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Climate Landscape Analysis for Children in the Philippines: WASH Sectoral Brief

Contents

The Climate Landscape Analysis for Children provides a high-level overview of the environmental context, the institutional frameworks in place to address climate risks, and a strategic focus that UNICEF, the government, and partners can adopt to mitigate these growing threats. This document provides a summary of the information focused on to the Water, Sanitation and Hygiene Sector.

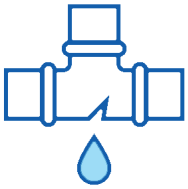
Summary

WASH Sector Main Hazards and Hotspots

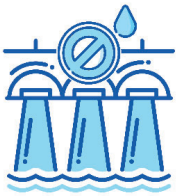
The Philippines faces multiple climate- and environment-related hazards affecting the Water, Sanitation and Hygiene (WASH) sector, including extreme heat and drought, extreme precipitation and cyclones, and sea-level rise. Provinces at highest risk include Sulu, Basilan, Tawi-Tawi, Maguindanao, and Lanao del Sur.

Climate and Environment Impacts on the WASH Sector

By 2040, the Philippines could face extreme water stress, with up to 80 per cent of water supply at risk and becoming among the world's most water-stressed countries.



Typhoons, floods, storm surge and landslides damage water and sanitation infrastructure, disrupting access to water services and leading to the discharge of wastewater and faecal sludge in the environment, increasing the risk of disease outbreaks. Droughts prevent water-based sanitation systems from working, disrupting access.



Typhoons, floods, storm surge and saltwater intrusion from sea level rise impose higher costs for maintenance, thus compromising the long-term sustainability of service delivery.

Typhoons, floods and storm surge carry contaminants and debris into water sources, while drought leads to the concentration of contaminants in water bodies, reducing availability of clean water and increasing treatment costs.

Water scarcity and droughts place added physical and emotional burdens on children, particularly girls, who walk long distances to collect water. Households' ability to store water safely is also compromised with water scarcity, increasing exposure to disease.

Vulnerabilities related to water, sanitation and hygiene (WASH) are greatest in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), rural and indigenous communities and geographically isolated and disadvantaged areas (GIDA), where open defecation remains prevalent, and access to resilient WASH infrastructure is critically low.

Priority Actions to Strengthen WASH Sector Resilience

Strengthening WASH system resilience requires action across climate policy and planning, child-centred service delivery, and evidence and monitoring.

- **Climate policy and planning.** Create a Department of Water or grant the Water Resources Management Office of the Department of Environment and Natural Resources (DENR) expanded regulatory functions through legislation. Require climate vulnerability and risk assessments for key WASH services, and climate-proof design standards. Develop a capacity support programme for local government units (LGUs)-managed WASH systems.

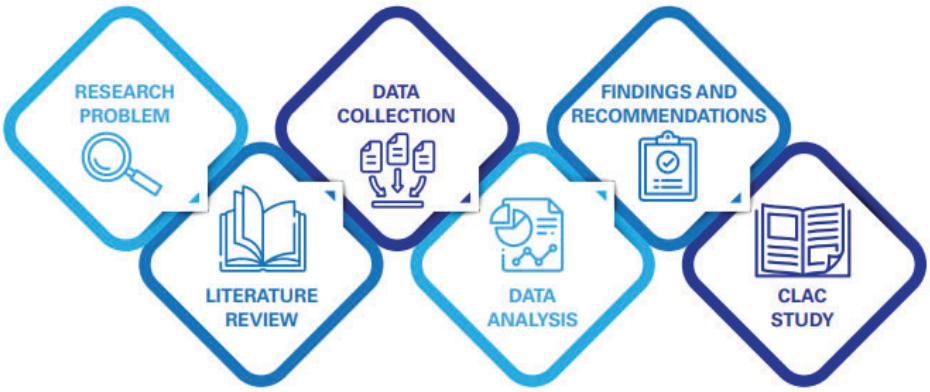
- **Children's perspective and services.** Upgrade water and sewage systems and prevent pollution. Provide hygiene kits and rainwater harvesting. Guarantee that children have access to safe toilets and handwashing in schools and evacuation centres.

- **Evidence and monitoring.** Develop studies and surveillance systems that track the incidence and trends of climate- and WASH-sensitive diseases. Generate studies to quantify greenhouse gas emissions from sanitation systems and practices, estimate emissions from wastewater, and examine the effectiveness of rainwater harvesting. Produce outcome-based studies that assess how climate adaptation measures in WASH improve children's lives, especially in terms of access, equity and resilience.

