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A National Investment Case on Water, Sanitation and Hygiene (WASH) in Health-Care Facilities (HCFs) in Tajikistan

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Dushanbe 2023

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Glossary

CAPEX	capital expenditure (payment made for long-term fixed assets)
EU	European Union
HCF	health-care facility
HWM	health-care waste management
IPC	infection prevention and control
MDG	Millennium Development Goals (2015)
MoHSPP	Ministry of Health and Social Protection of the Population of the Republic of Tajikistan
OPEX	operational expenditure (day-to-day expenses)
O&M	operations and maintenance
SDG	Sustainable Development Goals (2030)
UNICEF	United Nations International Children's Emergency Fund
WASH	Water, sanitation and hygiene
WHO	World Health Organization

1. Executive Summary

Access to WASH services has cross-cutting development benefits that contribute to the achievement of multiple SDGs (3 and 6), in relation to good health and well-being, among other aspects. And yet the economics of WASH are seldom incorporated into economic analyses or investment cases for disease.

The field observations and findings from the discussions reveal that the HCFs located mostly in rural and peri-urban areas of Tajikistan experience a lack of adequate WASH, which is detrimental, contributing to lethal outcomes at the community level. And, despite progress in access to WASH in HCFs over the years in Tajikistan, many of them, especially those in rural areas, still fall short of providing the basic WASH services required to accomplish their public duties.

Moreover, the data on the cost of implementing WASH interventions in HCFs in Tajikistan are quite limited. And estimating the investment case in HCFs in Tajikistan requires a collaboration between the MoHSPP of the Republic of Tajikistan and UNICEF on data sharing, but, most importantly, this collaboration should intensify efforts to track progress for WASH services in HCFs.

WASH in HCFs in a Nutshell

The burden of water-borne diseases in HCFs is substantial, though not reported in details, and poses risk to patients, especially in rural Tajikistan, where most HCFs have common lapses in service delivery such as lack of clean water, inadequate toilets, and limited hygiene goods. Although the adequate provision of WASH is crucial to the appropriate practice of medical services, gaps in WASH infrastructure remain a significant problem in HCFs, and knowledge of the cost to implement WASH interventions in Tajikistan is lacking.

This is the first study of this kind. It quantifies the cost of action and that of inaction to achieve the SDG 6 target for WASH and waste services in HCFs in Tajikistan by 2030. The study estimates the costs of achieving full coverage of limited, basic and improved WASH, and waste services based on 20 sampled HCFs in rural and urban settings (as primary sample), 42 secondary level facilities and 1500 PHCs covered by UNICEF (as secondary sample), and investment modeling has been implied across all 3,297 public HCFs registered in Tajikistan¹.

¹ This does not include private HCFs as they were not included in the registered list of the MoHSPP of the Republic of Tajikistan.

Key Findings

- Seasonal diarrhea and hepatitis A, especially among children, are the most common water-borne diseases in the country. Hepatitis A has the most expensive treatment, treated with a cholera drug prescribed by HCFs. Treatment of such diseases at HCFs costs between TJS 1,500 and TJS 2,000 (USD 150–200) per patient inclusive of medicine, which accounts for about 85 percent of the average monthly salary in Tajikistan.
- Improving WASH coverage across the HCFs in Tajikistan over a seven-year period would require an estimated TJS 1.9bn–3.6bn (USD 194m–361m). The capital cost ranges from TJS 340m (or USD 33m) to TJS 1.4bn (or USD 136m). The recurrent costs are estimated as being between TJS 1.6bn and 2.3bn (USD 160m–224m).
- The average annual capital cost per capita ranges between TJS 34 (or USD 3) and TJS 138 (or USD 14). The annual recurrent cost per capita is estimated to increase from TJS 162–227 (USD 16–22) in 2022 to TJS 262–367 (USD 26–36) in 2030.
- The most costly intervention (47%) would be on sanitation services (TJS 356m, or USD 35m), followed by waste management at TJS 159m (USD 16m, 21%) and hygiene at TJS 137m (USD 13m, 18%), respectively, and TJS 114m (USD 11m, 15%) for water. The sanitation cost, being the largest share, is the most needed investment due mostly to the insufficient number of toilets per facility with proper pipe connecting and treatment systems.
- At basic service level, TJS 766m (USD 75m) is required for capital investment for rural and urban HCFs in Tajikistan for a total of 3,297 HCFs. Out of those, 88 per cent (TJS 677m, or USD 66m) account for rural HCFs, while the remaining 12 per cent (TJS 88m, or USD 8m) for urban HCFs.
- The WASH capital cost for rural HCFs is estimated at TJS 677,224,927 (66m, 88%) compared to urban HCFs, which is TJS 88,402,572 (8m, 12%). This is quite understandable given that most WASH needs are located geographically far from district centres.
- The investment cost for primary HCFs stands at TJS 519,628,633 (51m, 68%), while secondary and tertiary HCFs share TJS 99,213,560 (9m, 13%) and TJS 146,785,305 (14m, 19%) respectively. All of these HCFs need more investment in sanitation that account nearly half of the investment cost.
- Although the Government of Tajikistan has taken a commitment to improve WASH services, the sanitation sector has received extremely limited financing from the government. And this is well reflected in the investment case, where nearly half of the WASH needs are related to sanitation.

Recommendations

- Given the short time remaining until 2030, mobilization of financial resources and investment intervention requires immediate action in a coordinated manner from all national and subnational levels of government. They need to be willing to provide long-term political and financial commitments.
- To strengthen mutual consent on investment among key stakeholders, it is highly recommended to develop a policy note out of these findings through workshops, development and distribution of policy notes, and securing buy-in from the government.

Conclusion

There is a huge need for greater investment WASH for HCFs in Tajikistan. These findings are substantiated indicator and investment guidance to enable policymakers in Tajikistan and donors to plan future financing of WASH interventions in HCFs. The findings can also inform ongoing reforms in the water and health-care sectors in the country, as well as encourage the government and private sector partners to pay greater attention to basic infrastructure in the long run, given the short window of time available for meeting SDGs 3 and 6 before 2030.

2. Background Information

The provision of drinking water and sanitation services in Tajikistan is characterised by institutional gaps, overlapping authorities and a lack of adequate financial stability systems. The unavailability of robust WASH-related data is also an overarching gap that is hindering efficient planning and decision-making. According to the WASH Joint Sector Review (2022) led by the MoHSPP and supported by UNICEF and the expenditure review by the World Bank, only 0.67 per cent of the national GDP (USD 54.5m) is allocated annually to the water supply and sanitation sector, whereas the required investment is USD 213m (four times the existing allocation) to meet SDGs². This allocation is 72 per cent for urban and 28 per cent for rural areas. In terms of overall spending, 80 per cent goes for water supply and 20 per cent to sanitation. It is quite difficult to track spending on hygiene as it is not labelled as such in any budget allocations.

Tajikistan was the only country, along with Uzbekistan in the Central Asia, outside Africa where the MDGs relating to access to clean water and sanitation were not fully achieved (Glass Half Full, 2017). Tajikistan is a signatory to the United Nations SDGs and has taken serious measures to achieve the SDG 6 on Clean Water and Sanitation. Though there have been positive developments in the sector in the last two decades, WASH services have yet to be given investment priority in Tajikistan.

Tajikistan is a member of the High-Level Panel on Water launched by the World Bank and the United Nations and has announced its commitment to SDG 6 to 'ensure availability and sustainable management of water and sanitation for all'. It recognises access to WASH in schools and health facilities as an important milestone for sustainable development in its National Development Strategy 2030, the National Water Sector Strategy (2020–30) and the Water and Sanitation Plans and the National Programme for Children that are in the process of development and endorsement.

According to the WHO-UNICEF Joint Monitoring Programme (JMP) 2020 report,³ only 55% of people nationally in Tajikistan have access to safely managed drinking water services (improved source located at premises, available when needed, and free from microbiological and priority chemical contamination). Similarly, at the national level, access to drinking water has improved from 51.2 per cent (2001) to 82 per cent (2020).⁴ For urban settings, figures vary between 87 per cent (safely managed water) and 96 per cent (improved/basic water), with periodical upward and downward trends. The same sources report figures varying between 36 per cent (safely managed water) and 77 per cent (improved/basic water) for rural settlements.

