. Comprehensive MHH interventions can also contribute to stopping harmful practices and beliefs, such as early marriage once girls have their first menstruation. By integrating WASH interventions with MHH interventions in schools, girls can attend school while on their periods, reducing their absenteeism and ensuring their access to education (UNICEF 2019).



**PROJECT EXAMPLE: #LetsTalkPERIOD.
REACHING MILLIONS VIA SOCIAL MEDIA (GIZ)**

'Clicktivism' is proving an effective tool for tackling taboos around menstruation and for empowering young women around the globe. Starting in 2020 German-supported projects in Nepal, Albania and the Philippines are involving local social media influencers and celebrities to break down taboos around MHH. Until now 5 million people have been reached in the 3 countries with the #LetsTalkPERIOD approach in a culturally sensitive manner.

This approach recognizes the power of social media and influencer culture in shaping public attitudes and perceptions towards MHH. By leveraging the reach and influence of local personalities, these campaigns are making an impact in communities where traditional attitudes towards menstruation have been a barrier to progress. By breaking down taboos and promoting open dialogue, these campaigns are empowering young women and girls to take control of their menstrual health and hygiene and helping to promote gender equality and women's empowerment.

> More information: www.susana.org/en/knowledge-hub/projects/database/details/712#

Photo: Nepal's Menstrual Movement: Tackling Taboos with Keki Adikhari, a well-known actress, model, and film producer in Nepal. © GIZ 2021

MENSTRUAL HYGIENE DAY

The international Menstrual Hygiene Day (MH Day), led by the NGO WASH United, is the world's largest and most relevant campaign focused on menstruation. The campaign aims to ensure that by 2030, no woman or girl is prevented from achieving her full potential due to her period. Organizations across the world are joining the campaign by breaking the silence and stigma surrounding menstruation, raising awareness about MHH, and advocate for better access to menstrual products, sanitation facilities, and education. In 2023, the campaign reached more than 705 million people worldwide via social media, online news media, TV and radio broadcasting. The success of MH Day shows that there is a growing recognition of the importance of MHH in achieving gender equality and sustainable development.

> More information: <https://menstrualhygieneday.org>



PROJECT EXAMPLE: SANITATION FOR MILLIONS

Sanitation for Millions is a global programme improving access to safe sanitation and hygiene with a focus on vulnerable and disadvantaged groups, especially women and girls. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH executes the global programme in close cooperation with local partners in Colombia, Jordan, Pakistan, and Uganda. As a project with gender equality as its main objective, Sanitation for Millions considers menstrual hygiene management (MHM) as a cross-cutting issue in all activities. Female-friendly designs are applied in all construction and rehabilitation activities so that sanitation facilities provide a safe and private space and cater for menstrual hygiene requirements. Awareness raising activities and knowledge transfer in public institutions, such as schools, health care facilities and faith-based institutions, anchor safe menstrual hygiene practices in the everyday lives of girls and women. All activities also consider how to include male persons to increase male-allyship. In addition, the project addresses the issue of menstrual hygiene in (local) political and social discourses and thus contributes to the breaking of taboos surrounding menstruation and to overcoming the stigma associated with it. At the policy level the goal is to raise awareness and anchor the topic in policies.

In Pakistan, Sanitation for Millions has established the secretariat to support the MHM technical working group in the province of Balochistan. The main objective of the working group is to raise awareness on the issue, advocate to improve the situation, and incorporate MHM into policies. Different stakeholders, such as government officials, parliamentarians, development organizations and civil society organisations, are working together on this goal as members of the working group. Jointly, the members trained a pool of trainers, organised public events and campaigns, for example on MH Day, and achieved the integration of MHM into the Balochistan Education Sector Plan (BESP) 2020 – 25.

› More information: sanitationformillions.org

Photo: Capacity building for girls in a school in Pakistan.
© GIZ, Sanitation for Millions / Zahoor Click

3.2. THE INTERSECTION OF MATERNAL AND NEWBORN HEALTH, BREASTFEEDING AND WASH

Each year 16.6 million women in LDCs give birth in HCFs with inadequate WASH. In 2021, basic hygiene services were available in just one third (32%) of HCFs in these countries, and only 37% of the population had a hand-washing facility with water and soap at home. Sepsis is one of the leading causes of maternal and neonatal mortality (WHO/UNICEF 2022).