Methods

This WASH Sector brief draws on UNICEF's Climate Landscape Analysis for Children in the Philippines (CLAC), which examines how climate change affects children and youth and identifies solutions to improve their health and wellbeing. The CLAC involved desk research, interviews, questionnaires and consultations, including engagement with 24 government agencies to map relevant policies and programmes and identify entry points to advance children's and youth rights in climate change action (Figure 1). Inputs from UNICEF Philippines Country Office and field offices also informed the process.[i]

Figure 1: CLAC Method



[i] Namely Education, Health, Social Policy, WASH, Child Protection, Adolescent Development and Participation, Gender, Social and Behaviour Change, Nutrition, Disability, and the Mindanao Field Office.

UNICEF also incorporated findings from a July 2025 national consultation on National Determined Contributions (NDCs) and Just Transition with over 65 children and youth aged 10 to 24, including participants from climate-affected communities, youth-led organizations and vulnerable sectors. Their priorities across social sectors and mitigation, grounded in equity, intergenerational justice and community resilience, were integrated into sector recommendations.

The CLAC was then presented at a national consultative workshop on 7 October 2025 with government ministries and key climate, environment and disaster risk reduction (DRR) stakeholders, including national government agencies and the Kabataang Resilient Network, to validate findings and refine recommendations.

Context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The Philippines is highly exposed to climate and geophysical hazards due to its location along the Northwest Pacific typhoon belt and within the Pacific Ring of Fire. Its archipelagic geography, places an estimated 5.4 million people in low-lying and highly vulnerable areas.[1] The country consistently ranks among the world's most disaster-prone, topping the 2023 World Risk Index with an average of 148 disasters annually, driven primarily by typhoons, floods, droughts and earthquakes.[2] On average, 20.2 tropical cyclones enter the Philippine Area of Responsibility each year, with 8.4 making landfall,[3] causing widespread damage to lives, homes and livelihoods. The Philippines has a population of 113 million in 2024 and urbanisation has increased, with 41.4 per cent of the population living in cities and 12–13 per cent concentrated in Metro Manila. The rest of the population remains spread across more than 1,000 islands, many in coastal and rural areas that are directly exposed to typhoons and rising seas. Poverty remains significant, with 15.5 per cent of the population, or approximately 17.54 million people, living below the national poverty line,[4] and chronic malnutrition affecting 23.6 per cent of children under five. [ii]

In 2023, over 52 per cent of households in the Philippines lacked access to safely managed drinking water and more than 37 per cent lacked access to safely managed sanitation. Access is lower in rural areas. In urban areas, poor containment and faecal sludge management continue to pose public health risks, particularly in climate-vulnerable urban zones. While access to basic hygiene is relatively high, 79 per cent in rural areas and 85 per cent in urban areas, gaps persist. BARMM remains the most vulnerable region, where 13.8 per cent of the poorest households and 17.8 per cent of all households still practice open defecation, and some provinces lack access to safely managed drinking water. In schools, less than half have access to basic drinking water, and only 61 per cent provide hygiene facilities, exposing millions of children to unsafe learning environments.[5,6]

[ii] Based on 2023 National Nutrition Survey, stunting affects 23.6% of children under 5 years old and 20.7% of adolescents (10-19 years old).

WASH Sector Policy Climate, Environment and DRR Landscape

The main policy document for the WASH sector, advancing Sustainable Development Goals (SDG) targets 6.1 and 6.2, is the Philippine Water Supply and Sanitation Master Plan (PWSSMP), 2019-2030. Building climate resiliency is a key reform agenda of the PWSSMP requiring climate risk assessments to inform low-risk siting, climate-resilient design standards and emergency preparedness for WASH services. Water supply shows the strongest climate integration, while sanitation is only partially integrated and hygiene is minimally addressed. Faecal sludge management is included in service planning but not explicitly linked to climate adaptation, and the plan does not address mitigation of sanitation-related emissions.

The National Environmental Health Action Plan (NEHAP) 2023–2030, is a Department of Health (DOH)-led multisectoral framework addressing environmental health risks including water, sanitation, air quality, solid waste and chemicals. It explicitly integrates climate change as a cross-cutting determinant of environmental health. Among the priority actions included protecting communities from extreme heat, preparing for disasters and making water and sanitation systems more resilient. It also pushes for reducing pollution and promoting more sustainable ways of using resources.