In comparison, the coverage of basic sanitation services in Tajikistan improved from 95 percent in 2015 (96 percent in rural areas and 94 percent in urban areas) to 97 percent (98

² Joint Sector Review: Water, Sanitation and Hygiene (WASH), October 2022, Tajikistan, MoHSPP, Government of Tajikistan & UNICEF Tajikistan Country Office, p. 50

³ WHO-UNICEF Joint Monitoring Programme for WASH – Progress on household WASH 2000–2020, published in 2021.

⁴ Ibid.

percent in rural areas and 94 in urban areas) in 2020. 80 percent of the population has access to latrines, 3 percent uses septic tanks, and 16 percent have connections to sewers.⁵ Though JMP does not report the proportion of population using improved sanitation facilities, it only reports data for proportion of population using improved sanitation facilities including shared sanitation.

The current WASH status in Tajikistan is attributable in health-care services. Only 24 per cent of the HCFs have basic access to drinking water supply.⁶ Access to sanitation is only 1%, basic hygiene is 12% and Access to health waste management is 47%. According to UNICEF Tajikistan, as of 2020, out of 73 maternity departments within Central District Hospitals (secondary level), 47 facilities (65%) still need to meet the required WASH standards. The most challenging situation with access to WASH is that of the approximately 3,000 rural medical centres (primary health-care level), up to 80 per cent have limited or no access to WASH services. The consumables such as soap, hand sanitizers and chlorine are only sometimes available at HCFs, especially in rural areas.

There has been a substantial reduction in the under-five mortality rate (U5MR), from 107 in 1990 to 33 per 1,000 live births in 2017, and the infant mortality rate (IMR), from 84 in 1990 to 27 per 1,000 live births in 2017, but children under five years of age continue to die from preventable causes.⁷ The neonatal mortality rate decreased from 32 per 1,000 live births in 1990 to 15 per 1,000 live births in 2017, approaching the global target of 12 per 1,000 live births.⁸ However, the U5MR is still high for both male and female (37 and 30, respectively, per 1,000 live births, which is far above the global target of 25). The MoHSPP statistics state that in 2016 around 77 per cent of deaths of children under five years of age occurred among children younger than twelve months, and 87 per cent of neonatal deaths occurred during the first week of life. Many of these deaths are attributable to causes related to poor quality of care (QoC) and health-care associated infections (HCAI) that remain primarily under-reported.

However, Tajikistan is still facing challenges to increasing expenditures on health care. Problems facing the health-care system include obsolete infrastructure and equipment, poor accountability on applying advanced standards and protocols, and inadequate capacity of health-care workers to provide quality care services. UNICEF, therefore, plans to develop an investment case for WASH in HCFs in Tajikistan to determine the cost of inaction (human impact) and the cost of action (investment plan) to ascertain an indicative financial guide. This will help the government of Tajikistan and donors to use the investment case and findings to plan investment in this area accordingly for the achievement of SDGs for WASH in HCFs.

⁵ Ibid.

⁶ WHO-Joint Monitoring Programme for WASH – Progress on WASH in Health Care Facilities 2000–2021, published in 2022

⁷ Health-related SDG targets in Tajikistan: implementation of policies and measures for health and well-being. Progress Report 2020, WHO Europe, published in 2020.

⁸ Ibid.

3. Research Objectives

Purpose

To review the existing data and key documents, including assessments carried out by key stakeholders, to develop an investment case for WASH in HCFs.

Key Objectives

1. To provide evidence to support advocacy efforts to bring greater attention to the impacts of the lack of WASH in HCFs at both political and technical levels in Tajikistan, and among government, partners and donors.
2. To provide initial estimates for the total financial needs, the funding currently available/spent and the funding gap for WASH in HCFs in Tajikistan and to develop an investment plan for the government, key donors and partners to invest in order to close the gap pertaining to WASH in HCFs.
3. To provide evidence on the costs and benefits of investing in WASH in HCFs that can be used to develop a country roadmap for investing efficiently in WASH in HCFs.

4. Methodology

In this investment modeling study, the HCFs sampled in Tajikistan were quantified by combining published counts of public facilities with estimated limited, basic and improved WASH and waste service coverage. Country-specific per facility capital and recurrent costs to deliver basic services were collected via survey, interviews, technical field observations and know-how through the engagement of WASH experts, engineers, public health professionals, and officials between 21 November and 23 December 2022. Baseline cost estimates were modelled, and key assumptions were adjusted to produce lower, medium and upper estimates, including adjusting the inflation rate to 10 percent per year until 2030. The following sampled HCFs were selected and visited to identify the status of WASH, cost related to poor WASH services and capital/operational capital expenditures as of 2022:

Table 1. Number of Sampled HCFs in Tajikistan

Region	Health care facilities	Category	#
Sughd region	Penjikend district		
	Central City Hospital	Tertiary	3
	City Polyclinic	Tertiary	
	Private city hospital “Shifo”	Tertiary	
	Rural Central Hospital Sarazm	Secondary	2
	Rural Medical center Ruknobod	Secondary	
	Ayni district		
	Central District Hospital	Secondary	2
	Rural District Hospital Zarafshon	Secondary	
	Rural Medical Home Sangiston	Primary	1
Khatlon region	Jomi district		
	Central District Hospital	Secondary	1
	Rural Medical Home Mirzobod	Primary	1
	Bokhtar district		
	City Polyclinic	Secondary	1
	Rural Medical Center Kushonyon	Primary	1
Districts of Republican Subordination (DRS)	Tursunzoda district		
	Central City Hospital	Tertiary	1
	Central Infection Department	Secondary	1
	Vahdat city		
	Central City Hospital	Tertiary	1
	Rural Hospital N1 Gulrez	Secondary	1
	Rudaki district		
	Central District Hospital	Secondary	1
	Varzob district		
	Central District Hospital	Secondary	1
Dushanbe city	Dushanbe city		
	Central Municipal Emergency Clinic	Tertiary	1
	Republican Hospital (1st Sovietyky)	Tertiary	1
Total			20

Out of 20 HCFs, 7 (35%) were tertiary, 10 (50%) were secondary, and 3 (15%) were primary HCFs. The field visits were accompanied by focus group discussions (FGDs) grouped as follows:

- HCFs: 2 chief doctors (5%), 23 technical staff (10%), 54 senior/junior medical staff (22%)
- Community member: 42 patients (17%), 112 women (46%)
- Total: 243 respondents

Moreover, along with the field work, the secondary data were also reviewed where 50 secondary and 308 primary HCFs assessed by UNICEF were analysed for comparative analysis. Please see Annex 8 for the detailed geography of sampled HCFs.

5. Study Design and HCF Categorisation

Health-Care System in Tajikistan

The health-care system in Tajikistan is public and centrally governed. Ownership and administration of the majority of health facilities have remained almost exclusively in the public sector. Private sector involvement is small, but there has been a progressive opening of the health sector in recent years to private provision, in particular for certain diagnostic and ambulatory care services and dental care.

The organisation and the governance of the health system are shaped by the general system of public administration. The government is responsible for approving the national health policy, which is developed by the MoHSPP. The Ministry of Finance is charged with implementation of the state budget. The MoHSPP is responsible for funding the republican HCFs and regulating service provision. Local government bodies at the provincial (viloyat or oblast) and city/district (rayon) levels are responsible for health service provision and funding at these levels.⁹ Generally, decentralisation of policy-making from the national to the local government remains limited.

Health-care providers are overwhelmingly public. There are a limited number of private services for specific areas, such as consultations with specialists, diagnostics and ambulatory care. Most private health services are based in and around major urban areas such as Dushanbe, limiting their accessibility to rural populations.

Each facility has a geographical catchment area assigned to it, and populations residing in the area are automatically attached to these health facilities. Theoretically, referrals are done

⁹ Health Systems in Action: Tajikistan, 2020, WHO, published in 2022, pages 8–9.

starting at the lowest level of care, where patients are assigned, and patients move from one level to the next. In practice, patients often bypass various levels of care and show up at the district, provincial or even national-level specialised facilities.

In total there are 3,297 public HCFs as per the list provided by the MoHSPP; out of these, 216 are in the urban setting and the remaining 3,081 are rural. These two geographical settings are further categorised into service levels for primary, secondary and tertiary¹⁰:

Geographical division

216 Urban HCFs	3,081 Rural HCFs
<ul style="list-style-type: none"> - District/city health centres (primary and secondary) [Republican and/or City] - Provincial or national hospitals (tertiary) [Provincial or Regional] 	<ul style="list-style-type: none"> - Rural hospitals (primary and secondary) [District] - Rural health centres (primary) [Town, Jamoat] - Health houses (primary) [Village]

Service division

Primary	2,670 HCFs (e.g. medical homes and medical centers)
Secondary	330 HCFs (central district hospitals, numeric hospitals, rural inpatient health hospitals/centers)
Tertiary	297 HCFs (national and city level level hospitals/centers, or specialised hospitals located in district centers)

Please Annex 7 for detailed list of HCFs in Tajikistan.

