

Submission to the UAE – Belém work programme on indicators for measuring progress achieved towards the targets of the Global Goal on Adaptation framework

Executive Summary

- UNICEF urges Parties to consider both the unique and disproportionate impacts of climate change on children and their right to meaningful participation within the UAE – Belém work programme.
- This submission highlights normative recommendations for thematic targets (Decision 2/CMA.5, paragraph 9) on water and sanitation; food, agriculture and nutrition; health; infrastructure and basic and continuous essential service delivery; poverty, livelihoods and social protection.
- The work programme should address the need for global consensus building on normative definitions and standards relating to climate adaptation and resilience for each thematic target.
- The work programme should furthermore engage national statistical offices and global data custodians to build on experiences from previous global indicator development processes, catalogue and evaluate existing indicators and data sources, and assess national capacity to monitor adaptation indicators.
- UNICEF recommends that the body overseeing global indicator development collaborates with the UN Statistical Commission on the development of indicators, and that data custodians are identified to support the technical work required to develop indicators and methods for enhanced monitoring of thematic targets.
- UNICEF suggests the integration of the policy dimension cycle targets outlined in paragraph 10 with the thematic targets to address coordination and synergy concerns in adaptation efforts.
- Special attention must be paid to cross-cutting impacts of climate change disproportionately affecting children and young people which are not referenced in the UAE Framework for Global Climate Resilience, including human mobility and mental health considerations.
- Adaptation should be age-, disability- and gender-responsive and the entire life course of children and the challenges they face at each stage.
- Indicators should be disaggregated, where relevant. UNICEF recommends establishing a dedicated work stream on disaggregation and requested UN agencies to provide support in operationalizing this commitment to leave no one behind.
- UNICEF calls for increased attention to the role of education and calls for further integration of education into the UAE Framework for Global Climate Resilience.

Introduction and context

This submission is made by UNICEF to describe initial considerations across thematic targets as well as reflections in relation to the modalities of work of the UAE – Belém work programme.

The Glasgow–Sharm el-Sheikh (GlaSS) work programme COP 28 [Decision on the global goal on adaptation \(GGA\)](#) included the adoption of the UAE Framework for Global Climate Resilience and the launch of the two-year UAE – Belém work programme on indicators for measuring progress achieved towards the targets established in paragraphs 9 and 10 of the Decision, with a view to identifying and, as needed, developing indicators and potential quantified elements for those targets.

UNICEF intends to support the work of Parties to develop and implement the UAE Framework for Global Climate Resilience and work programme on indicators for measuring progress through:

- The provision of technical guidance on norms and standards relating to resilience and the development of indicators and methods for monitoring progress on thematic targets across child-critical sectors, including (physical and mental) health, water and sanitation, food security and nutrition, and social protection, as well as education;
- Supporting the implementation and monitoring on adaptation in the sectors where UNICEF works¹, particularly drawing on UNICEF experience in assisting governments to strengthen national monitoring systems; and
- Supporting the integration of child-responsive considerations within efforts to unpack thematic targets and develop metrics, including an explicit focus on children and their rights as well as intergenerational equity.

Highlighted in previous UNICEF submissions to the GlaSS, UNICEF urges Parties to recognize both the unique and disproportionate impacts of climate change on children, as well as children's role as key stakeholders in climate action, and to align indicators with provisions that explicitly reference child rights and intergenerational equity as referenced in paragraph 13 of Decision 2/CMA.5.

Indicators for targets laid out in paragraphs 9 and 10 should prioritize a focus on the resilience of essential services that reach children and communities most at risk, with needs and progress for children and other vulnerable groups captured by the mandated development of age-, sex- and disability-disaggregated indicators.

1. Initial views on modalities

Despite increasing adaptation efforts, there is still limited evidence and knowledge about how effective existing adaptation efforts are in reducing climate risks. UNICEF therefore supports a thematic and expert-led approach for the 2-year work programme. Building on the [UN-wide submission's proposal of thematic expert groups undertaking the technical work needed for indicator development](#), the following approach is suggested to distinguish between normative and data-related considerations in the context of climate adaptation and resilience, ensure synergy between agencies (e.g. line ministries) and reduce reporting burdens on countries.

Firstly, there needs to be a concerted effort to build consensus among sector stakeholders on **normative definitions and standards** relating to climate adaptation and resilience for each thematic target (i.e. the seven targets of Decision 2/CMA.5 paragraph 9):

- Build on experience and lessons emerging from adaptation and climate resilience programmes in each sector
- Review and catalogue emerging concepts, definitions, frameworks and standards which are relevant to monitoring implementation of the thematic targets
- Identify priority areas for enhanced monitoring in relation to the thematic targets
- Pilot priority indicators and progressively integrate them into national monitoring systems

Secondly, national **statistical offices and global data custodians** should be actively engaged in the development of indicators and methods for monitoring progress at national and global levels:

- Build on experience and lessons from national and global monitoring of the Sustainable Development Goals and other international targets
- Review, catalogue and evaluate the suitability of existing and emerging data sources, indicators and tools which are relevant for monitoring each of the sectoral targets
- Assess the capacity of national governments as well as global indicator custodians to monitor and evaluate national adaptation efforts

- Identify a small number of universally relevant indicators that can be prioritised for enhanced national and global monitoring of the sectoral targets

UNICEF recommends that the body overseeing global indicator development collaborates with the UN Statistical Commission on the development of indicators and that data custodian agencies (see Figure 1) are identified to support the technical work required to develop indicators and methods for enhanced national and global monitoring of thematic targets related to adaptation and resilience. It is furthermore recommended that a cross-cutting work stream on disaggregation is established.