It is estimated globally that 10% of the burden associated with undernutrition is related to unsafe WASH (WHO 2023c). Repeated diarrhoea or parasitic infections prevent people from absorbing nutrients from food, leading to severe health risks, particularly for newborns who are not breastfed. Such newborns are more vulnerable to infections and pathogens from contaminated water that cause diarrhoea. Moreover, mothers who do not wash their hands at appropriate times can pass harmful bacteria and pathogens to their newborns while feeding, and formula mixed with unsafe drinking water can cause bouts of diarrhoea, stunting, wasting, undernutrition, and even death (World Vision 2016).

Proper newborn feeding practices and improved WASH services are required to reduce diarrheal morbidity among newborns. Interventions that provide access to sufficient clean water pre- and post-delivery, particularly to facilitate bathing and handwashing of mothers and their newborns, are essential. Additionally, integrating WASH with maternal, newborn, and child health, nutrition, and early childhood development programmes can support mothers to address their needs and health, enabling them to provide care that promotes and protects their health and that of their newborns.

WASH FOR HEALTH: FROM BARRIERS TO SOLUTIONS

The WASH for Health approach presents significant opportunities for advancing not only SDG 3 (Good Health and Wellbeing) and SDG 6 (Clean Water and Sanitation) through improving public health outcomes, including WASH in infectious disease control, health system strengthening, and sexual and reproductive health and rights. Adopting the One Health approach provides a broader perspective, facilitating the integration of key action fields shared by the WASH and health sectors and even further connecting them with the broader SDG agenda and cross-cutting topics such as gender, nutrition, and climate. This holistic approach for WASH for Health not only enhances the efficiency and effectiveness of interventions but also strengthens the collective capacity to address complex challenges at the intersection of WASH and Health. Embracing this approach holds the promise of promoting better health outcomes and sustainable development for all. The project examples in this paper illustrate how a successful cooperation between the sectors is already happening, serving as valuable learning tools for individuals, and organizations.

However, intersectoral collaboration between WASH and health sectors can be challenging due to various reasons. Fragmented governance, limited resources, diverse approaches, bureaucratic hurdles, competing stakeholder interests, and a lack of awareness and understanding can hinder effective collaboration. In many countries, governance and leadership in WASH and Health sectors are distributed across multiple ministries and administrative levels (local, national), leading to complex and slow coordination. Additionally, both sectors face resource constraints, making it difficult to pool resources for joint efforts. Moreover, distinct approaches and technical language can hinder effective communication and integration. Furthermore, different priorities and mandates can lead to competing interests and limited willingness to collaborate. This is exacerbated by short-term focus, as immediate needs may divert attention from long-term collaborative efforts.

As explained in this paper, effective cooperation is essential among stakeholders such as policymakers, engineers, health care professionals, veterinarians, farmers, donors, NGOs, and private entities to implement successful and sustainable projects and programmes. To overcome the barriers to intersectoral collaboration between sectors like WASH and Health, various recommendations can be implemented:

Strong leadership and political will to develop cross-sectoral governance and planning structures from national to local level.

Develop integrated policies for WASH and health – including clear WASH actions in national and local health policies.

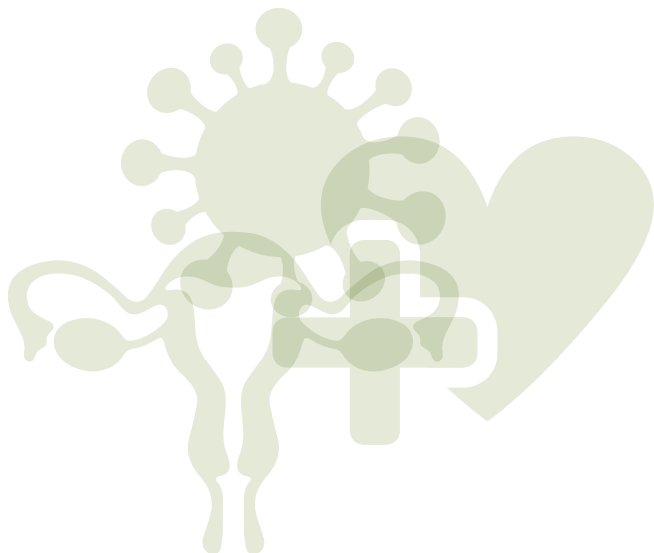
Share WASH and health data across sectors and ministries and use data to inform decision making, inform joined-up planning and efficient targeting of resources to areas most in-need.