In 2024, DENR and Department of Economy, Planning, and Development (DEPDev) released the Integrated Water Resources Management (IWMP), a key planning document that harmonized the vision for the sector and balances social, economic and environmental objectives. The IWMP acknowledges that climate change is a key driver of water stress and included among its priority strategic actions the mainstreaming of climate change/ DRRM in planning, conduct of climate vulnerability and risk assessment, integrating climate resilience into irrigation, rehabilitating watersheds and improving how water demand is managed. It emphasized the need for watershed-based planning and stronger coordination between agencies. An important provision in the plan is the inclusion of sanitation as a key performance indicator of water service providers that would support expanding household sanitation coverage.

In practice, implementation is challenged by a fragmented sector architecture. Governance of water resources in the Philippines involves over 30 agencies with overlapping mandates. The National Water Resources Board oversees national water regulation, while other agencies like the National Irrigation Administration, Local Water Utilities Administration and DENR also have oversight roles. LGUs are primarily responsible for WASH provision, involving various service delivery models including government-owned corporations, LGU-run utilities, community-based water groups and private companies. Regulation of these providers is inconsistent, with varying standards. The fragmentation complicates efforts at LGU level to build climate resilience into WASH service delivery.

In recent years, the creation of the Water Resources Management Office (WRMO) was a step towards improving coordination. It serves to strengthen policy harmonization across the sector, although its mandate does not yet encompass full regulatory or enforcement powers.

Table 1 provides a summary of the main WASH policies and strategies and their connection to climate, environment and DRR:

Table 1: Overview of WASH-related policies and initiatives and focus on climate, environment and DRR and children

Policy/strategy, initiative	Climate, environment and DRR and/or child focus
Philippine Water Supply and Sanitation Master Plan (PWSSMP)	• Guided by the principle of IWRM, serves as a strategic guide towards achieving universal access to safe, sufficient, affordable and sustainable water supply, sanitation and hygiene by 2030. The plan outlines activities, responsible agencies, and required resources to address the country's water-related challenges. • Recognition of the impact of climate change on the water sector, particularly exacerbating the growing gap between water supply and demand. • Plan is focused on Building Climate Resiliency. This includes using climate change adaptation and disaster risk reduction (DRR) strategies to design and construct climate-resilient WASH facilities.
National Building Code of the Philippines (PD 1096)	• Key framework for promoting resource efficiency and sustainability in the planning, design, construction, operation and maintenance of buildings. • The code aims to improve indoor environmental quality and reduce the environmental and health impacts of buildings.
Executive Order No. 22 (2023): Creating the Water Resources Management Office in the Department of Environment and Natural Resources (DENR)	• Creates the WRMO to unify planning, coordination, and governance of water resources under the DENR, and harmonize overlapping mandates across agencies. • Establishes an institutional anchor for integrated water resources management planning. • Cites climate impacts among water sector challenges. • Mandates WRMO to integrate and harmonize efforts "to ensure availability and sustainable management of water resources in the whole country."
Integrated Water Resources Management Plan (IWMP)	• It is a strategic framework for coordinated management of water resources across competing uses and ecosystems. • Focuses on basin-wide approaches, water allocation efficiency and demand management. • Explicitly recognizes climate variability and extreme events as key risks, embedding climate resilience in water allocation, watershed protection and risk-based planning. • Included sanitation as a key performance indicator of water service providers to support expansion of sanitation coverage.

Policy/strategy, initiative	Climate, environment and DRR and/or child focus
National Environmental Health Action Plan (NEHAP) 2023-2030	• Explicitly integrates climate change as a cross-cutting determinant of environmental health. • Among the priority actions included protecting communities from extreme heat, preparing for disasters and making water and sanitation systems more resilient. It also pushes for reducing pollution and promoting more sustainable ways of using resources.
DOH Administrative Order No. 2019-0054: Philippines Approach to Sustainable Sanitation	• Establishes a phased approach to guide LGUs in progressing from basic sanitation to sustainable, safely managed sanitation. Sets service level benchmarks and defines institutional roles for implementation. Encourages sanitation market development and community engagement. • First sanitation-specific framework in the Philippines to explicitly integrate climate change considerations. • It encourages LGUs to create an enabling environment that fosters a sustainable sanitation programme in communities, and to mainstream climate change adaptation and disaster risk reduction management.
DBM-NEDA Joint Circular No. 2024-02: Revised Policy Guidelines and Procedures for the Formulation of the Three-Year Rolling Infrastructure Program	• The Water Sector is explicitly listed among the priority Programme Convergence Budgeting programmes for proposed future budgets. • Explicitly includes climate change adaptation and DRR works among eligible infrastructure categories.
DOH Administrative Order 2010-0021: Sustainable Sanitation as a National Policy and a National Priority Program of the Department of Health	• Sets the target for the country to achieve universal access to safe and adequate sanitary facilities, including mechanisms to institutionalize sustainability and normalize proper hygiene practices by 2028. • Defines sustainable sanitation as both a process and system that protects and promotes human health, minimizes environmental degradation and the depletion of resources. • Promotes sanitation programme for emergency situations and encourages integration WASH in DRR across all government levels.
DOH Administrative Order No. 2014-0027: National Policy on Water Safety Plan for All Drinking-Water Service Providers	• Links water safety risks to climate change & extreme weather at a high level. • Directs the use of water safety plan as a risk management approach for all water service providers.