¹⁰ **27 HCFs** of Republican/National status (Республиканский) – hospitals located in and serve big cities, e.g. Dushanbe or Khujand (tertiary treatment)

61 HCF of Provincial/Regional status (Областной) – hospitals or health centres located in regional centres, specialised in the treatment of certain diseases (tertiary treatment)

128 HCFs of city level status (городской) – health centres or polyclinics located in cities and towns (secondary treatment)

385 HCFs of district level status (районный) – rural hospitals at district centres in peri-urban areas that are considered as rural following the administrative division in the country (secondary treatment)

2,696 HCFs of rural (сельский) – Rural health centres or health houses located at sub-district level in jamoats or villages (primary treatment)

Data Collection

A total of 20 HCFs were selected by convenience sampling. For analysis of facility-level cost data, specialised and tertiary facilities in the public and private sectors were grouped with urban hospitals and non-hospitals, and rural hospitals and non-hospitals were grouped according to their facility size, number of beds and speciality level (primary/secondary were categorised as non-hospitals, while tertiary were categorised as hospitals).

Moreover, the secondary datasets were also compiled, where 50 secondary and 308 primary HCFs assessed by UNICEF were reviewed and analysed for comparison. The data that was collected during the field visits has undergone necessary statistical analysis. Some data (especially CAPEX/OPEX) were collected from the field and compared with other investment cases to verify the price changes over the past years.

For this particular exercise, the directory on price estimates in construction,¹¹ which was published by the Committee on Architecture and Construction under the Government of the Republic of Tajikistan for the 4th quarter of 2022, was reviewed and used for calculation of WASH infrastructure and service investment. The preliminary WASH investment estimates were discussed with private construction companies for the calculation of VAT, service charges and transportation cost to ensure the most realistic price ranges. For estimation of hygiene goods, the market prices were checked in each visited district with consideration of WASH essentials for Covid-19 prevention.

Using a questionnaire, the cost and no-cost data were obtained from November to December 2022 through interviews with HCF chief doctors, administrators and department officials, as well as patients and community members. Expenditure reports and salary rates were obtained for cost information for the last five years; however, it was not possible to get the information from all. For capital expenditures, including equipment and other non-consumables for the last five years, data were obtained from financial reports from previous years 2017 to 2022. Information has also been acquired regarding the facility size, hospital bed numbers and admission rates from hospital census records.

Costing Method

The cost of improving WASH for the HCFs in Tajikistan was calculated by multiplying the average cost of each intervention by the proportion of facilities requiring intervention, based on data from current literature and reports of WASH in HCFs. Data was combined in an Excel-based model to aggregate the capital and recurrent costs required to progress from current to full coverage of basic or advanced WASH services in HCFs by 2030, the year by which all facilities are meant to have basic services as per SDG 6.

Economic modelling was used for a linear scale-up of investment, such that capital costs were spread evenly across the seven-year period ending in 2030, with corresponding increases to annual recurrent costs. Per capita estimates were based on country populations from the UN's medium variant population projections for 2021 to 2030.

¹¹ Directory of price estimates in construction, 4th quarter, 2022 edition, Committee on Architecture and Construction under the Government of the Republic of Tajikistan (in Russian)

The unit cost for each WASH service/good refers to the total expenditure incurred by the health-care service provider for one unit of a particular service related to a WASH intervention. Tables 2 to 4 detail the specifications of basic and advanced WASH services, as well as the investment components.

Facility (unit) cost of improving water

For interventions to improve access to and availability of water, we estimated the costs of upgrading HCFs with limited, basic and advanced water source on-site (e.g., an on-premise tube well, borehole, piped water system and/or vended water), and calculated costs at the facility level as opposed to estimating increases in per-unit changes in the water supply.

All cost inputs for basic water services were combined at the facility level and then averaged across facilities to obtain the mean cost across surveyed facilities. This included the capital costs of materials, equipment, labour and installation, and the recurrent costs of operating and maintaining water quality/safety and utility fees. We assumed that sanitation waste was collected in the same water sewage system prior to wastewater removal.

Service unit costs for installing a piped water distribution system were calculated at the facility level. They included the combined capital costs of labour, equipment and materials, and the recurrent cost for maintenance staff, which were then averaged across facilities to obtain the mean costs of advanced water service.

Facility (unit) cost of improving sanitation

For interventions on sanitation, we evaluated the costs of upgrading HCFs with the same three estimates – limited, basic and advanced – which we further defined as a minimum of 4 toilets per outpatient department and 1 toilet per 20 in-patients according to WHO standards. Service unit costs were calculated for a single toilet. They included the capital costs for equipment, labour and installation (e.g., plumbing connection, retrofitting, rehabilitation etc), as well as the recurrent costs for custodial services and repairs. To obtain facility-wide costs, we multiplied the unit cost per toilet by the number of toilets expected at each facility type to meet the minimum requirement for basic sanitation services.

Facility (unit) cost of improving hand hygiene

For interventions on hand hygiene, we assumed improved access to and availability of handwashing stations to meet WHO standards of at least 1 sink for every 10 inpatient beds, with an additional sink for every 4 toilets and at least 1 sink at the point of care per outpatient department. The cost per service unit of installing and maintaining a single handwashing station, including the capital costs of installation and equipment (e.g., sinks and soap dispensers), and the recurrent costs of materials (e.g., soap), operation and maintenance, was evaluated. This included the laundry services required at HCFs, as per the National Standards and Guidelines for WASH in HCFs endorsed by the MoHSPP in 2023.¹² The number of stations required has then been estimated to meet the minimum standard of 1 station per 10 patient beds and 1 additional station per department to calculate facility-wide costs.

¹² National Standards and Guidelines for Water, Sanitation and Hygiene (WASH) in Health Care Facilities, developed and reviewed by the Inter-Ministerial Thematic Working Group with technical support from UNICEF, funded by EU and endorsed by the MoHSPP in January 2023, pages 7–46

Facility (unit) cost of improving environmental hygiene

For interventions on environmental decontamination, the costs of interventions were evaluated on three primary reservoirs – hospital surfaces, linens and medical devices. All costs associated with increasing access to and availability of detergents, low-level disinfectants, brooms, cloths and mops, as well as maintaining housekeeping staff to clean environmental surfaces periodically (i.e., a minimum of at least once daily), were reported by HCFs as a combined monthly recurrent cost at the facility level. Similarly, recurrent costs associated with in-house linen reprocessing (e.g., laundry, detergent, and electrical fees)¹³ were reported as a monthly aggregate, while capital costs were calculated by summing the costs of machinery.

For interventions on medical equipment reprocessing, recurrent costs included the combined monthly expense reported by HCFs for autoclave solution and high-level disinfectants for semi-critical and critical devices.

Facility (unit) cost estimates and adjustments

Where data were not available for a specific facility level, we scaled the cost of interventions using estimates of facility size and/or capacity, including the number of departments/wards, beds, toilets, and hand hygiene stations. To calculate the number of toilets required at each facility level for the provision of basic sanitation services, we estimated the number of inpatient beds (as a proxy for patients), the number of staff, as well as the number of outpatient departments in each facility type requiring designated toilets for women and staff. For the development of hand hygiene cost estimates, the number of handwashing stations was adjusted based on the approximate number of beds reported by each facility type and the number of departments or wards at each facility.

Aggregated cost of improving WASH services in HCFs nationally

The cost of improving WASH for the entire Tajik public health-care system was calculated by multiplying the average cost of each intervention by the proportion of facilities requiring intervention. The values were then multiplied by the number of facilities reported nationally for each urban and rural facility type based on the data obtained from the MoHSPP of the Republic of Tajikistan. Tables 2–4 highlight the specifications on service ladder and CAPEX/OPEX.

¹³ Ibid.