Donors should align with national plans, using funding mechanisms to encourage collaboration between sectors. Allocate dedicated funds for WASH within health investments and vice versa.

Establish coordination mechanisms between the WASH and health sectors to create, implement, and oversee joint plans.

By following these recommendations, an enabling environment for effective intersectoral collaboration can be established, leading to improved outcomes in public health, water, sanitation, and hygiene. Continuous efforts and commitment from all parties involved are essential, as collaboration is an ongoing process.

Only by working together and utilizing innovative and collaborative approaches, we can create a healthier, more equitable world for all and achieve the SDGs beyond 3 and 6. Access to safe water and sanitation is not only critical for improving public health outcomes but also a basic human right, and we must continue to prioritize and invest in WASH and Health interventions to ensure that everyone has access to these fundamental necessities and a healthy future.



REFERENCES

- Clancy, C., Watson, T., Raw, Z. (2021): Resilience and the role of equids in humanitarian crises. Available: <https://onlinelibrary.wiley.com/doi/full/10.1111/disa.12501>.
- Farley, M. (2018): How long does it take to get water? for Aysha, eight hours a day. Available: www.unicefusa.org/stories/how-long-does-it-take-get-water-aysha-eight-hours-day.
- Grace, D. C., Diall, O., Saville, K., Warboys, D., Ward, P., Wild, I., & Perry, B. D. (2022): The Global Contributions of Working Equids to Sustainable Agriculture and Livelihoods in Agenda 2030. *EcoHealth*, 19(3), 342–353. <https://doi.org/10.1007/s10393-022-01613-8>.
- Guzman, K., Stone, G., Yang, A., Schaffer, K., Lo, S., Kojok, R., Kirkpatrick, C., Pozo, A., Le, T., DePledge, L., Frost, E., Kayser, G. (2023). Drinking water and the implications for gender equity and empowerment: A systematic review of qualitative and quantitative evidence. *International Journal of Hygiene and Environmental Health*. 247. 114044. [10.1016/j.ijheh.2022.114044](https://doi.org/10.1016/j.ijheh.2022.114044).
- Maggs, H., Ainslie, A., Bennett, R. (2021): Donkey Ownership Provides a Range of Income Benefits to the Livelihoods of Rural Households in Northern Ghana. Available: www.mdpi.com/2076-2615/11/11/3154.
- Maggs, H., Ainslie, A., Bennett, R. (2023): The value of donkeys to livelihood provision in northern Ghana. Available: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0274337>.
- Mellor, D.J., Beausoleil, N.J., Littlewood, K.E., McLean, A.N., McGreevy, P.D., Jones, B., Wilkins, C. (2020): The 2020 Five Domains Model: Including Human-Animal Interactions in Assessments of Animal Welfare. *Animals* 2020, 10, 1870. <https://doi.org/10.3390/ani10101870>.
- Murray, C. J. L., Shunji, K. I., Sharara, F., Swetschinski, L., Aguilar, R. G., Gray, A., Han, C., Bisignano, B., Rao, P., Wool, E., Johnson, S. C., Browne, A. J., Chipeta, M. G., Fell, F., Hackett, S. (2022): Antimicrobial Resistance Collaborators. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. *Lancet*. 2022 Feb 12;399(10325):629–655. doi: [10.1016/S0140-6736\(21\)02724-0](https://doi.org/10.1016/S0140-6736(21)02724-0).
- Rodrigues, J.B., Schlechter, P., Spychiger, H., Spinelli, R., Oliveira, N., Figueiredo, T. (2017): The XXI century mountains: sustainable management of mountainous areas based on animal traction. Available: www.degruyter.com/document/doi/10.1515/opag-2017-0034/html.
- Ross, I.; Bick, S., Ayieko, P., Dreifelbis, R., Wolf, J., Freeman, M.C., Allen, E., Brauer, M., Cumming, O. (2023): Effectiveness of handwashing with soap for preventing acute respiratory infections in low-income and middle-income countries: a systematic review and meta-analysis. *The Lancet*. Available: [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(23\)00021-1/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(23)00021-1/fulltext)
- Shah, S. Z. A., Nawaz, Z., Nawaz, S., Carder, G., Ali, M., Soomro, N., & Compston, P. C. (2019): The Role and Welfare of Cart Donkeys Used in Waste Management in Karachi, Pakistan. *Animals: an open access journal from MDPI*, 9(4), 159. <https://doi.org/10.3390/ani9040159>.
- Sommer, M., Sutherland, C., Chandra-Mouli, V. (2015): Putting menarche and girls into the global population health agenda. *Reprod Health* 12, 24. <https://doi.org/10.1186/s12978-015-0009-8>.
- Sommer, M., Schmitt, M., Clatworthy, D. (2017): A toolkit for integrating Menstrual Hygiene Management (MHM) into humanitarian response. (First edit). New York: Columbia University, Mailman School of Public Health and International Rescue Committee.