Policy/strategy, initiative	Climate, environment and DRR and/or child focus
DOH Administrative Order No. 2017-0010: Philippine National Standards for Drinking Water of 2017	• Updates standards recognizing "the need for water quality standards during emergency situations." • Defines drinking water scope relevant to emergency/public health protection. • Does not explicitly mention climate change or DRR.
DOH Administrative Order No. 2020-0032: National Policy on WASH in Emergencies	• Notes Philippines' hazard exposure and calls to institutionalize cluster governance. • Establishes the DOH as lead of the Health Cluster, with WASH as one of its sub clusters, at all levels.
Guidelines on Setting-up and Operation of Public Utilities: Water Supply and Sanitation Services (JMC No. 02, series of 2024 by DBM, DOF, DILG, NEDA and DENR)	• NEDA (now DEPDev) Committee on Infrastructure (INFRACOM) adopts the Unified Resource Allocation Framework (URAF) under NEDA Board Resolution No, 41, series of 2024, which is a key financial strategy document for the sector. • The 2024 DBM-led Joint Memorandum Circular (JMC) frames resilient utilities and climate action, essential to achieving water security and adapting and mitigating the effects of climate change. • Defines well-performing water utilities as those that operates efficiently and is able to provide "adequate, reliable, resilient, inclusive and sustainable water supply and sanitation services." • Compliance with the JMC forms part of the LGU Local Climate Change Action Plan, and encourages LGUs to acquire insurance coverage, adopt minimum technical standards on Water Safety Planning, and implement preparedness measures and contingency plan, among others. • Notes the financing context for shocks, particularly that subsidies will be needed at times of disasters and other crises.
Presidential Decree No. 1067: The Water Code of the Philippines;	• Establishes State stewardship of water resources: "All waters belong to the State." • Places utilization, development, conservation and protection of water resources under the National Water Resources Council, which was reorganized in 1987 to become the National Water Resources Board under Executive Order No. 124-A.
Republic Act (RA) No. 9275 or the Clean Water Act of 2004	• Aims to protect the country's water bodies from pollution from land-based sources. It establishes a multi-agency coordination mechanism and mandates wastewater treatment, discharge permitting and water quality standards. It also created the Water Quality Management Fund to support projects and activities that improve and protect water quality in designated water bodies.

Policy/strategy, initiative	Climate, environment and DRR and/or child focus
	• Created the National Sewerage and Septage Management Program under the Department of Public Works and Highways to serve as the national framework in guiding LGUs in implementing sewerage and septage projects, with access to technical assistance and possible financing support.
Presidential Decree No. 856 Code on Sanitation of the Philippines (1975)	• Provides a comprehensive sanitation standards covering waste disposal, food safety, environmental sanitation and public health. It assigns DOH as the primary authority for implementation and sets regulatory requirements for LGUs, institutions and private establishments.

WASH Impacts of Climate, Environmental and Energy Issues

> "Our access to safe and clean water is inadequate. Droughts dry up sources of water, and floods - worsened by improper waste disposal - contaminate them. Too many of us have no choice but to use unsafe water, and not enough toilets or handwashing facilities, making us more prone to illness. These get worse during disasters, when systems break down and basic services become inaccessible to us.[iii]
>
> Statement of Filipino Children and Youth

