Tackling a Double-Threat
Children at the Front and Centre of Urban Fragility and Climate Change
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The waste management system in this slum is very poor. Proper cleaning of the drainage system [would be] a dream for the slum-dwellers. People’s lives are miserable during the rainy season, as flooded roads, houses and toilets go under water.

Trisha, 15, Bangladesh

Today, 4.4 billion people live in urban areas – just over half (56%) of the world’s population – with more than one billion, at least 350 million children, living in slums and informal settlements. These mass concentrations of dwellings occur largely in developing countries and are highly vulnerable to climate change. By 2030, a quarter of the world’s population, a staggering two billion people, could be living in slums and informal settlements. The World Bank states the pandemic-induced new poor are urban poor; in the years to come, “30% of the global new poor will reside in urban areas, compared to 20% of the existing poor.”

This rapid and unplanned population growth is overwhelming existing infrastructure, whilst also exacerbating systemic weaknesses and societal grievances. It has created immense risks and challenges for city planning and decision-making authorities struggling to meet heightened demands for housing, services and employment. The situation worsens in cities where informal settlements are coupled with fragility. In fragile cities, the systems meant to provide for and protect residents, including girls and boys, are vulnerable to the impacts of the pandemic, conflict, violence and climate-related shocks.
Fragile cities are described as “discrete metropolitan units whose governance arrangements exhibit a declining ability and/or willingness to deliver on the social contract.”

Urban fragility is generally defined by the extent to which local systems – social, economic, political, ecological – and infrastructure are vulnerable to different shocks, ranging from extreme weather events to criminal violence, or even a breakdown of basic services.

Cities are emerging as a new category of fragility; urban centres are reshaping the dynamics of poverty and vulnerability to disasters, conflicts and violence.

City fragility has also been defined as the “accumulation of risks combined with the lack of capacity to cope with these, often interlocking, risks.”

Slums and informal settlements – especially those in fragile cities – are not safe places for children and young people. Without adequate safe spaces to learn, develop and grow in a healthy environment, they are exposed to violence and exploitation of all kinds. The lack of basic infrastructure, such as adequate street lighting, also makes girls and women particularly vulnerable to violence and harassment. Families living in hazard-prone areas often become reliant on the informal economy, seeking unpredictable daily wage work and informal services for survival.

The fragility of many urban areas makes it difficult for families to seek a better life and contributes to existing inequality and marginalisation. These compounded challenges jeopardise development prospects, as well as progress towards achievement of the 2030 Agenda and the Sustainable Development Goals (SDGs) in many countries.
Climate change is a threat multiplier, disproportionately affecting the most vulnerable girls and boys. Though children are the least responsible for climate change, those living in urban informal settlements, as well as fragile and developing contexts, are among the most susceptible to its ravages. Girls and women are also acutely vulnerable because of pre-existing gender inequalities and social norms.

Climate change drives child vulnerability and risks reversing gains in both children’s rights and SDG achievement. Extreme weather events disrupt livelihoods and education, whilst increasing hunger and malnutrition. The socioeconomic effects of weather events also intensify the conditions which lead to violence against children – especially child labour and child marriage. Children’s specific development needs mean they are especially vulnerable to its impacts. Exposure to outdoor and indoor air pollution in urban areas often leads to chronic, and sometimes fatal, respiratory diseases such as pneumonia, bronchiolitis or asthma. Rising global temperatures and threatening urban heat are increasing both the frequency and intensity of extreme weather events, such as floods, droughts and storms, as well as the spread of tropical diseases. As an urban area’s population grows, so too does its risk of and vulnerability to natural disasters and climate change consequences, including deteriorated air quality, water availability and quality, land use and waste management. All these new and multiplying phenomena put new pressures on existing urban systems and lead to costly impacts on basic services, infrastructure, housing, human livelihoods and health in cities.
Key international policy instruments

A number of key policy instruments and strategies are fundamental to ensuring children’s right to a healthy, safe and sustainable environment and future.

• **UN Convention on the Rights of the Child (UNCRC):** While children have a right to a healthy environment, climate change threatens their survival and development, undermining the full and effective enjoyment of their rights, as outlined in this convention.

• **Paris Agreement:** An agreement of the UN Framework Convention on Climate Change (UNFCCC) dealing with climate change mitigation, adaptation and finance. The agreement seeks to strengthen the global response to the threat of climate change by keeping global temperature rise this century well below 2°C above pre-industrial levels and as close to 1.5°C as possible.

• **UN 2030 Agenda for Sustainable Development:** Action to combat climate change is a specific priority in the SDGS (including SDG13 – Climate Action) and intrinsically linked to the achievement of all 16 other goals. SDG11 aims to make cities inclusive, safe, resilient and sustainable.

• **New Urban Agenda:** An accelerator of the SDGs adopted in 2016, with a focus on SDG11. The agenda has a shared vision for a better and more sustainable urban future where cities and human settlements adopt and implement "disaster risk reduction and management, reduce vulnerability, build resilience and responsiveness to natural and human-made hazards and foster mitigation of and adaptation to climate change.”

• **Sendai Framework for Disaster Risk Reduction (2015-2030):** A roadmap to make communities safer and more resilient to disaster, with the aim of reducing disaster risks and loss of lives, livelihoods and health.

• **UN Decade on Ecosystem Restoration (2021-2030):** A strategy to accelerate existing global restoration goals, including restoring urban ecosystems by 2030.
Cities are a key contributor to climate change, with urban activities accounting for the majority (nearly 70%) of greenhouse gas emissions. At the same time, they have a critical role to play in developing and executing solutions to this growing crisis.