Table 2. Service ladder¹⁴

Definitions of Limited, Basic and Advanced WASH Service Levels in HCFs*

Water
Advanced: Compliant with national standards
Basic: Water is available from an improved source on the premises
Limited: An improved water source is within 500 meters of the premises, but not all requirements for basic services are met
Sanitation
Advanced: Compliant with national standards
Basic: Improved sanitation facilities are usable with at least one toilet dedicated for staff, at least one sex-separated toilet with menstrual hygiene facilities, and at least one toilet accessible for people with limited mobility
Limited: At least one improved sanitation facility, but not all requirements for basic service are met
Hygiene
Advanced: Compliant with national standards
Basic: Functional hand hygiene facilities (with water and soap or alcohol-based hand rub, or both) are available at points of care and within 5 m of toilets
Limited: At least one improved sanitation facility, but not all requirements for basic service are met
Health care waste management
Advanced: Compliant with national standards
Basic: Waste is safely segregated into at least three bins, and sharps and infectious waste are treated and disposed of safely
Limited: There is limited separation and/or treatment and disposal of sharps and infectious waste, but not all requirements for basic service are met
Environmental cleaning
Advanced: Compliant with national standards
Basic: Protocols for cleaning are available, and staff with cleaning responsibilities have all received training
Limited: There are cleaning protocols and/or at least some staff have received training on cleaning

*The global monitoring definitions were developed by the Global Task Team for Monitoring WASH in Health Care Facilities in the Sustainable Development Goals Era, convened by the WHO/UNICEF JMP for WASH under the auspices of the Global Action Plan on WASH in HCFs.

¹⁴ WASH in Health Care Facilities, WHO/UNICEF JMP (2020).

Table 3. WASH Cost specifications (CAPEX)

Costs related to WASH	Description
Cost of improving water	Improvement of access and availability of water (source development, catchment, storage, treatment and distribution), cost of upgrading HCFs with basic and improved water services e.g. an on-premise tube well, borehole, piped water system and/or vended water. This will include the capital costs of materials, equipment, labour and installation, and the recurrent costs of operating and maintaining water quality/safety and utility fees.
Cost of improving sanitation	Improvement of access and availability of sanitation facilities (inpatient, outpatient and staff toilets, the cost of upgrading HCFs with basic and improved sanitation services e.g. improved toilets are separated for men/women and patients/staff Service unit costs will include the capital costs for equipment, labour and installation (eg, plumbing connection), as well as the recurrent costs for custodial services and repairs.
Cost of improving hand hygiene	Improvement of access to and availability of handwashing stations, the cost per service unit of installing and maintaining a single handwashing station, including the capital cost of installation and equipment e.g. sinks and soap dispensers), and the recurrent costs of materials (eg, soap) and maintenance and repair staff .
Cost of improving waste management	Improvement of waste management system , the volume and number of waste disposal measures (liquid and solid waste) and services requiring designated and hygienic treatment services on or off site. It includes the medical waste which is being collected separated, disposed ad treated in addition to the management of liquid waste.
Cost of improving environmental hygiene	Improvement of environmental hygiene through interventions on three primary areas - hospital surfaces, linens and medical devices. . All costs associated with increasing access to and availability of detergents, low-level disinfectants, brooms, cloth and mops, as well as maintaining housekeeping staff to clean environmental surfaces periodically will be assessed as a combined monthly recurrent cost at the facility level. Similarly, recurrent costs associated with in-house linen reprocessing (eg, laundry staff, detergent and electrical fees) will be reported as a monthly aggregate, while capital costs will be calculated by summing the costs of machinery.

Table 4. Recurrent Cost specifications (OPEX)

Water supply and sewerage	Hospital charges for water supply, water drainage, discharge and treatment
Electricity	Hospital charges for the consumption of electricity
Housekeeping accounts	Hospital expenses for the purchase of hygiene products/goods/equipment
Solid waste management	Hospital charges for the collection and discharge of medical and non-medical waste
Technical staff	Hospital expenses for payment of salaries to personnel responsible for maintenance of the building e.g. cleaners, engineers, drivers, technical staff.

Study limitations

- The costs presented here are based on sampled data sources and desk information. In part, the lower and upper estimates were designed to account for uncertainty in the underlying coverage data and the magnitude of investment needs to improve sub-standard facilities that had some existing services. However, the potential margin of error in figures is partially mitigated by the fixed nature of many of the capital needs (e.g., even the smallest facilities require at least two toilets and a reliable, safe source of water to meet basic service-level guidelines) and the fact that facility size might not always correlate with utilisation and, therefore, recurrent costs, which are not equally represented across all HCFs.
- The investment case was calculated as per publication on the prices of construction materials released by the Committee on Architecture and Construction under the Government of the Republic of Tajikistan for the 4th quarter of 2022. First, the estimates did not include capital maintenance, which is part of the lifecycle cost analysis for WASH services. Capital maintenance was excluded because the modelling covered a seven-year period rather than the full life cycles of all assets, which normally range between 20 and 40 years, and there is minimal evidence on the magnitude and frequency of capital maintenance needs. Second, the scope of the analysis was limited by data availability and, consequently, excludes environmental cleaning and cross-cutting activities such as training, supervision, mentoring, and monitoring and evaluation.

Please see Annex 1-5 for details of the research objectives, methodology and deliverables.

6. Introduction

Improved WASH services in HCFs are necessary provisions for IPC, reductions in antimicrobial resistance, and safe health services for all, especially after the Covid-19 pandemic exposed the key vulnerabilities in these provisions in Tajikistan since 2021. Often taken for granted, WASH services in HCFs are needed more than ever to protect both patients and health-care workers.

At the Second High-level International Conference on the International Decade for Action on 'Water for Sustainable Development', 2018–2028,¹⁵ which took place on 6–9 June 2022 in Dushanbe, Tajikistan, all countries agreed to prioritise universal access to safe and affordable water and adequate and equitable sanitation and hygiene, particularly in HCFs, as vital for child, maternal and patient health. They also discussed how to build longer-term strategies for increasing pandemic prevention, preparedness and response, including the current Covid-19 pandemic, by investing in water supply, sanitation and hygiene infrastructure, wastewater and waste management, and consistently promoting good WASH practices. During this event, the Tajik authorities shared their experience of implementing eight practical steps to enhance WASH services in HCFs.¹⁶

Action on WASH is a National Health Priority in Tajikistan

In 2018 the MoHSPP of the Republic of Tajikistan conducted a situational analysis of the enabling environment for WASH in HCFs in collaboration with the WHO European Centre for Environment and Health. As a follow-up action from the outcome of the analysis, a survey was conducted in 2020 of around 350 HCFs all over the country on their provision of drinking water, sanitation, hand hygiene, waste management and environmental cleaning. The survey showed significant gaps in service provision for all WASH dimensions and a particular need for attention to hand hygiene, environmental cleaning and sanitation.¹⁷

This work has helped authorities and partners to plan how to improve and sustain WASH in HCFs and put the recommendations into practice right away. Coordination groups to strengthen WASH and IPC policies, practices and monitoring have been implemented.

In addition, provision of water, sanitation and hygiene is now a target within the National Health Strategy for 2030, thereby increasing the visibility, accountability and, ideally, financing for such services. The hope is that the experiences shared at the Dushanbe Conference 2022 will drive home the point that accelerating WASH in HCFs is necessary, urgent and, given the political will, also very achievable.

¹⁵ Final Declaration: From Dushanbe 2022 to New York 2023, 2nd High-level International Conference on the International Decade for Action 'Water for Sustainable Development', 2018–2028, 6–9 June 2022, Tajikistan.

¹⁶ 'Tajikistan prioritized WASH in health care facilities and encourages others to do the same', 9 June 2022, News Release, WHO. Eight practical steps to achieve universal access to quality care: 1. Conduct Situation Analysis and Assessment; 2. Set Target and Define Roadmap; 3. Establish National Standards and Accountability Mechanisms; 4. Improve Infrastructure and Maintenance; 5. Monitor and Review Data; 6. Develop Health Workforce; 7. Engage Communities; 8. Conduct Operational Research and Share Learning.

¹⁷ 'Tajikistan prioritized WASH in health care facilities and encourages others to do the same', 9 June 2022, News Release, WHO.

Member states recognised that the lack of WASH and HWM services and behaviours forestalls progress towards the SDGs, especially the attainment of healthy lives and well-being (goal 3) and water and sanitation for all (goal 6). This collective action came amidst intensifying efforts to track access to WASH and HWM services in health-care settings, aided by global indicators and service levels defined by the WHO/UNICEF JMP for WASH, the setting of a global target for all HCFs to have basic WASH and HWM services by 2030 as input to the SDGs agenda, and publication of global coverage estimates for the first time.