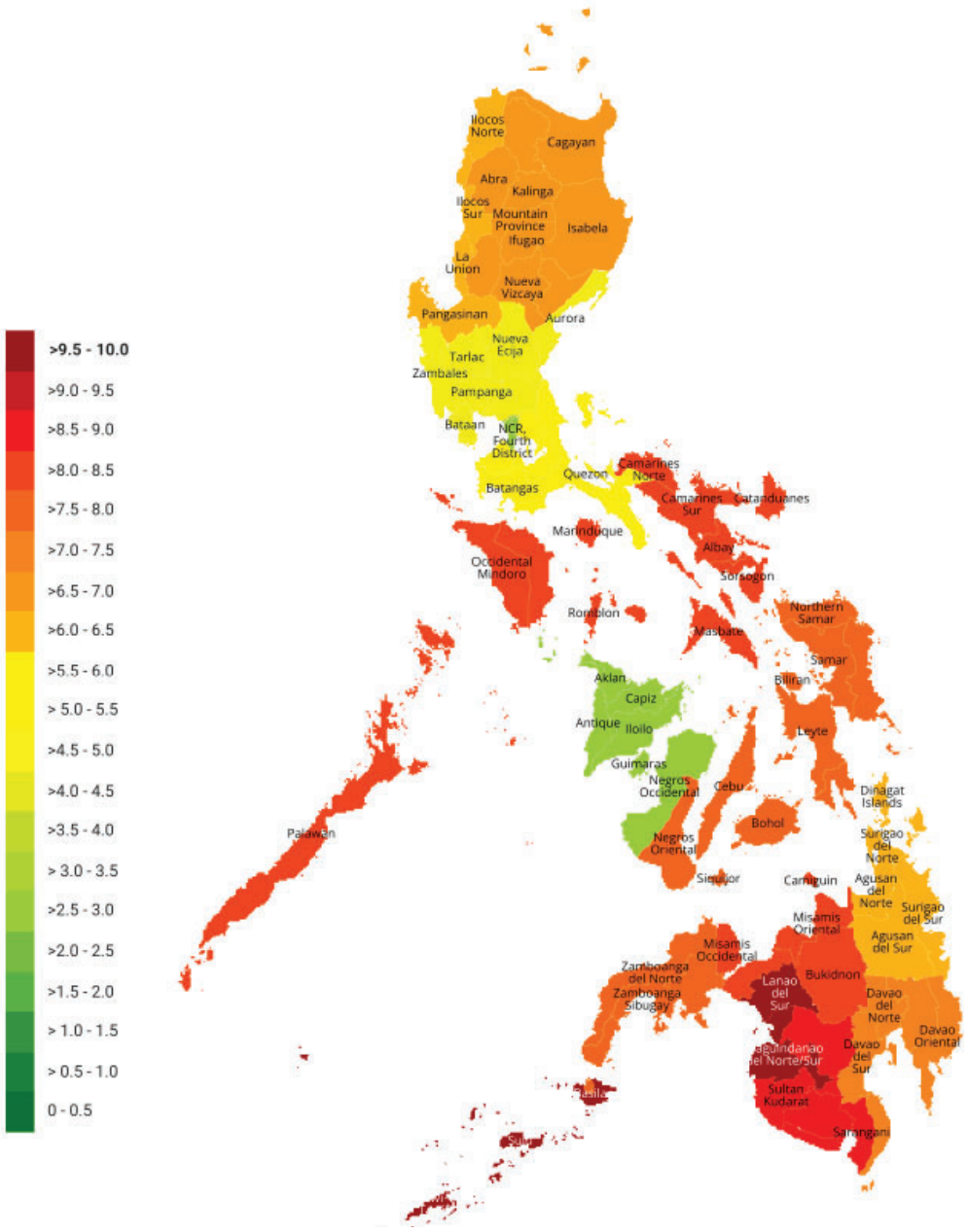
In the Philippines, access to WASH services has been growing steadily since 2000. In rural areas, where 52 per cent of the population lives, access to safely managed water services increased from 33 per cent to 35 per cent and sanitation services increased from 59 per cent to 69 per cent between 2015 and 2022.[7] However, there are still a lot of people living without safely managed water and sanitation services. Open defecation, still practised by approximately 3 per cent of the population,[8] contributing to stunting and waterborne diseases, which affect children's health and development. Access to WASH services in schools also remains low: 19 per cent of school children drink water from unimproved sources or have no access to water in schools at all.[9] The lack of gender-responsive and disability-inclusive WASH infrastructure limits children's ability to learn in a safe and healthy environment. Poor WASH services contribute to poor health and nutrition of children, particularly stunting, which impacts over 3.8 million Filipino children under 5 and leads to an economic burden of PHP 5 billion annually.[10] The situation is particularly dire in indigenous communities, rural areas and GIDA, where WASH services are poorest.[11]

[iii] Statement of Filipino Children and Youth on Nationally Determined Contributions and Just Transition.