Data custodians

The UN Statistical Commission, mandated by the 2030 agenda, established the Inter-Agency & Expert Group on SDG Indicators (IAEG-SDG) to define and implement the global indicator framework for the SDGs. The IAEG-SDG identified custodian agencies for each of the 232 global SDG indicators to develop methods, enhance statistical capacity, compile data, and maintain databases. UNICEF is well established in the role of global custodian of data and was identified as custodian or co-custodian for 19 global SDG indicators

Figure 1 The role of Data Custodian Agencies

2. Considerations on indicators for thematic targets (paragraph 9)

The introduction of thematic targets within the UAE framework marks a significant achievement, emphasizing the strong relationship between climate change adaptation and sustainable development, especially in relation to (essential) social services. As of 2023, only 35% of projects approved by key Multilateral Climate Funds over a 17-year period have incorporated interventions to strengthen the climate and disaster resilience of social services, referring to sectors like water and sanitation, food and nutrition, health, social protection and education.ⁱⁱ Evidence furthermore indicates that achieving nearly 70% of SDG targets by 2030 entails implementing adaptation measures.ⁱⁱⁱ The UAE Framework for Global Climate Resilience therefore provides an opportunity to position climate change adaptation indicators as a robust addendum to the Sustainable Development Goals and guide the post-2030 agenda.

2.1. WATER AND SANITATION

Paragraph 9a of the Decision is dedicated to water and sanitation; the narrative lays out four sub-elements.

- Significantly reducing climate-induced **water** scarcity;
- Enhancing climate resilience to **water**-related hazards;
- Towards a climate-resilient **water** supply, climate-resilient **sanitation**; and
- Towards access to safe and affordable potable **water** for all.

Today, over 730 million children are exposed to high or extremely high water scarcity and 436 million children live in areas of high or extremely high water vulnerability, which is a combination of water scarcity and low levels of drinking water service. Water is the primary medium through which we feel the effects of climate change, leading to tremendous negative impacts on water as a resource, and the basic social services that depend on it, such as access to safe drinking water, sanitation and hygiene (WASH) services. These services are essential for children's health and development, decreasing children's exposure to life-threatening risks such as diarrhoeal disease and malnutrition.

The [Water and Sanitation Submission to the UAE – Belém work programme on indicators for measuring progress achieved towards the targets of the Global Goal on Adaptation framework](#) provides detailed analysis of each sub-element, existing indicators and frameworks as well as initial considerations for indicators under this target.

2.2. FOOD, AGRICULTURE AND NUTRITION

Paragraph 9b of the Decision is dedicated to food, agriculture and nutrition; the narrative lays out four sub-elements.

- Attaining climate-resilient **food and agricultural production**
- Climate-resilient **supply and distribution** of food
- Increasing **sustainable and regenerative production**
- Equitable **access to adequate food and nutrition**

The climate crisis is putting nutrition at risk, especially for children and young people. There is increasing evidence on the impact of climate shocks on malnutrition, the intergenerational cycle of malnutrition and overweight and obesity.^{iv} Some of these impacts include:

- A significant negative association between drought, excessive rainfall/floods and, wasting and stunting, as well as association between increases in ambient temperature and increased risk of pre-term birth/low birth weight deliveries
- Higher prevalence of wasting and underweight in the weeks and months after a disaster, and stunting being more common years afterwards
- Exposure to excessive rainfall, extreme temperatures, floods and droughts as risk factors for wasting, stunting, and underweight
- Delays in monsoon onset during prenatal period associated with stunting and wasting,
- Limited but emerging evidence that climate change will adversely affect the risk of overweight and obesity and, as a consequence, diet-related non-communicable diseases.

Today, the impact of food insecurity on children is neither well documented nor systematically addressed through standardized acute food insecurity processes which support in identifying countries that need humanitarian assistance. Emerging evidence demonstrates that climate change can result in increased female workloads, leading to knock-on effects on women's availability to adequately feed and care for their children^v. Furthermore, disruptions caused by extreme weather events and disasters can lead to feeding disruptions and compound the risks of food- and waterborne diseases for mothers and children.

In developing indicators for this target, Parties are urged to consider children's specific nutritional needs as well as the indirect impacts of climate change on women's childcare ability, feeding practices and disease risks on both mothers and children.

Overall, this theme presents an opportunity to seek coherence with the Koronivia joint work on agriculture (and its *four-year joint work on implementation of climate action on agriculture and food security*) which calls for a holistic approach to addressing issues related to agriculture and food security, recognizes climate adaptation as a priority, and seeks to ensure linkages with the Sustainable Development Goals.

2.3. HEALTH

Paragraph 9c of the Decision is dedicated to health; the narrative lays out three sub-elements.

- Resilience against **climate change related health impacts**
- **Climate-resilient health service**
- Reducing climate-related **morbidity and mortality** (particularly in most vulnerable communities)

Considerations for indicator development

The proposed indicator list should prioritize vulnerable populations that are disproportionately impacted by climate change. Recognizing that many climate-related hazards are geographically focused, UNICEF recommends that:

- subnational indicators and targets be built into the proposed indicator set,
- the frequency of data collection should vary depending on the nature of indicator,
- the indicators measuring coping and adaptation be more frequently monitored, and that indicators measuring transformative change be monitored at a lower frequency, and
- routine health information system data can be leveraged to enable timely understanding of how service provision is impacted by different climate events.