Tajikistan is unfortunately not an exception with regard to progress within SDG 6 where poor-quality health care is complemented by poor-quality WASH services. The global spread of SARS-CoV-2, the virus that causes Covid-19, draws further attention to these risks given the importance of WASH and HWM services for effective IPC, health worker safety and the continuity of essential services in HCFs in Tajikistan.

Achieving full coverage of basic WASH and HWM services in HCFs in Tajikistan by 2030 will require considerable efforts to build, rehabilitate, operate and maintain infrastructure, but the costs of doing so have not been estimated. The cost projections for effective national Covid-19 responses and vaccine roll-outs incorporate some considerations of water, hygiene and waste management in HCFs, but they are based on infection prevention activities rather than sustainable, long-term solutions, and they do not include sanitation at all.

UNICEF has initiated this investment case, particularly to estimate the indicative national cost for improving WASH facilities/services in HCFs and its likely impact on human health. This study estimates the cost of achieving full coverage of basic and improved WASH and HWM services in existing HCFs in Tajikistan.

7. Cost of Inaction

This study assesses the economic costs of officially reported cases of diseases treated both in clinics and hospitals, and through alternative means, e.g., traditional medicine. The economic costs associated with the officially reported cases of illness were estimated using the following data and sources:

- **Number of incidences** by patients, clinics and hospitals. The diseases covered by the report include diarrhea and hepatitis A.
- **Cost of treatment:** The treatment of water-borne disease through medicine or treatment by individual clinics and hospitals maintained by the government pharmacy, the sole supplier of medicine in Tajikistan.
- **Average time spent travelling** by patients and caregivers to clinics and hospitals for treatment. The costs of first and second outpatient visits, plus other costs such as food, etc., and the average time spent in hospitals as inpatient care.

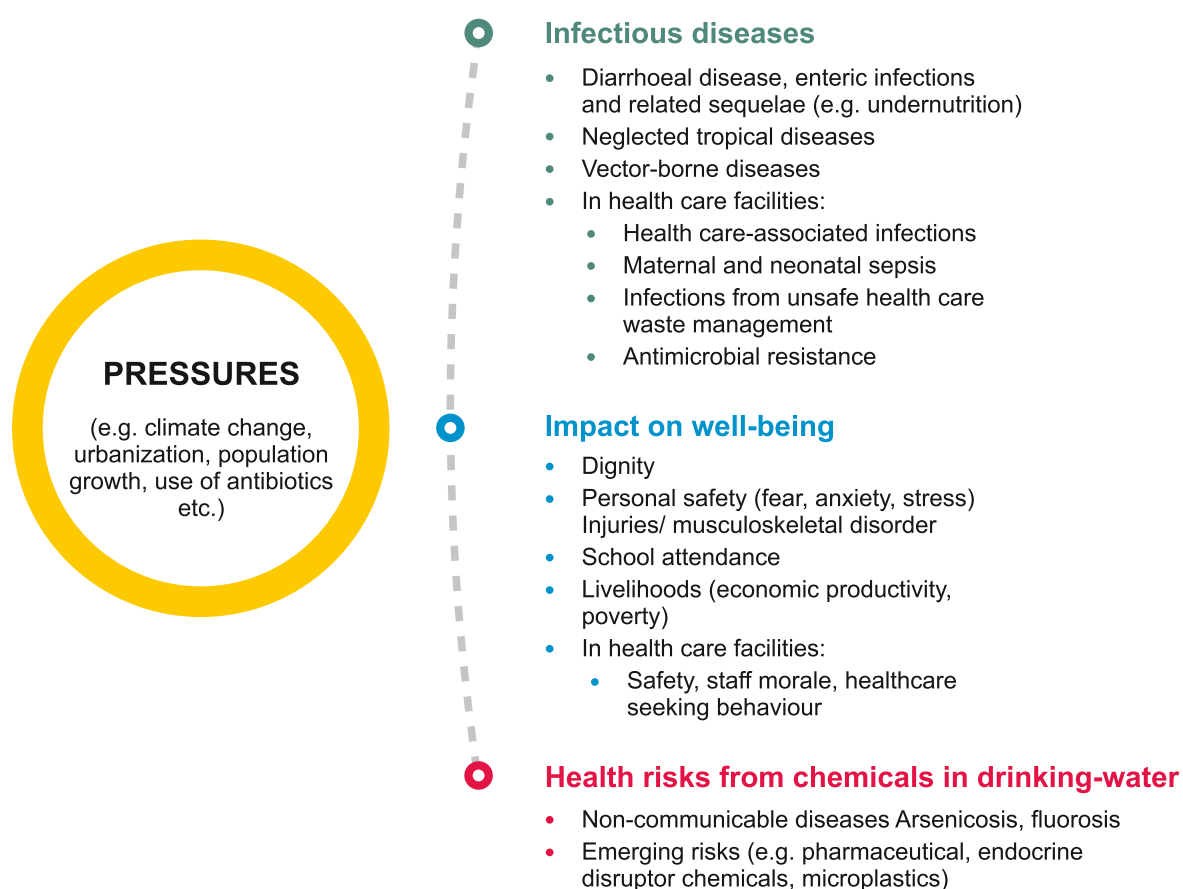
Though little is known about the impact of poor WASH on child mortality, morbidity and health in Tajikistan in terms of statistics, it is widely acknowledged that the lack of continuous investment in WASH is seen as essential for improving those indicators. And given that inconsistency in accessing safe water, adequate sanitation and proper hygiene at the community level has dramatic implications for child health outcomes, it immediately exposes the child to diarrhea prevalence, mortality, and stunting.

Table 5 summarises the valuation method to estimate the costs associated with poor water and sanitation. Please see Annex 6 for more information about community focus group discussions.

Table 5. Impact of cost of inaction through WASH in HCFs

Services	Impact of poor WASH	Endpoint Affected	Users Affected	Valuation Approach
Clean drinking water, adequate sanitation and improved hygiene	<ul style="list-style-type: none"> • Service level • Health level • Behaviour change • Environmental cleanliness 	<ul style="list-style-type: none"> • Contaminated water sources from public utilities • Poor service delivery and/or management • Increase of water-borne disease cases • Increase of mortality rate, especially among children under-5 	<ul style="list-style-type: none"> • Community and government for avoiding infection, treating diseases, and avoiding risk of mortality 	<ul style="list-style-type: none"> • Avoided treatment costs • Avoidance costs (bottled water) • Remediation costs (improved water sources) • Disease avoidance costs • Disease treatment costs (transportation costs, costs of traditional/modern medicines, operating costs of hospitals/clinics) • Decreased risks of disease-caused mortality times value of life

Results on Cost of Inaction



Water-borne incidences: All rural communities confirmed unanimously that most families with children experience water-borne diseases such as seasonal diarrhoea and hepatitis A, especially among children. This happens mostly due to the fact that rural areas lack adequate water and sanitation services in place. Further, 78 per cent of respondents surveyed answered that their children are most vulnerable in schools where toilets are not hygienic and lack basic level water and sanitation facilities, e.g., tap water, handwashing basins and soap.

Most girls have serious issues that are becoming a concern for their growth and adulthood:

- Poor conditions of toilets at schools make them hold their hygiene needs until the end of class time so that they reach home.
- Girls who are at puberty age experience difficulties meeting their hygiene needs due to lack of adequate toilet rooms with privacy.

Cost of treatment: Most of the diseases related to water are treated individually by families. Medicine for the treatment of diarrhoea and hepatitis A is mostly available at pharmacies and not distributed freely by any HCFs.

As per health protocol, diarrhoeal disease is treated with the following medicine:

- Rehydron
- Bifidobacterium
- Emigil F.

Hepatitis A is mostly treated with a choloretic drug prescribed by the HCFs. The treatment of such diseases at HCFs costs between TJS 1,500 and 2,000 (USD 150–200) per patient inclusive of medicine. This is regarded as very expensive for an average household; it accounts for 85–121 per cent of the average monthly salary of a Tajik (average monthly salary amounts to TSJ 1,647 (USD 161) and the minimum monthly salary in Tajikistan is TSJ 600 (USD 58) as of 1 June 2022 according to the Ministry of Labour, Migration, and Employment of Population of Tajikistan).¹⁸

Most families in rural areas take on debt from relatives and/or neighbours due to inability to respond to such an emergency immediately. This debt is a result of lack of people's financial resources or unemployment rate, that impair their resilience to such risks. The families are especially vulnerable when their children are not treated adequately in the HCFs (especially in Primary HCFs), which cause an additional burden for them to pay for transportation and treatment in secondary HCFs, where the conditions are relatively better.