Climate change exacerbates these challenges by intensifying the frequency and severity of typhoons, floods, droughts and sea-level rise, threatening the sustainability of water systems, damaging infrastructure and impairing hygiene conditions for children across the country.

UNICEF created a composite index of child health vulnerability by region using national data sets (Figure 2). Indicators were normalized to a common scale (1–10), with higher values indicating greater risk.[iv] The provinces with the highest risk score are Sulu, Basilan, Tawi-Tawi, Maguindanao, and Lanao del Sur. Key climate impacts to the WASH sector are detailed below.

Figure 2: WASH vulnerability index (2025)[v]



[iv] The results are combined with other indicators of child vulnerability and used to develop the UNICEF CCRI.

[v] Data Source: Proportion of families with access to at least basic drinking water services (2024 Annual Poverty Indicator Survey, PSA); Proportion of families with access to at least basic sanitation services (2024 Annual Poverty Indicator Survey, PSA); Proportion of families with access to at least basic handwashing services (2024 Annual Poverty Indicator Survey, PSA); Proportion of schools with 2–3-star rating (SY 2023-2024 WASH in School, DepEd);

Increased temperatures and drought

Climate context and hazard exposure

In 2020, 18 million children (40 per cent of children in the country) were living in areas where historical heatwave events, defined as three consecutive days above the 90th percentile of the climatological average, have occurred. Heatwave patterns historically correlate with coastal lowland areas, where humidity and exposure amplify thermal discomfort. In contrast, elevated inland regions, such as the central highlands of Luzon, Visayas and Mindanao, have experienced fewer and shorter heatwave episodes.

Across all emissions scenarios, the Philippines is projected to experience substantial increases in the frequency, duration and spatial extent of heatwaves. High-heat days (heat index >35 °C) could increase more than tenfold under pessimistic scenarios, reaching up to 200 days annually in some areas by mid-century. By 2050, nearly all children in the Philippines are expected to face at least five heatwaves annually, with three-quarters experiencing extended durations.[12] These stresses are amplified in urban areas by the urban heat island effect, where built environments trap and radiate heat, raising temperatures by 0.1–3 °C above surrounding rural zones.[13]

> For instance, drought increases household water demand, while water conservation policies imposed by oversight agencies lead to intermittent water supply, forcing households to store water in potentially unsafe containers. This practice raises the risk of water- and vector-borne diseases, disproportionately affecting children and young people.
>
> Department of Economy, Planning and Development (DEPDev, formerly National Economic and Development Authority), Inputs for Updating the Philippine Climate Landscape Analysis for Children (CLAC)

Implications for children's health and wellbeing

Increasing temperatures and drought are negatively affecting children's access to WASH services and practices by increasing the burden of water collection and exposing them to contaminated drinking water.

- **Hotter temperatures and drought lead to increased disease risk.** Drought leads to water scarcity, impacting drinking water, sanitation and hygiene needs. Children, particularly in rural areas, are often tasked with collecting water, putting additional physical and emotional strain on them. Households are also forced to store water in possibly contaminated containers, which poses serious health risks, particularly to children. For every 1°C increase in temperature, there is also an 8 per cent increase in E. coli related to diarrhoea, one of the leading causes of illness and death of children.[14]

- **Increasing water stress threatens water supply.** By 2040, the Philippines is projected to face extreme water stress, with 40 per cent to 80 per cent of its water supply potentially depleted due to climate-related impacts, making it one of the most water-stressed countries globally, ranking 57th out of 167 in terms of risk.[15] Spatial analysis using the WRI Water Risk Tool highlights growing competition for water in many regions:
    - Luzon Island is highly urbanized and already experiences high competition for water.
    - Cebu, Bohol and Panay islands in the Visayas are under growing pressure due to urban expansion and limited supply.

- Parts of Davao del Norte, in Mindanao, currently faces low-medium stress, but this is expected to worsen under both optimistic and pessimistic climate scenarios affecting neighbouring provinces in the SOCCSKSARGEN region.
- The Basilan, Sulu and Tawi-Tawi island provinces face some of the country's most severe water stress. Due to geographic isolation, they rely heavily on rainfall and even diesel-transported water imports, calling for tailored water management strategies.