Furthermore, the following thematic areas under health should be paid extra consideration given their impact:

- **Mental health and psychosocial wellbeing**, to maximize opportunities for co-benefits of climate adaptation action. It is estimated that up to 43% of children in disasters experience severe stress with many suffering from depression, anxiety or other mental health disturbances. Even ten years after a disaster, the incidence of depression and post-traumatic stress disorder in a disaster-affected population can be four to five times higher than in non-affected populations.^{vi} The [UNGA Resolution on Mental Health and Psychosocial Services](#) references negative impacts that climate change can have on mental health, and includes commitments and recommendations to promote and protect global mental health, with particular reference to children, adolescents, and caregivers.
- **Health in education and education** overall, which can contribute to building long-term resilience of individuals and communities, outside the direct influence of the health sector. Educated girls and women have a better

capacity to cope with shocks from climate-related hazards, shocks and stresses and are therefore less likely to be injured, killed or displaced.^[2]

UNICEF recommends the following frameworks, indicators and case studies documenting successful adaptation as an initial reference point. It is recommended to undertake further scoping work to identify additional resources to draw from.

Guidance with recommended indicators exist for measuring the climate resilience of health systems, including:

- UNICEF's '[Healthy Environment Healthy Children Global Programme Framework](#)' provides guidance to health programmes on integrating environmental and climate change to strengthen primary care, with a focus on prevention.
- WHO's '[Measuring the Climate Resilience of Health Systems](#)': Provides the framework for measuring the climate resilience of health systems, which weaves together the influence of leadership and finance on service delivery and health information systems, which all together influence health system outcomes and climate change-related health outcomes. It also provides a list of criteria for indicator selection and a sample list of indicators and categories for measuring short and long-term resilience against climate change risks (pg. 13)
- WHO's '[Operational framework for building climate resilient \[...\] health systems](#)': Outlines the ten components that make a climate resilient and low carbon health system, and sample measurable indicators for each
- WHO's '[Guidance for Climate-Resilience \[...\] Health Care Facilities](#)': Outlines interventions and suggested indicators for building resilient healthcare facilities, with a focus on health workforce interventions, WASH and waste interventions, energy interventions, and infrastructure and technology interventions
- WHO's '[Checklists to assess vulnerabilities in Health Care Facilities in the Context of Climate Change](#)': Provides overview of classification of climate-related hazards to health care facilities as well as checklists for assessing resilience against each identified major hazard e.g.
- OCHA's '[Standard Indicators](#)' for Health Response in Humanitarian Settings: Provides list of interventions that can be provided as part of a health response that contributes to reducing morbidity and mortality in the aftermath of a humanitarian emergency caused by climate shocks
- The Lancet Countdown's '[47 global climate hazard related indicators](#)': Monitored annually, it includes health impacts, exposures and vulnerabilities of climate change, as well as adaptation, planning and resilience for health.
- The WHO/UNICEF '[primary health care \(PHC\) measurement framework and indicators](#)': Results-based framework for monitoring health system performance and progress using primary health care lens.

Case studies on climate and health interventions:

- WMO's '[2023 State of Climate Services for Health](#)': Provides example case studies from countries seeking to build climate resilient health systems, with focus on interventions focused on policy, services, and investments
- WHO's '[Climate and Health Case Studies](#)':
- UNICEF's '[Children's Environmental Health Case Studies](#)': Case studies on how children can be protected from climate and environmental hazards through strengthened health systems

Indicative Indicator List Rationale

Find a compilation of indicators taken and adapted from existing international guidelines and framework, as well as newly suggested indicators that can address existing gaps in tracking climate related interventions in annex I. UNICEF suggests these indicators be prioritized in discussions as they reflect an integrated focus on the most vulnerable populations, such as pregnant women and children, who are uniquely and most affected by climate hazard.

These indicators have been categorized under the three sub-target statements as well as the components identified by WHO as critical for operationalizing a climate resilient health system. The addressed components are: 1) climate-transformative leadership and governance, 2) climate-smart health workforce, 3) assessments of climate and health risks, 4) Integrated risks monitoring and early warning, 6) climate resilient infrastructure, technologies, and supply chain, 8) climate-informed health programmes, 9) climate-related emergency preparedness and management, and 10) sustainable climate and health financing.

A rigorous review and consultative process would be needed to come to a core set of indicators for use by governments, and these indicators would have to be integrated into or addressed through a multi-sectoral response effort overall.

2.4. INFRASTRUCTURE AND CONTINUOUS SERVICE DELIVERY

Paragraph 9e of the Decision is dedicated to infrastructure and human settlements; the narrative lays out three sub-elements.

- Resilience and minimization of climate-related impacts to **infrastructure**;
- Resilience and minimization of climate-related impacts to **human settlements**;
- Ensure **basic and continuous essential services for all**.

The ability of communities to withstand and recover from disasters is dependent on three factors: a durable infrastructure; informed, prepared and skilled local decision makers; and strong public systems – government policies, budgets and coordination – that **underpin the delivery and management of social services**.^{vii} Accessible infrastructure that can withstand shocks cuts across a variety of essential services and includes activities such as making health-care centres, mental health services, schools, water supplies and nutrition services climate resilient. Adaptation efforts must meet two needs for populations living in high-risk climate-impacted areas: provide new climate-resilient social services to those with insufficient access, and retrofit and adapt existing social services for those with access

However, providing or retrofitting infrastructure alone will not secure the basic and continuous essential service provision for all. When developing indicators, it is important to consider that, to secure resilient essential services, two additional conditions must be met:

- Community members and service delivery professionals (including teachers and nurses) must be trained to respond to threats by equipping them with knowledge, skill and data for hazard preparedness.
- Foundational support must be embedded in government systems through policies, budget allocations and financing structures.