- Torondel, B., Sinha, S., Mohanty, J.R. et al. (2017): Association between unhygienic menstrual management practices and prevalence of lower reproductive tract infections: a hospital-based cross-sectional study in Odisha, India. *BMC Infect Dis* 18, 473. <https://doi.org/10.1186/s12879-018-3384-2>.
- UNICEF (2019): Guidance on Menstrual Health and Hygiene (MHH). Available: www.unicef.org/media/91341/file/UNICEF-Guidance-menstrual-health-hygiene-2019.pdf.
- Vasanthakumar, M.A., Upjohn, M.M., Watson, T.L.; Dwyer, C.M. (2021): All My Animals Are Equal, but None Can Survive without the Horse. The Contribution of Working Equids to the Livelihoods of Women across Six Communities in the Chimaltenango Region of Guatemala. *Animals* 2021, 11, 1509. <https://doi.org/10.3390/ani11061509>.
- Watson, T., Kubasiewicz, L. M., Nye, C., Thapa, S., Chamberlain, N., Burden, F.A (2023): The welfare and access to veterinary health services of mules working the mountain trails in the Gorkha region, Nepal. Available: <https://ajvs.cl/index.php/ajvs/article/view/297>.
- WHO (1946): Constitution. Available: <https://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf?ua=1>.
- WHO (2012): Global costs and benefits of drinking-water supply and sanitation interventions to reach the MDG target and universal coverage. Available: <https://apps.who.int/iris/handle/10665/75140>.
- WHO (2020): Gender, equity and leadership in the global health and social workforce. Available: www.who.int/docs/default-source/health-workforce/ghwn-geh-policy-brief-for-consultation.pdf?sfvrsn=ff48aa7b_4.
- WHO (2021a): Ending the neglect to attain the Sustainable Development Goals: a global strategy on water, sanitation and hygiene to combat neglected tropical diseases, 2021–2030. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO. Available: <https://iris.who.int/bitstream/handle/10665/340240/9789240022782-eng.pdf?sequence=1>.
- WHO (2021b): Antimicrobial resistance. Available: www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance.
- WHO (2021c): Key facts and figures. World Hand Hygiene Day 2021. Available: www.who.int/campaigns/world-hand-hygiene-day/2021/key-facts-and-figures.
- WHO (2022a): Global antimicrobial resistance and use surveillance system (GLASS) report: 2022. Available: www.who.int/publications/i/item/9789240062702.
- WHO (2022b): Trachoma. Available: www.who.int/news-room/fact-sheets/detail/trachoma.
- WHO (2023a): Neglected tropical diseases. Available: www.who.int/health-topics/neglected-tropical-diseases#tab=tab_2.
- WHO (2023b): WASH and health working together: a “how-to” guide for neglected tropical disease programmes, second edition. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO. Available: <https://iris.who.int/bitstream/handle/10665/279913/9789241515009-eng.pdf?sequence=1>.
- WHO (2023c): Burden of disease attributable to unsafe drinking-water, sanitation and hygiene: 2019 update. Available: www.who.int/publications/i/item/9789240075610.
- WHO/UNICEF (2022): Progress on WASH in health care facilities 2000–2021: special focus on WASH and infection prevention and control (IPC). Available: <https://washdata.org/sites/default/files/2022-12/jmp-2022-wash-hcf.pdf>.
- WHO/UNICEF (2023): Progress on household drinking water, sanitation and hygiene 2000–2022: special focus on gender. New York. Available: https://cdn.who.int/media/docs/default-source/wash-documents/jmp-2023_layout_v3launch_5july_low-reswhowebste.pdf?sfvrsn=c52136f5_3&download=true.
- WHO/FAO/OIE (2020): Technical brief on water, sanitation, hygiene (WASH), and wastewater management to prevent infections and reduce the spread of antimicrobial resistance (AMR). Available: www.who.int/publications/i/item/9789240006416.
- Wolf et al. (2023): Burden of disease attributable to unsafe drinking water, sanitation, and hygiene in domestic settings: a global analysis for selected adverse health outcomes. In *Lancet* 2023; 401: 2060–71.
- World Bank (2022): Menstrual Health and Hygiene. Available: www.worldbank.org/en/topic/water/brief/menstrual-health-and-hygiene.
- World Organisation for Animal Health (2023): One Health. Available: www.woah.org/en/what-we-do/global-initiatives/one-health.
- World Vision (2016): How breastfeeding and WASH are linked. Available: www.wvi.org/water-sanitation-and-hygiene-wash/article/how-breastfeeding-and-wash-are-linked.
- Yasobant, S., Tadvj, R., Patel, K., Saxena, D. (2022): Water, sanitation and hygiene from One Health perspective. *One Health Bulletin*. DOI: 10.4103/2773-0344.350691. Available: www.researchgate.net/publication/362945700-Water_sanitation_and_hygiene_from_One_Health_perspective.