Travel time: While the water supply at HCFs in district centres, cities and peri-urban areas is stable and in some cases, supplied with interruptions, water is mostly not accessible by HCFs in rural areas. All visited HCFs in rural areas carry water from open sources (canals, rivers and unprotected wells). Moreover, all rural HCFs lack water reservoirs/containers to store water for emergency purposes or while in need. The average travel time for rural HCF staff to carry water is 1 hour (minimum recorded as 40 mins, maximum as 1.30 hours). The toilet facilities are pit latrines but mostly in unusable condition. The collected water is not stored for a long time; it is for daily use only.

¹⁸ 'Ministry of Labor: the average salary in Tajikistan is almost 1,650 somoni', 26 July 2022, Asia-Plus (accessed 17 December 2022) (in Russian).

8. Cost of Action

Investment Modelling

Data were combined in an Excel-based model that computed the aggregate capital and recurrent costs required to progress from current to full coverage of basic WASH and HWM services in all HCFs in Tajikistan by 2030, the year by which all facilities are meant to have basic services. The model assumed a linear scale-up of investment, such that capital costs were spread evenly across the seven-year period ending in 2030, with corresponding increases to annual recurrent costs. Per capita estimates were based on country populations from the UN's population medium variant population projections for 2021 to 2030. The taxation and approximately 10 per cent inflation costs per annum were incorporated for capital and recurrent services.

Sensitivities

In recognition of the fact that investment decisions are made in diverse and evolving contexts, lower and upper estimates were also generated by varying key model assumptions. For facilities requiring lower investment (limited), baseline investment (basic) and upper investments (improved), the estimates assigned 5 per cent VAT services for construction work and 10 per cent inflation, summed up in 15 per cent addition to each cost. The recurrent cost was estimated based on a similar principle; however, considering the population growth in 2030 and the inflation rate each year, the recurrent cost per capita in 2030 added 85 per cent of those costs for the recurrent costs for each passing year. Additionally, the inflation rate was taken as the fixed 10 per cent per year. However, this study does not count the lifespans of on-premises WASH technologies to reflect the climate-related risks of increased droughts and floods that could undermine those assets.

Benchmark Analysis

To gauge financial feasibility, the estimated costs were compared to four relevant expenditure benchmarks:

- capital expenditure in rural and urban HCFs
- recurrent expenditure in rural and urban HCFs
- country-level per capita estimates from basic capital and recurrent costs
- service-level capital cost for rural and urban HCFs and its share in per service vs total

Results

Estimated financial costs to achieve full coverage of WASH and HWM services for HCFs in Tajikistan are summarised in Table 5. The incremental cost for current spending levels (CAPEX/OPEX) ranges from TJS 1,975,594,879 as the lower estimate to TJS 3,681,277,993 as the upper estimate from 2023 to 2030:

Lower estimate (limited): TJS 1,975,594,879 (or USD 193,608,298)

Median (basic): TJS 2,728,492,039 (or USD 267,392,220)

Upper Estimate (advanced): TJS 3,681,277,993 (or USD 360,765,243)

The capital cost ranges from TJS 339,874,429 (or USD 33,307,694) as a lower estimate to TJS 1,391,269,363 (or USD 136,344,398) as an upper estimate, while TJS 765,627,499 (or USD 75,031,495) is the median estimate. The recurrent cost over seven years ranges from the lowest estimate of TJS 1,635,720,450 (or USD 160,300,604) to the highest estimate of TJS 2,290,008,630 (or USD 224,420,846) by 2030.

The average annual capital cost per capita ranges between TJS 34 (or USD 3) and TJS 138 (or USD 14). The annual recurrent cost per capita is estimated to increase from TJS 162–227 (USD 16–22) in 2022 to TJS 262–367 (USD 26–36) in 2030.

At a basic level, which is the requirement for SDG 6, the incremental cost for WASH coverage in tertiary HCFs is estimated at TJS 1,205,651,843 (USD 118m, 44%), while this accounts for TJS 823,626,570 (USD 81m, 30%) and TJS 699,213,625 (USD 67m, 27%) in primary and secondary HCFs respectively.

Basic WASH services in

Tertiary HCFs: TJS 1,205,651,843 (USD 118m, 44%) [due to costly OPEX]

Secondary HCFs: TJS 699,213,625 (USD 67m, 27%)

Primary HCFs: 823,626,570 (USD 81m, 30%) [due to extensive CAPEX]

Total baseline cost: 2,728,492,039 (or USD 267,392,220)

Please see Annex 10-11 for detailed information on the costing at national level.

Table 6: Incremental cost to reach full WASH coverage in HCFs in Tajikistan with three estimates, 2022–30

FINANCIAL ESTIMATES	Service level	Total cost (in billions)		Capital cost (in billions)		Recurrent cost until 2030 (in billions)		Average annual capital cost per capita		Average annual recurrent cost per capita in 2022		Average annual recurrent cost per capita in 2030	
		TJS	USD	TJS	USD	TJS	USD	TJS	USD	TJS	USD	TJS	USD
Lower	Limited	1.9	0.194	0.340	0.033	1.6	0.160	34	3	162	16	262	26
Median	Basic	2.7	0.267	0.766	0.075	2.0	0.192	76	7	195	19	314	31
Higher	Advanced	3.7	0.361	1.4	0.136	2.3	0.224	138	14	227	22	367	36

Exchange rate: 1 somoni=0.098 USD/1 USD=10.20 (National Bank of Tajikistan, December 2022)

Table 7: Incremental cost to reach full WASH coverage in HCFs as per HCF category in Tajikistan (2022), 2022–30

Service level	Total cost (in billions)	Capital cost (in billions)			Recurrent cost until 2030 (in billions)		
		Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
Basic service	TJS						
	2.7	0.549	0.086	0.131	0.275	0.613	1.1
	USD						
	0.267	0.054	0.008	0.013	0.027	0.061	0.105

The distribution of the basic service estimates over the four services, facility settings and geographical locations is shown in Table 8 and 9. Without any doubt, sanitation costs are greatest at TJS 356m (USD 35m, 47% of the total), followed by waste management with TJS 159m (USD 16m, 21%) and hygiene with TJS 137m (USD 13m, 18%), respectively. Water supply accounted for 15% with TJS 114m (USD 11m, 15%). Sanitation's predominance reflects its high per facility costs for installation and construction of adequate toilet structures in sufficient number with proper piping connecting to the sewer or secondary treatment systems, and very low baseline coverage in visited HCFs.

Sanitation and wastewater were observed to be the least maintained or in the poorest conditions across most rural and peri-urban HCF facility settings and types. However, some hospitals also require considerably more investment in sanitation and wastewater upgrade. Another observation worth highlighting is that most urban hospitals require more investment in hygiene (especially laundry services) than in water or sanitation.

Sanitation is the most capital-intensive service and the only one for which the majority of cost is for capital investment (Table 8-10 and Figure 1-3). As a result, the investment in sanitation will have a significant impact on hand hygiene coverage while incurring relatively low additional costs. Despite differences in coverage, the distributions of costs across contexts and geographical coverage are driven almost entirely by how facilities were located geographically from the centre or accessible market areas. Of the total 3,297 HCFs in rural areas in Tajikistan, 3,081 (93%) account for TJS 677m (USD 66m, 88%) of the overall capital cost of TJS 766m (USD 75m). In urban areas, WASH capital investments into HCFs account for only TJS 88m (USD 8m, 12%) of the total capital cost for baseline level improvement.

The estimated costs are moderate compared to expenditure benchmarks and will increase gradually each year until 2030. The mean annual capital cost per capita is estimated at between TJS 34 (USD 3) and TJS 138 (USD 14). The mean recurrent cost per capita, meanwhile, is estimated at between TJS 162 (USD 16) and TJS 227 (USD 22) in 2022 and will increase in 2030 ranging between TJS 262 (USD 26) and TJS 367 (USD 36), an increase of nearly 40% in a seven-year period. Compared with existing expenditure on WASH, the annual cost is likely to be increasing each year with the consideration of inflation rate and subsequent price spikes.

The WASH capital cost for rural HCFs is estimated at TJS 677,224,927 (66m, 88%) compared to urban HCFs, which is TJS 88,402,572 (8m, 12%). This is quite understandable given that most WASH needs are located geographically far from district centres. The investment cost for primary HCFs stands at TJS 519,628,633 (51m, 68%), while secondary and tertiary HCFs share TJS 99,213,560 (9m, 13%) and TJS 146,785,305 (14m, 19%) respectively. All of these HCFs need more investment in sanitation that account nearly half of the investment cost.