Given the significant role of climate- and weather-related events driving population displacement as well as the disproportionate impact climate- and weather-related hazards have on the 95 million people already living in displacement, UNICEF calls on Parties to embed considerations of climate-related mobility into indicator development. As of 2023, 42 NAPs addressed climate-related displacement in some form.^{viii} Concrete provisions, however, are few. Climate-related mobility is often driven by an interplay of aspirations, socio-economic and climate-related factors. Even with major progress to mitigate the impacts of climate change, migration will continue to be an adaptation strategy for many children and young people. Existing evidence suggests that young people are the most likely to move in response to climate related shocks.^{ix} Governments must invest in layered systems of services that are **portable and inclusive** to respond to diverse needs, and build capacity across sectors including physical and mental, health, education, social protection and child protection.

2.5. POVERTY, LIVELIHOODS AND SOCIAL PROTECTION

Paragraph 9f of the Decision is dedicated to poverty and livelihoods, bringing together in the narrative of the target the following elements:

- Reduce the adverse effects of climate change on **poverty** eradication;
- Reduce the adverse effects of climate change on **livelihoods**;
- **Adaptive social protection** measures for all.

Adaptive social protection is ultimately about effectively using available resources to address the needs of affected populations before, during and after a climate-related shock/acute crisis. The outcome of adaptive social protection must be the **increased capacity of shock-affected communities** to meet their needs, and access goods and services that are essential for wellbeing. The focus of any interventions (and thus what needs to be measured by indicators) is to strengthen social protection as a system, i.e. how different components of the social protection system work together to achieve intended outcomes.

Child sensitivity in shock-responsive social protection systems can be enhanced by embedding actions that directly address the barriers faced by children in times of crisis and those that indirectly support the achievement of children's rights. Key features include:

- Delivery systems that consider the **age- and gender-specific risks** and vulnerabilities of children and that make special provision to reach children who are particularly vulnerable and excluded
- Ensuring intervention as early as possible where children are at risk, to prevent irreversible impairment or harm;
- A design that allows carers/parents to ensure continuity of care for children and that enables access to services, especially health and nutrition, in times of crisis;
- A transfer value that is cognizant of the opportunity costs of child-specific negative coping strategies, such as early marriage and child labor.

Through its Strategic Plan, UNICEF tracks both coverage and strength of inclusive, gender-responsive and shock-responsive social-protection systems, including in humanitarian and fragile contexts in 190 countries.

3. Considerations on indicators for dimensional targets (paragraph 10)

UNICEF advocates for the adoption of a **matrixed approach** that integrates the four policy dimension cycle targets with the seven thematic targets outlined in paragraph 9. Notably, the Least Developed Countries Group initially proposed this approach in its submission to the seventh workshop of the GlaSS. Adopting a matrixed approach can address concerns about synergies between national agencies in adaptation efforts and can ensure sectoral evidence-based decision-making. The development of sectoral vulnerability assessments and National Adaptation Plans (NAPs) for Water, Sanitation, and Hygiene (WASH) and Health have demonstrated practical applications of this approach in various countries. If done well, aligning thematic targets dimensional targets can achieve a comprehensive climate resilience framework can be achieved and foster a more holistic approach to adaptation.

4. Cross-cutting considerations (paragraph 13)

4.1. Intergeneration equity

The principle of intergenerational equity underlines the obligation of Parties to ensure children's rights to a clean, healthy, and sustainable environment, highlighting that current decisions on investment in adaptation and resilience will significantly affect both present and future access to such an environment.

Under this principle, the indicator framework should include metrics that take on long-term planning and can be effective up to and after 2030. It should furthermore prioritize human capital development through resilience investments and building skills of children and young people to address challenges associated with our current climate reality.

Finally, intergenerational equity cannot be met without environmental sustainability. Adaptation effectiveness decreases with rising temperatures, particularly in the fields of energy, flood risk and urban water,^x meaning that solutions built today will no longer serve future generations in the absence of ambitious action to curb global warming.

4.2. Children

There has been a steady increase in data and evidence regarding the disproportionate negative effects of climate change on children's rights, including through impacts on their access to critical essential services. Yet this evidence base has yet to be translated into key policies, leading to oversight of the targeted interventions required on the ground, with implications for climate and development finance, as well as the ways in which interventions to enhance adaptation and resilience among vulnerable populations are designed, implemented and monitored.^{xi}

Children's distinct rights – including their heightened vulnerabilities and specific needs, as well as their right to meaningful participation and status as powerful agents of change and key stakeholders in climate action, should be recognized. Paragraph 13 recognizes children and human rights approaches as cross-cutting considerations, requesting cross-cutting considerations should be taken into account where possible. This language should be strengthened and operationalized through the work programme, and selected metrics should be directly relevant to children throughout the life course, in order to address children's varying needs at each stage of childhood and recognizing the importance of each stage for subsequent stages of maturation and development.