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WHAT IS SuSanA?

The Sustainable Sanitation Alliance (SuSanA) works towards a world in which all people have access to adequate sanitation, regardless of gender, age, income, culture or location.

SuSanA is an open network of people and organizations who share a common vision on advancing sustainable sanitation systems. The overall goal is to contribute to achieving the Sustainable Development Goals (SDGs), in particular SDG 6, by promoting a systems approach to sanitation provision.

SuSanA came into existence in early 2007. Since then, it has been providing a platform for coordination and collaborative work. Today, it connects more than 15,000 individual members and 400 partner organizations (NGOs, private companies, multilateral organizations, government agencies and research institutions) to a community of people with diverse expertise and opinions.

By supporting its partners in developing, accelerating and exchanging innovations, SuSanA also serves as sounding board for innovative ideas.

Finally, SuSanA contributes to policy dialogue through joint publications, meetings and initiatives.

HOW SuSanA WORKS

SuSanA's most important assets are the knowledge, experience, creativity and energy of a large and diverse membership. SuSanA focuses on all the different dimensions of sustainable sanitation and the full spectrum of development contexts. SuSanA provides members with forums for discussion and analysis, it provides structures to support collaboration and offers a range of channels for effective communication.

SuSanA strives to be a true partnership, in which all members have a voice and can contribute. New members and organizational partners are welcome. Decision-making is achieved through reaching a broad consensus. Interactions within the network are creative, respectful and constructive.

SuSanA is guided by the SDGs. It provides policy advice, practical guidance and up to date knowledge about how to realize sustainable sanitation for all.

SuSanA's VISION

Several billion people around the world lack access to basic or safely managed sanitation. The result is a public health crisis, with infants and young children being the most affected group.

SDG 6 on sustainable water and sanitation management aims to provide access to water and sanitation for all by 2030. This is not just about achieving a narrow sanitation access target. The SDG 6 targets address sanitation beyond toilets, including the aspects of excreta management and reuse. Furthermore, good sanitation, hygiene and wastewater management are fundamental to achieving many of the other SDGs. The SDGs and the broader 2030 Agenda for Sustainable Development make SuSanA's work more important than ever.

JOIN SuSanA

SuSanA is open to anyone who wants to join and be active in the promotion of sustainable sanitation systems. Membership is open to any individual.

Members can receive updates on SuSanA activities and discussions that interest them, take part in the discussion forum and become active in thematic working groups.

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