Table 8A. Capital cost to reach full WASH services in HCFs in Tajikistan at basic service level [in Somoni]

Service level	All facilities		Urban facilities		Rural facilities	
	Cost (TJS)	Share of total cost (TJS)	Cost (TJS)	Share of total cost (TJS)	Cost (TJS)	Share of total cost (TJS)
Water	113,512,859	15%	16,241,508	2%	97,271,351	13%
Sanitation	356,091,762	47%	40,479,624	5%	315,612,138	41%
Hygiene	136,541,786	18%	10,881,000	1%	125,660,786	16%
Waste management	159,481,092	21%	20,800,440	3%	138,680,652	16%
Total cost	765,627,499	100%	88,402,572	12%	677,224,927	88%

Table 8B. Capital cost to reach full WASH services in HCFs in Tajikistan at basic service level [in USD]

Service level	All facilities		Urban facilities		Rural facilities	
	Cost (\$)	Share of total cost (\$)	Cost (\$)	Share of total cost (\$)	Cost (\$)	Share of total cost (\$)
Water	11,124,260	15%	1,591,668	2%	9,532,592	13%
Sanitation	34,896,993	47%	3,967,003	5%	30,929,990	41%
Hygiene	13,381,095	18%	1,066,338	1%	12,314,757	16%
Waste management	15,629,147	21%	2,038,443	3%	13,590,704	18%
Total cost	75,031,495	100%	8,402,572	12%	66,368,043	88%

Table 9. Capital cost to reach full WASH services in HCFs in Tajikistan at urban and rural level

Geography	All facilities cost (in TJS)	All facilities cost (in USD)	Share of the cost	# of facilities	Share of the facilities
Urban	88,402,572	8,663,452	12%	216	7%
Rural	677,224,927	66,368,043	88%	3,081	93%
	765,627,499	75,031,495	100%	3,297	100%

Table 10. Capital cost to reach full WASH services in HCFs in Tajikistan at service level

WASH Interventions	SERVICE UNIT COST OF INTERVENTION - WASH in HCFs									
	All facilities			in TJS			in USD			
	Cost in TJS	Cost in USD	Share	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary	
Share				68%	13%	19%	68%	13%	19%	
Water supply										
Baseline	165,111,507	16,180,928	22%	124,806,123	22,398,020	17,907,364	12,231,000	2,195,006	1,754,922	
Sanitation										
Baseline	353,217,182	34,615,284	46%	243,778,653	43,877,133	65,561,396	23,890,308	4,299,959	6,425,017	
Hygiene										
Baseline	114,871,509	11,257,408	15%	70,839,193	16,734,193.37	27,298,122	6,942,241	1,639,950.95	2,675,216.0	
Waste management										
Baseline	132,427,301	12,977,875	17%	80,204,663	16,204,213	36,018,424	7,860,057	1,588,013	3,529,806	
TOTAL	765,627,499	75,031,495	100%	519,628,633	99,213,560	146,785,305	50,923,607	9,722,929	14,384,960	

Figure 1. Incremental WASH CAPEX & OPEX in HCFs in Tajikistan until 2030 (TJS)

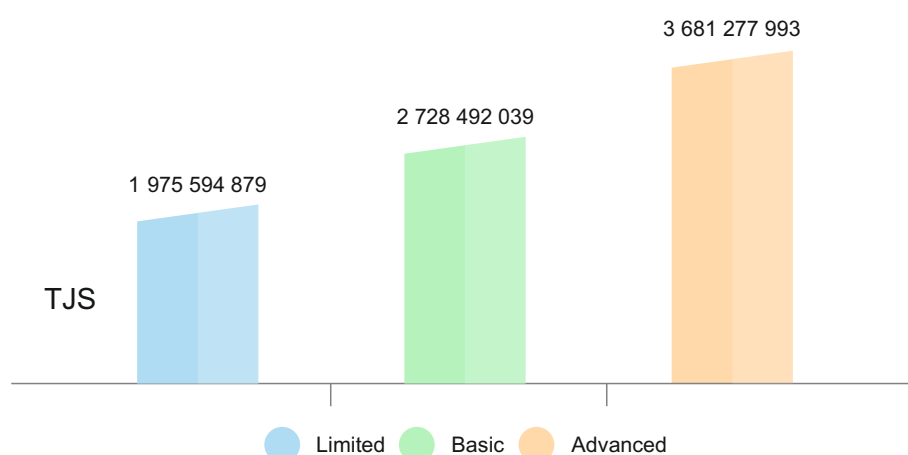


Figure 2. WASH capital cost in urban and rural HCFs as per service coverage, 2023-2030 (TJS)

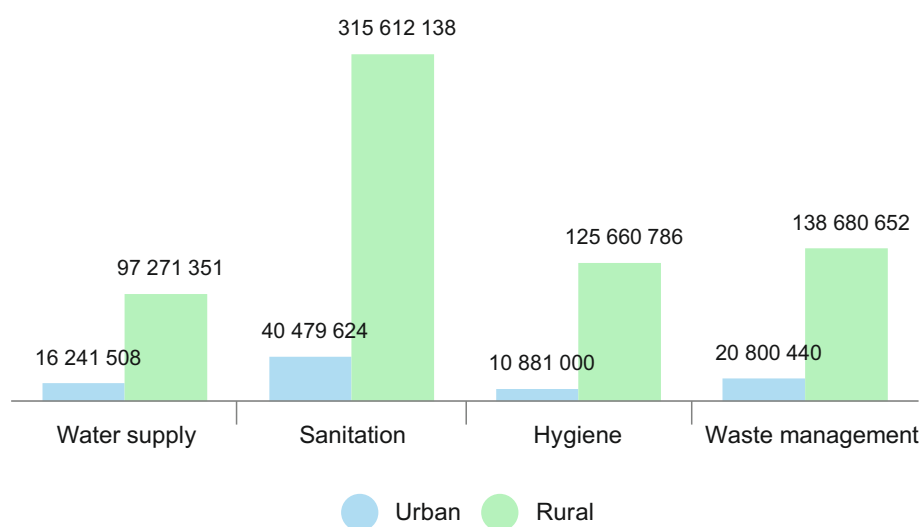
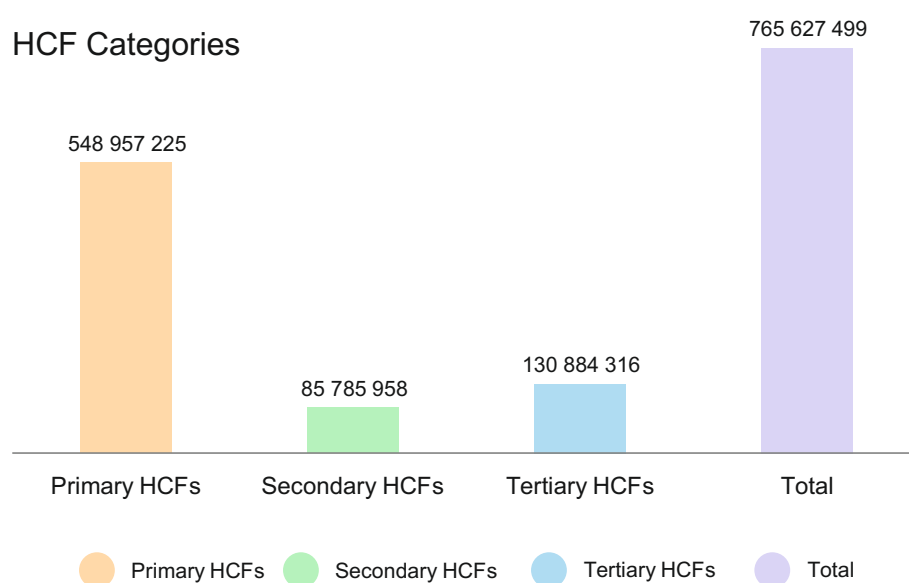


Figure 3. WASH capital cost per HCF category, 2023-2030 (TJS)



9. Key Findings

This is the first study to quantify the costs of achieving global targets for WASH and HWM services in HCFs in Tajikistan, initiated by UNICEF in Dushanbe. And, based on existing data collected from field and desk research, nearly TJS 92 (USD 10) per capita is required annually to meet basic levels of WASH services in HCFs in Tajikistan. The cost of reaching full coverage of at least basic WASH services in existing public HCFs in Tajikistan is estimated to range between approximately TJS 340m (USD 33m) and TJS 1.4bn (USD 136m) from 2022 to 2030. Meeting these basic levels would also require a modest increase to O&M costs at HCFs with regard to health and WASH spending in Tajikistan.