Adaptation should be **age-, disability- and gender-responsive**, with particular regard for young children, girls, and other disproportionately-affected groups of children. Responsiveness refers to the design and implementation approach that acknowledges and addresses the different needs, realities, and experiences of people by age, disability and gender.

When developing indicators for thematic targets, it's important to consider the entire **life course** of children and the challenges they face at each stage. This allows for prioritizing effective climate resilience and adaptation strategies tailored to different life stages and transitions. Considering the life course of children should therefore be a central aspect across thematic target indicators, involving examining factors such as home environments, support from parents/caregivers, and childcare centres.

In September 2023, the UN Committee on the Rights of the Child released [General Comment No. 26 on children's rights and the environment with a special focus on climate change](#), providing substantive guidance to the 196 States that are

party to the UN Convention on the Rights of the Child, including with respect to adaptation. Excerpts that can guide a child rights-based approach to design, implementation and monitoring of adaptation measures are contained in Figure 2.

A child rights approach to adaptation

- A sharp and urgent increase in the design and implementation of child-sensitive, gender-responsive and disability-inclusive adaptation measures and associated resources is necessary.
- States should identify climate change-related vulnerabilities among children concerning the availability, quality, equity and sustainability of essential services for children, such as water and sanitation, health care, protection, nutrition and education.
- States should enhance the climate resilience of their legal and institutional frameworks and ensure that their national adaptation plans and existing social, environmental and budgetary policies address climate change-related risk factors [for children] [...] such measures include strengthening child protection systems in risk-prone contexts, providing adequate access to water, sanitation and health care, as well as safe school environments, and strengthening social safety nets and protection frameworks, while giving priority to children's right to life, survival and development. Healthy ecosystems and biodiversity also play an important role in supporting resilience and disaster risk reduction.
- In adaptation measures, including disaster risk reduction, preparedness, response and recovery measures, due weight should be given to the views of children.
- Adaptation measures should be targeted at reducing both the short-term and the long-term impacts, such as by sustaining livelihoods, protecting schools and developing sustainable water management systems.
- Measures that are necessary to protect children's rights to life and health from imminent threats, such as extreme weather events, include establishing early warning systems and increasing the physical safety and resilience of infrastructure, including school, water and sanitation and health infrastructure, to reduce the risk of climate change-related hazards.
- States should adopt emergency response plans, such as measures to provide inclusive early warning systems, humanitarian assistance and access to food and water and sanitation for all.
- Adaptation frameworks should address climate change-induced migration and displacement.
- In the event of imminent threats of climate change-related harm, such as extreme weather events, States should ensure the immediate dissemination of all information that would enable children and their caregivers and communities to take protective measures.
- States should strengthen awareness among children and their communities of disaster risk reduction and prevention measures.

Figure 2: Excerpts from General Comment no. 26, UN Committee on the Rights of the Child

UNICEF furthermore calls on parties to ensure a rights-based, inclusive and participatory multistakeholder engagement approach to ensure that children and young people's perspectives are considered in the development of global indicators. UNICEF Australia and partners recently piloted a child- and youth-centered method to develop child-centered and child-led climate change indicators, including outcomes on resilient and sustainable infrastructure and communities (Figure 3).

Child-centered indicators for climate change^{xii}

UNICEF Australia and the Young and Resilient Research Centre (Y&R) partnered to develop child-centered indicators for climate change and climate action. Child-centred indicators describe the kinds of changes, improvements or developments that mark progress towards achieving climate outcomes, from children's and young people's perspectives. Working with youth researchers and UNICEF personnel, the Y&R team distilled children's and young people's insights into a set of **47 indicators** that measure against the below outcomes and ideal states identified by the study's participants as critical to driving climate change that impacts their lives positively.

Figure 3: Child-centered indicators for climate change

4.3. Age-, gender-, disability-disaggregation

Disaggregation of data is essential for identifying and monitoring of inequalities. Children, especially young children, girls, children with disabilities, displaced children, and poor children, are disproportionately vulnerable to the impacts of climate change and at a significantly higher risk of physical harm than adults. Children's needs and heightened vulnerability to climate change provides essential information for governments and stakeholders to provide more effective solutions for one of the largest and most vulnerable segments of society, comprising one-third of the global population. The scarcity of

data disaggregation therefore limits the capacity to track the impact of climate change on vulnerable groups, and, consequently, the capacity to assess and address growing inequities.

The SDG global indicator framework states that ‘indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics’. The IAEG has established a dedicated work stream on disaggregation and requested UN agencies to provide support in operationalizing this commitment to ‘leave no one behind’. It is recommended that the work programme and consecutive work on indicators follow this example to ensure appropriate data disaggregation for its indicators.

5. Education (paragraphs 23 and 24)

UNICEF calls for increased attention to the role of education. Referenced in paragraph 23 to encourage “efforts by Parties to broaden climate education and to empower people, in particular children and youth, with the knowledge, skills, values and attitudes necessary for active action to combat climate change”, the role of the education sector must be further integrated into the indicator framework.

Climate change related disasters can destroy education infrastructures, including school buildings, education equipment and school transportation systems, significantly impacting on the quality of the learning environment. Resilient education systems are better able to ensure children and adolescents can be protected from the impacts of climate change, including their right to education.