> "Climate change primarily impacts the water cycle, increasing climatic and hydrological variability. This significantly threatens the provision of adequate and safe water for domestic, industrial, and agricultural needs, compromising water and food security.
>
> DEPDev, CLAC Survey Questionnaire

Extreme precipitation and tropical cyclones

Climate context and hazard exposure

Rainfall in the Philippines varies greatly by region and season. Annual rainfall ranges from 960 mm in southeast Mindanao to 4,050 mm in Central Luzon. Precipitation patterns are shaped by four climate zones and driven by the southwest (May–September) and northeast (November–February) monsoons, the Intertropical Convergence Zone, tropical cyclones, and El Niño–Southern Oscillation phenomena (El Niño and La Niña).

Under SSP2-4.5 and SSP5-8.5 scenarios, rainfall is projected to become more erratic and intense[16] with medium confidence in a future rise in both frequency and intensity of extreme rainfall events.[17] Seasonal patterns will shift notably. Rainfall is expected to intensify during the northeast monsoon (December–February) in Eastern Visayas and southeastern Luzon, while the dry season (March–May) is projected to become drier in northern and western regions.[18] The frequency of wet days with precipitation may increase, alongside more dry days (<2.5 mm), particularly south of 15°N latitude.[19]

These changing rainfall dynamics interact with the country's high exposure to tropical cyclones. The Philippines experiences an average of 19–20 tropical cyclones annually, with 7–9 making landfall. In 2020, nearly 17 million children or over 37 per cent of all children in the country were at risk of high wind speed from typhoons. Under climate change scenarios, typhoons may become slightly less frequent but more intense.[20] Average maximum wind speeds from typhoons may increase by 26 per cent (SSP2-4.5) to 29 per cent (SSP5-8.5) by 2030 (from 113 kilometres per hour (km/h) to 142 or 146 km/h), and 29 per cent to 33 per cent by 2050 (up to 146 or 150 km/h).

Implications for children's health and wellbeing

Extreme precipitation and stronger cyclones disrupt children's access to WASH services by damaging and destroying WASH infrastructure in households and schools, and limiting the ability to practice safe hygiene.

- **Typhoons, floods, storm surge and landslides damage WASH infrastructure.** Frequent and stronger typhoons continue to destroy water and sanitation infrastructure in schools and communities, leaving children without access to safe drinking water and adequate sanitation facilities and hygiene supplies. During evacuation and displacement, many emergency shelters, including schools, lack access to safe WASH facilities, compounding the vulnerability of children and their caregivers. In these situations, children and young people may be left with no alternative but to practice open defecation or rely on unhygienic and unsafe sanitation facilities, increasing protection risk and undermining their dignity.

Sea level rise and extreme sea levels

Climate context and hazard exposure

In the Philippines, sea level rise has historically been recorded at rates double the global average, ranging from 2.8 to 3.6 mm/year (1993–2010). Four Philippine cities are ranked among the top 10 in East Asia most at risk from combined sea level rise and storm surges.[21] Sea level rise in the Philippines is projected to continue to accelerate beyond the global average, reaching up to 8.9 mm/year by 2050 under SSP5-8.5. By 2060, the national rate may double again. Provinces along the West Philippine Sea, particularly in northern Luzon, are expected to face rates 1.5 times the national average.[22] Extreme sea level events, caused by storm surges, tides and wave action, are expected to intensify by up to 35 per cent by 2030, reaching heights of up to 3 metres, or 12 times the baseline sea level rise projection.

Implications for children's health and wellbeing

Sea level rise is affecting children's access to WASH services and practices by contaminating drinking water sources and damaging sanitation infrastructure.

- **Saltwater intrusion reduces access to safe drinking water and degrades sanitation systems.** Sea level rise is a growing concern as it can lead to saltwater intrusion, affecting water quality in coastal and even landlocked areas, and further reducing freshwater availability for drinking and domestic use.

Multi-hazard WASH impacts and vulnerabilities

Existing WASH system weaknesses, especially in BARMM, amplify climate change impacts across multiple hazards.

- **BARMM region faces the highest WASH vulnerability.** Despite relatively strong national WASH indicators, BARMM stands out for its extremely high vulnerability:[23]
    - Around 10 per cent of the population practices open defecation, the highest rate nationally; while another 20 per cent rely on unimproved sanitation facilities.[24]
    - The region faces compounded risks from storm surges, droughts and malaria prevalence.
    - Data limitations persist: BARMM was not included in the WASH in Schools Three-Star Program assessment, and many island areas lack adequate data sets, despite anecdotal evidence of communities relying entirely on rainfall.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WASH Sector Recommendations