These findings add to the available evidence on resource needs for achieving the global goals for health (SDG 3) and WASH (SDG 6). The investment needed to enable HCFs to provide basic services has to be aligned with improved access to WASH services by households, because that will significantly improve household access to WASH services – people being able to meet their basic needs at home, which will reduce the burden on HCFs. Also, the government should be encouraged to better monitor HCFs and to strengthen advocacy with the financial sector in order to better understand the incidence of water-related diseases and nosocomial and resistant infections.

Need for a dedicated Budget Line for WASH services and expenditure monitoring

This study and discussions with chief medical staff compelled us to acknowledge that understanding financial resource needs for WASH and HWM services in HCFs is only one side of the coin. There is no clear national budget line to identify WASH-related expenses at HCF level, and there is little published evidence on how these are otherwise to be financed. Most WASH-related expenses – cleaning items, hygiene products, etc. – are listed under ‘housekeeping expenses’. To build and sustain WASH and HWM services, resources must be planned for and allocated within the annual budget cycle, and spending on WASH and HWM services must be monitored regularly. This will open the door for the private sector to finance and deliver these services, where appropriate.

Commitment for O&M Costs

This analysis assumed that the HCFs will sustain existing services, if allocated by the government, but in practice, the current spending might not be sufficient to maintain the services in the required shape. This is because the costs of operating and maintaining services will increase in the future, as can be seen from Tables 5 and 6. The government of Tajikistan and possibly donors, as well as HCFs, should collaborate to ensure that all new capital investments are accompanied by commitments and processes to ensure funding for recurrent needs. Failure to do so could lead to a flurry of upfront investment followed by rapid service gradation, which would in turn require even greater future investment to replace or rehabilitate neglected assets. Moreover, it is also essential that external donors and partners

plan to increase government coverage of management costs over time so that long-term improvements will be possible

Feasibility of Covering all HCFs with WASH and HWM Services

Management services

It does not seem realistic that the government of Tajikistan will allocate the funding required to enable all HCFs to provide at least basic WASH and HWM services up to the end of 2030. External funding and collaboration with donors will remain critical in this context; already there are many opportunities to channel financial assistance into more durable health and WASH infrastructure. However, this does not guarantee that, against the background of financial insufficiency, it is feasible to mobilise resources and implement them within seven years. Unfortunately, it is most likely that Tajikistan will not be able to meet this requirement as part of SDGs 3 and 6. And given that a minimum TJS 110m (USD 11m) is required to invest every year till 2030, those facilities need to be maintained well for proper service provision at HCFs. Given the bulk of the capital cost needed, the earliest year for achieving this goal seems far beyond 2030, a more realistic date being 2050, if not later.

Private sector engagement

As a follow-up to feasibility, the private sector in Tajikistan has the potential to play a greater role in implementing this investment plan. Even if the government of Tajikistan demonstrates a commitment to implementing the investment plan, it is technically not possible to do it without the participation of the private sector, which can offer a variety of services with less bureaucracy, smarter financing, better resource absorption capacity and higher quality. Most private sector entities can provide the following services in the country:

- construction design and mapping
- drilling and water sampling
- supply of goods
- service maintenance

But, most importantly, private suppliers could play a crucial role in establishing supply chains for WASH products and spare parts at HCFs, for repair services, and for providing support for self-supply activities.

Health Impact of the Investment

Currently, the lack of basic WASH and HWM services in HCFs causes numerous harms, including hampering an effective response to Covid-19, compromising service quality, and contributing to the spread of other water-borne diseases. The WASH and HWM services in HCFs in Tajikistan are often chronically underfunded due to their not being explicitly prioritised by governments and partners. Our site observations at HCFs revealed that most rural primary HCFs have no running water on the premises and no functional safe toilets. Though most secondary and tertiary HCFs at jamoat/city level have limited access to safe water and sanitation services, only city and oblast-level tertiary HCFs enjoy basic and improved WASH services.

Most patients and community members highlighted diarrhoeal diseases and hepatitis A being spread among children due to lack of proper water and hygiene. And, unfortunately, the treatment of such diseases is not free or freely provided by any HCF, per the anecdotal evidence of households. As stated earlier, in general, treatment of such cases at HCFs costs around TJS 1,500–2,000, which accounts for about 85 per cent of the average monthly salary in Tajikistan.

Governance and Management

Finally, roles, responsibilities and lines of accountability for the financing and O&M of WASH and HWM services in HCFs need to be clearly articulated and commonly understood across the different levels of government. There also need to be mechanisms for health officials to coordinate (and even jointly budget) with counterparts in other relevant sectors. For example, the needs and preferences of community members, health-care workers and educators could collectively inform decisions about where to prioritise new investments in water and sanitation infrastructure and guide technology choices, thereby increasing the likelihood that institutions will benefit alongside households from new or improved systems. Prioritisation is also important within HCFs given that some rooms or wards, such as for maternity, can have poorer WASH and HWM services, but greater needs and infection risks, than others.

It is imperative that the MoHSPP, along with other relevant stakeholders, participate in a comprehensive discussion regarding WASH expenditures in order to reduce costs and increase efficiency. Due to the absence of a forum for health officials to discuss this issue with their counterparts, it remains underutilized.

Conclusion

Despite these shortcomings, this national investment case for WASH in HCFs in Tajikistan provides an evidence-based starting point and financial indication for determining the resources needed to address a harmful health system deficit in the country, as well as enabling the rational use of water resources, water-saving technologies (according to the National Climate Change Adaptation Strategy of Tajikistan). The findings can also inform ongoing reforms in the water and health-care sectors in the country, as well as encourage the government and private sector partners to pay greater attention to basic infrastructure in the long run, given the short window of time available for meeting SDGs 3 and 6 before 2030.

10. Recommendations

To further advance the dialogue, it is highly recommended to undertake a tailored policy note out of these findings to inform a wider audience about the investment case, as well as systematising practices for sound coordination of efforts initiated by UNICEF and its counterparts. The following activities would further strengthen the understanding among government officials, donors and private sector representatives, and sharpen the messages through discussions and dialogue:

- strengthening the inter/multi-sectoral coordination by involving the Ministry of Finance, the Ministry of Economic Development and Trade, and Committee for Environmental Protection under the Government of the Republic of Tajikistan
- identifying the investment priorities and commitments for WASH in HCFs between the government of Tajikistan and development partners
- learning how the government's financial commitments and priorities can be aligned with the mid-term expenditure framework (MTEF) for 2024–26 and 2027–30
- organising a workshop on the National Investment Case for WASH in HCFs in Tajikistan
- developing a policy note based on these findings [4 pages]
- publishing information on the investment case in Tajik and Russian languages

11. Added Value of the Investment Case

This is the first study to quantify the costs of achieving SDG targets for WASH services (goal 6) in HCFs in Tajikistan. Given the poor state of WASH services in rural and peri-urban settings in Tajikistan, substantial investment will be needed to achieve coverage in all existing public HCFs by 2030.

We estimated the total capital and recurrent costs necessary to provide basic and advanced WASH services. Our analysis benefited from site visits, technical pricing, desk research and focus group discussions. We found that achieving full coverage of even basic-level WASH services in HCFs and its routine maintenance in Tajikistan will require substantial investment. However, the needs are modest compared with prevailing government and donor resource flows for health and WASH. Sanitation accounts for more than nearly half the resource needs (46%), with lesser shares for water, waste management and hygiene. Most additional spending is required in primary and secondary HCFs in rural areas. Our estimates can inform resource mobilisation, planning and prioritisation efforts within the auspices of the government of Tajikistan. The estimates can also help to stimulate policy dialogue regarding the distribution of financial and operational responsibilities for environmental health services across sectors, administrative levels of government and the private sector.

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Due to confidentiality agreements with HCFs and respondents to UNICEF's survey in this national investment case for WASH in HCFs, the per-facility capital and recurrent costs data cannot be made publicly available. Those seeking additional information or access to datasets should contact Ruslan Ziganshin (rziganshin@unicef.org) or Ammar Orakzai (aorakzai@unicef.org) at UNICEF Dushanbe Office. All other data used in this study were from publicly available sources or are catalogued in Annexes.