The education sector has a key role to play in climate change adaptation in terms of

- providing students and teachers with the knowledge, skills and attitude to cope with profound change and shape adaptation solutions
- ensure skill-building and adaptation-relevant education (e.g., as part of the thematic target on poverty and livelihoods)
- building the capacity of actors within the education system to prevent, prepare for, respond to and recover from the climate change risks facing education systems and ensure education continuity
- ensure safe and resilient schools for children (e.g., as part of the thematic target on infrastructure)
- providing children and young people with opportunities to voice their concerns and priorities, to participate in national and local decision-making processes and become agents of climate action.

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Annex: Considerations for indicators

WATER AND SANITATION

Indicator	Notes/Source
Number of people reached with climate resilient at least basic sanitation services (disaggregated by climate resilient, humanitarian/development, age group, disability status, urban/rural, sex)	Source: UNICEF Strategic Plan ^{xiii}
Number of people reached with climate resilient at least basic 2 water (disaggregated by climate resilient, humanitarian/development, age group, disability status, urban/rural, sex)	Source: UNICEF Strategic Plan
Number of people reached with basic hygiene services (Disaggregated by climate resilient, humanitarian/development, age group, disability status, urban/rural, sex)	Source: UNICEF Strategic Plan
Number of schools reached with climate resilient WASH services (Disaggregated by climate resilient status)	Source: UNICEF Strategic Plan
Number of health-care facilities reached with climate resilient WASH services (Disaggregated by climate resilient status)	Source: UNICEF Strategic Plan

FOOD, AGRICULTURE AND NUTRITION

Indicator	Notes/Source
Impact of Extreme Weather on Food Insecurity	Indicator measures the change in the share of the population reporting moderate or severe food insecurity due to change in heatwave days and drought months occurring during the growth season of four major crops (maize, rice, sorghum, and wheat), compared to 1981-2010 Source: <i>The Lancet Countdown</i>
Percentage of children under 5 years of age with severe wasting and other forms of severe acute malnutrition who are admitted for treatment	Indicator could be adapted to represent “Number of children under 5 years who benefit from climate-resilient programs for the prevention of stunting, wasting, micronutrient deficiencies” from 2026 onwards Source: UNICEF Strategic Plan
Percentage of children [...] who are fed a minimum diverse diet	Indicators could be adapted to add in a climate resilience rationale from 2026 onwards Source: UNICEF Strategic Plan
Number of countries with strategies and programs to improve diet diversity among children	
Number of Mothers and Pregnant Women reached with Preventive Nutrition Services	Source: UNICEF East Asia and Pacific ^{xiv}
Number of children reached with climate-smart Preventive nutrition services (disaggregated by <5 years & 5-19 years)	Source: UNICEF East Asia and Pacific
Number of children <5 yrs reached with climate-smart therapeutic nutrition services	Source: UNICEF East Asia and Pacific
Surveillance/Info Systems include Indicators for Climate Smart Nutrition Services	Source: UNICEF East Asia and Pacific

HEALTH

Health target component	Indicator	Notes/Source
Attaining resilience: governance	Number of countries that have national action plans that set targets for reducing hazards impacting health of vulnerable populations	Adapted from ATACH monitoring framework; important to include emphasis on vulnerable populations such as women and children
	Number of countries integrating mental health services in primary health care, including through school and digital platforms in high climate risk exposure contexts	Adapted from existing indicator Source: <i>UNICEF Strategic Plan</i>
Attaining resilience: health workforce	Percentage of healthcare personnel with information and training to address climate change and health links, appropriate to their role and function	From WHO operational framework for building climate resilient health systems. Healthcare personnel also includes community health workers with training on risk communication. Training on provision of mental health and psychosocial support is crucial.
	Number of children covered by climate and environmental health prevention in primary health care (e.g. awareness raising and training of healthcare workers, communication for behaviour change)	Source: <i>UNICEF Healthy Environment for Healthy Children</i>
	Number of children covered by climate and environmental health treatment in primary health care (e.g. asthma and pneumonia equipment delivered to HCFs)	Source: <i>UNICEF Healthy Environment for Healthy Children</i>
Attaining resilience: infrastructure	Number of health care facilities that have climate resilient operational capacities, reliability of energy, water, sanitation and hygiene services, and waste management practices	Globally, one in five health care facilities lack basic water services, 1 in 10 have no sanitation services and one in three health care facilities lack basic hand hygiene services. (CEH)
	Percentage of health facilities with access to emergency transport	Source
	Number of facilities with reliable access to power, water and communications in the last 7 days	More than 1 billion people are served by health care facilities with unreliable electricity or no electricity access at all. (CEH)
Attaining resilience: monitoring and early warning	Number of countries that have established functional early warning notification system for the most climate-sensitive diseases and hazards	Source: <i>UNICEF health indicator – not evaluated yet</i>
	Number of countries with functional active surveillance systems surveillance system for the most climate-sensitive diseases and hazards	Source: <i>UNICEF health indicator – not evaluated yet</i>
	Number of countries that have updated national health emergency response operations plan (NHEROP) in the last 5 years for all hazards in place to respond to early warning notifications	Source: <i>UNICEF health indicator – not evaluated yet</i>