> Increase investment in climate adaptation and resilience in key services for children. To protect children, communities and the most vulnerable from the worst impacts of the already changing climate, critical services must be adapted, including water, sanitation and hygiene systems, health and education services.[25]
>
> Council for the Welfare of Children,
> Response to CLAC Questions for national government agencies policy section

Aligned with the NAP priorities on early warning, preparedness and strengthened surveillance and treatment of climate sensitive diseases, and the NDC commitments on resilient health financing, climate resilient facilities and services, health-sector mitigation, evidence on environmental determinants, and child- and youth-friendly information, the CLAC study recommends the following actions to foster climate action in the WASH sector:

Climate policy and plans

- Give priority to the pending act to create a Department of Water or grant the Water Resources Management Office of DENR expanded regulatory functions through legislation.
- Require climate vulnerability and risk assessments for key WASH facilities and services, and climate-proof design standards in all water and sanitation-related projects.
- Develop a capacity support programme for LGU-managed WASH systems and incentivize clustering of utilities in water-stressed areas.

- Strengthen planning for climate resilience across the full sanitation service chain (e.g., flood safe pit designs, continuity of desludging during shocks, treatment plant resilience) and hygiene behaviours and infrastructure.

- Plan for sanitation greenhouse gas mitigation measures and propose greenhouse gas metrics for sanitation projects to contribute to the NDCs.

- Establish a dedicated Water Security and Sanitation Resilience Fund to channel government budget, official development assistance and climate finance into priority climate-resilient WASH programmes for highly vulnerable LGUs.

- Develop standards and indicators for climate-resilient WASH services and infrastructure. Regularly review indicators in the DILG Results-Based Monitoring and Evaluation system to incorporate new indicators from the Global Goal on Adaptation for WASH.

- Improve and centralize data on water supply, sanitation, quality and climate risks; to support LGUs in planning for an ecosystem-based WASH programme.

Children's perspective

- Upgrade water and sewage systems.

- Prevent pollution.

- Provide hygiene kits and rainwater harvesting.

- Guarantee that children have safe toilets and handwashing in schools and evacuation centres.

Community and local engagement

- Adopt a participatory approach that involves children and youth in understanding how climate change affects WASH services, and in planning for risk reduction, adaptation, and mitigation measures.

- Integrate climate risk discussions in participatory rural appraisal methods such as in Community-Led Total Sanitation to intensify the triggers to ending open defecation and finding viable sanitation solutions especially in high exposure areas.

- Support children and youth in developing climate adaptation solutions tailored to their communities' environmental and climate challenges through partnerships with Department of Science and Technology, Philippine Science High School System (PSHSS), Department of Education and the private sector.

- Expand DepEd's Youth for Environment in Schools Organization (YES-O) Program to promote climate action initiatives related to the sector in collaboration with the local government, Sangguniang Kabataan and Local Youth Desk Officers.

- Strengthen water stewardship through ensuring public participation and meaningful representation of marginalized sectors in local governance mechanisms such as the Water Quality Management Areas and/or the Local Drinking Water Quality Monitoring Committee.

Evidence and monitoring

- Develop studies and surveillance systems that track the incidence and trends of climate-sensitive diseases such as dengue, diarrhoea, leptospirosis, cholera, other WASH related diseases and respiratory infections, heat-related diseases and health impacts particularly in high-risk regions and among vulnerable child populations.

- Conduct primary data collection to quantify greenhouse gas emissions from sanitation systems and practices, which would support the development of climate-smart sanitation strategies and inform mitigation efforts. Current estimates of emissions from wastewater rely on Intergovernmental Panel on Climate Change (IPCC) models without calibration using national data.

- Generate studies that examine the effectiveness of rainwater harvesting, in line with national priorities, including how rainwater harvesting affects water availability, safety, and WASH service continuity and whether it influences hygiene behaviours in schools and communities.

- Generate research to understand how water scarcity, flooding and other climate-related disruptions affect hygiene practices, especially among children in schools and evacuation centres.

- Produce outcome-based studies that assess how climate adaptation measures in health, education, WASH and social protection improve children's lives, especially in terms of access, equity and resilience.

- Develop a national framework to track climate change impacts across social sectors, aligned with the global goal on adaptation. This would enable consistent reporting, indicator development and integration into national planning and budgeting.

- Produce evidence to understand how climate shocks and disasters affect intangible aspects of well-being, including community cohesion, psychosocial resilience and mental health. Evidence in this area could inform more holistic reconstruction, rehabilitation, and recovery efforts that go beyond economic damages and losses to address the full spectrum of impacts on children and families.

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