	Number of children covered by climate and environmental health risk monitoring system	Source: UNICEF health indicator – not evaluated yet
Attaining resilience: risk assessment	Number of countries that have conducted climate and health risk assessments using WHO guidelines, with a focus on the most vulnerable populations	WHO vulnerability and adaptation assessments (V&As), UNICEF's Children's Environmental Health assessments (example from Azerbaijan) Pregnant women and children are uniquely vulnerable to climate hazards and should be centred in the assessments as adverse health outcomes in this population can resonate across all life stages ahead.
Attaining resilience: financing	Number of countries with increased public financing to build the foundations of climate resilient and low carbon health system	Adapted from WHO operational framework
	Number of countries who publicly report resource monitoring and expenditure tracking specific to climate investments in national health accounts	Less than 5% of existing adaptation financing has been committed to health activities across the past decade (NIH) The UNFCCC estimates that global health adaptation will require USD 26.8 to USD 29.4 billion in funding annually by 2050 (UNFCCC)
Climate-resilient health services	Coverage and climate-related disruption of essential health services	Adapted SDG indicator. Climate-related disruption pertains to estimated shortfall in services compared to expected volume.
	Percentage of population with access to a health facility within 2 hours	Change in this indicator should be monitored in relation to a climate event.
	Percentage of deliveries attended by skilled health personnel	Major determinant of maternal and neonatal mortality and one of the key indicators that should be monitored during climate events.
	Countries operationalize effective public health measures to protect people from the range of climate risks to health, with an emphasis on vulnerable populations	Countries should select indicators appropriate to their contexts. (example indicators: here)
Reducing climate-related morbidity and mortality: Exposure to risks	Percentage of population exposed to key climate-related risk factors.	For instance, tropospheric ozone (O ₃), particulate matter (PM _{2.5}), high temperature, flooding, drought, etc. WHO guidelines exist for certain risk factors.
	Number of countries that have reduced their average PM _{2.5} concentration	Air pollution is a leading cause of mortality and morbidity in children under 5. There is robust evidence that air pollution is strongly associated with pneumonia, which accounts for 22% of all deaths of children between 1-5 years of age. (WHO)
Reducing climate-related morbidity and mortality: Impact	Deaths/DALYs attributable to each climate-related hazard	For instance, unsafe water and sanitation, air pollution, excess

		<p>mortality related to heat or cold, extreme events.</p> <p>It is estimated that climate change on the current path may result in 83 million cumulative excess deaths by 2100 (Nature) and likely result in more health morbidities. Unhealthy environments contributed to more than a million deaths in children under the age of five in 2022, accounting for more than one in four deaths in this age group (WHO)</p>
	Number of deaths, missing persons and directly affected persons attributable to disasters per 100,000 population	Environment Statistics; Global Set of Climate Change Statistics and Indicators
	Incidence of cases of climate-related diseases	<p>Adapted from Environment Statistics, Global Set of Climate Change Statistics and Indicators.</p> <p>For example, vector-borne, airborne and water-related diseases.</p>
Reducing climate-related morbidity and mortality	Number of national education programmes that institutionalize climate and health curricula as part of climate education programmes (or school health programmes) promoting healthy lifestyles, healthy diets and healthy environments	Proposing education be considered a key component of climate and health monitoring framework
Reducing climate-related morbidity and mortality: emergency preparedness	Number of countries with a system in place for mental health and psychosocial support for emergency preparedness and/or disaster risk management	Source: WHO ATLAS
Reducing climate-related morbidity and mortality: humanitarian action	Number of countries with after-action review process following humanitarian or emergency response	Source: CERF (here)

INFRASTRUCTURE

Indicator	Notes/Source
Number of school buildings updated to climate-informed design standards	<p>This indicator evaluates the retrofitting or adaptation of school buildings to withstand climate-related risks. It considers factors such as extreme weather events, rising temperatures, and sea-level rise.</p> <p>Climate-informed design standards enhance the safety and functionality of educational infrastructure. Upgrading existing buildings ensures a conducive learning environment even during adverse weather conditions, safeguarding students and staff.</p> <p>Source: UNICEF education indicator – not evaluated yet</p>
Number of districts with new school building codes and construction standards that account for current and future climate risks	This indicator focuses on incorporating climate resilience into future school construction. It assesses whether new building codes and standards account for current and projected climate risks.

	<p>By integrating climate considerations into building regulations, we create schools that can withstand future challenges. These resilient structures provide safe spaces for education and contribute to community preparedness.</p> <p><i>Source: UNICEF education indicator – not evaluated yet</i></p>
Number of open spaces/streets with greening and shaded areas	<i>Source: UNICEF East and Central Asia^{xv} – not evaluated yet</i>
Number of areas with identified cooling stations with air-conditioned buildings	<i>Source: UNICEF East and Central Asia – not evaluated yet</i>
Number of countries that adopted the school safety framework	<i>Source: Comprehensive School Safety Framework^{xvi}</i>
Number of schools implementing school safety guidelines	<i>Source: Comprehensive School Safety Framework</i>
Number of children and young people benefiting from access to a climate resilient protection system	<p>This indicator tracks the number of frontline workers equipped with skills and knowledge to manage cases of children and women at risk or suffering violence (including GBV), abuse, exploitation and neglect impacted by climate change</p> <p><i>Source: UNICEF East Asia and Pacific</i></p>
Number of children and women at risk of or experiencing violence, GBV, abuse, exploitation and family separation as a result of climate change (and/or their families) reached with climate resilient protection services, including community owned prevention and response mechanisms/initiatives	<p>This indicator tracks the number of children and women in climate affected communities who have been registered and received birth certificates; the number of children and women reached by community led initiatives and actions on climate change protection risks mitigation, preparedness and response; the number of children and women reached with knowledge on protection risks and differentiated impacts of climate change on women and children; and the number of caregivers reached by parenting programs that integrate climate impacts and protection risks</p> <p><i>Source: UNICEF East Asia and Pacific – not evaluated yet</i></p>

POVERTY, LIVELIHOODS AND SOCIAL PROTECTION

Indicator	Notes/Source
Proportion of children living in multidimensional poverty in high climate risk exposure contexts	<i>Source: UNICEF child poverty indicator – not evaluated yet</i>
Number of countries with high climate risk communities with data systems in place to measure and monitor children living in poverty and/or vulnerable to poverty	<i>Source: UNICEF child poverty indicator – not evaluated yet</i>
Proportion of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and those living in areas impacted by climate risks/hazards.	Adapted from existing indicator <i>Source: UNICEF Strategic Plan</i>

Number of countries with social protection systems that are informed by climate risks i.e., adaptive social protection systems.	Adapted from existing indicator <i>Source: UNICEF Strategic Plan</i>
Number of women, men, boys and girls benefiting from adaptive social protection	Adapted from existing indicator <i>Source: UNICEF Strategic Plan</i>
Number of women, men, boys and girls supported by scaling up of social protection systems to support adaptation strategies and/or to compensate for the losses and damages resulting from climate change	Adapted from existing indicator <i>Source: UNICEF Strategic Plan</i>
Number of countries with social protection systems, including cash transfer capacities, that are able to effectively and rapidly respond to humanitarian crises	Adapted from existing indicator <i>Source: UNICEF Strategic Plan</i>
Number of young people engaged in climate-resilient projects or learning activities that prepare them for sustainable livelihoods, disaggregated by age, gender, and poverty	<p>This indicator quantifies the involvement of young individuals in projects or educational initiatives that prepare them for sustainable livelihoods in the face of climate-related challenges. It considers factors such as age, gender, and poverty.</p> <p>Empowering youth with climate-resilient skills and knowledge ensures their economic stability and well-being. By engaging them in climate-smart projects, we foster adaptive capacities and promote livelihoods that withstand environmental shocks.</p> <p>Adapted from existing indicator <i>Source: UNICEF Strategic Plan</i></p>
Number of people with access to climate-resilient social protection systems	Adapted from existing indicator <i>Source: UNICEF Strategic Plan</i>
Number of people covered with climate information and early warning systems	<i>Source: UNICEF East Asia and Pacific</i>
Amount of leveraged climate resources for children from public sources	<i>Source: UNICEF East Asia and Pacific</i>

EDUCATION

Indicator	Notes/Source
Number of children that receive or benefit from climate education, curriculum, skills (formal and/or informal) (Disaggregated by age group & gender)	<i>Source: UNICEF East Asia and Pacific</i>
Schools with actions plans for heatwaves including clean water, warnings, stay inside	<p>Indicators include: Number of teachers that are trained in response to heatstroke in children; Number of schools with warning systems for heat episodes; Number of schools with shaded play areas; Number of schools with air-conditioned spaces for heatwaves; Number of schools with greening in to reduce temperatures of play areas</p> <p><i>Source: UNICEF East and Central Asia – not evaluated yet</i></p>
Percentage of countries that have a resilient education system that can respond to humanitarian crises.	<i>Source: UNICEF Strategic Plan</i>
Percentage of countries that institutionalize holistic skills development to support learning, personal empowerment, environmental sustainability, active citizenship, social cohesion and/or employability and entrepreneurship	<i>Source: UNICEF Strategic Plan</i>

Endnotes

- ⁱ Sectoral expertise includes Health; Water, Sanitation and Hygiene; Nutrition; Education and Skill-building; Poverty and Social Protection.
- ⁱⁱ [Children's Environmental Rights Initiative \(CERI\) coalition \(2023\). Falling short: addressing the climate finance gap for children.](#)
- ⁱⁱⁱ [UNDESA and UNFCCC \(2023\). Synergy Solutions for a World in Crisis: Tackling Climate and SDG Action Together.](#)
- ^{iv} Lieber et al., 2022; Brown et al., 2020; Niles et al., 2021; Cooper et al., 2019; Phalkey et al., 2015; Kuehn & McCormick, 2017; Bekkar et al., 2020 ; Emergency Nutrition Network 1 (Thiede and Gary 2020)
- ^v LeVine, R. A. (1988). Human parental care: Universal goals, cultural strategies, individual behavior.
- ^{vi} [IFRC Report, We Need to do Better: Report on Child Protection in Climate Related Disasters, 2021](#)
- ^[2] APA. Hawken, P. (2017). Drawdown.
- ^{vii} [UNICEF \(2023\). Sustainability and Climate Change Action Plan.](#)
- ^{viii} [OECD \(2023\) Addressing forced displacement in climate change adaptation: No longer a blind spot](#)
- ^{ix} [Migration Scenarios in a Changing Climate: Building Resilient Communities is Needed Now More than Ever](#)
- ^x [Carbon brief: Climate adaptation becomes less effective as the world warms](#)
- ^{xi} [UNICEF \(2023\). The World's Children need Urgent Action on Climate Change.](#)
- ^{xii} UNICEF (2024). We deserve to live in a thriving world: Child-centred indicators for climate change
- ^{xiii} The [UNICEF's 2022–2025 Strategic Plan](#) tracks indicators in 190+ countries
- ^{xiv} UNICEF East Asia and Pacific tracks indicators in 14 countries
- ^{xv} UNICEF East and Central Asia tracks indicators in 22 countries
- ^{xvi} The Comprehensive School Safety Framework describes the Enabling Systems and Policies needed to support child rights, sustainability, and resilience in the education sector