There is no silver bullet to the complex issues of urbanisation’s rapid growth or climate change. However, with the right policies in place, opportunities exist for cities to pursue climate action in ways that generate growth, employment, reduced climate impact and increased well-being for urban dwellers.

Successful reduction of climate change in cities requires a coordinated approach and coordinated actions at global, regional, national and local levels. No single actor can unilaterally address climate change and achieve the transformational change necessary to create urban contexts where girls and boys thrive. Developing strong multi-stakeholder partnerships and undertaking urban resilience activities can be a powerful way to make cities inclusive, safe, resilient and sustainable. These efforts should include local governments and other stakeholders at a city-level, such as the private sector, businesses, local civil society groups and organisations including those led by women and youth, as well as residents of marginalised populations and neighbourhoods.
The impact of climate change on girls and boys is severe and diverse, but climate change assessment and adaptation plans rarely consider children's vulnerabilities or their specific needs and priorities.\textsuperscript{\textasteriskcentered} It is imperative to include children's perspectives and integrate their specific needs and priorities. As children and youth are aware of the issues and challenges in the contexts and communities where they live, they bring their unique perspectives and solutions on climate change issues relevant to sustainable urban development. By recognising their catalytic role in climate change mitigation, we seek to ensure children and young people’s voices and perspectives are front and centre in national and global fora on climate change, and their needs and aspirations are reflected in climate change decision-making processes.

Spotlight on Indonesia and the Philippines

Creating child and youth leaders in resilience-building and climate change adaptation in informal settlements (Jakarta and Manila)

Rapid and unplanned urbanisation can make urban areas more susceptible to disasters.\textsuperscript{\textasteriskcentered} This vulnerability is more acute in informal urban settlements, where inadequate infrastructure and basic services mean the areas are the most exposed to disaster risks.\textsuperscript{\textasteriskcentered} Disasters severely impact children and youth.\textsuperscript{\textasteriskcentered} Their active participation and leadership in resilience-building processes are key to creating safer and more resilient communities. Urban Nexus: Building Agency and Opportunity for Marginalised Children and Youth in Jakarta and Manila is an inclusive urban resilience programme implemented by Plan International and supported by the Australian Government. The programme builds the capability and agency of vulnerable children and youth, especially girls, to participate in urban resilience and climate change adaptation planning, as well as local government decision-making.

In eight informal settlements across Jakarta and Manila, the Urban Nexus programme trains children and youth on disaster risk reduction, climate change adaptation, and urban resilience planning. Young participants are also shown how to engage with government agencies and learn about urban development planning processes. This project both builds their disaster preparation skills, as well as increases their ability to participate in climate change and urban resilience development initiatives. The programme also supports local governments to design and implement participatory approaches that include children and youth in child-centred urban resilience planning. The long-term aim is the establishment of sustainable mechanisms for child and youth representation, to continue beyond the life of the programme. In seeking participants, the project engaged children, especially girls, vulnerable young people, youth with disabilities, and sexual and gender minorities.

The Urban Nexus programme engages participants to become Youth Innovators, who will identify issues and propose innovative solutions to the urban resilience and climate change challenges in their informal settlements. Youth Innovators are partnered with local governments and supported through training and mentoring to develop and prototype solutions in their communities.
A different area of the Urban Nexus programme focuses on systems-strengthening and cross-sector government engagement. Local and city government workers are trained on how to engage their region’s children and youth in participatory climate change adaptation and urban planning. The programme also educates local government employees on child-centred urban resilience planning, gender equality, child protection in development and emergency contexts, as well as child-centred and inclusive approaches to urban project planning, implementation, evaluation and budgeting.

Key successes

- Children and youth designed and developed a community early warning system for floods in Jakarta. This prototype was supported by the Jakarta Agency for Assessment and Application of Technology, for further development and roll-out to additional informal settlements.
- Thirty children and youth established a Waste Bank in a Jakarta settlement. The initiative was led and supported by the local government.
- In Manila, the project trained 120 children and youth in disaster risk reduction, climate change adaptation and urban resilience planning. These young participants developed their own Family Preparedness Plans to ready their households for potential disasters.
- The project trained 40 children and youth as Youth Innovators in Manila. Together they design and prototype ideas for urban resilience and climate change adaptation in their own communities.
- In both Manila and Jakarta, 115 local government stakeholders were trained on child protection, gender equality, as well as in participatory and child-centred approaches to climate change and urban resilience planning.

As part of the Urban Nexus programme, Plan International works in Jakarta with partners, Yayasan Kausa Resiliensi Indonesia (YKRI), children, youth and local communities, to support child-centred urban resilience and climate change adaptation initiatives. A disaster risk mapping in 2018 conducted by local children and youth found floods and fires were the main threats in their communities. Every year, floods inundate the densely populated informal settlements, affecting the health, economic, social and living situations of children and communities.

YKRI and Plan International Indonesia trained and supported children and youth to design and develop an early warning system for floods. The simple mechanism was made from local materials, including small plastic pipes, loudspeakers, cables and tennis balls. It was named the ‘Rescue Ball’, as a tennis ball was the main component to trigger the alarm. After a prototype was created, Plan and YKRI initiated a collaboration between the young developers and the Jakarta Agency for Assessment and Application of Technology. The collaboration upgraded the early warning device, making it more comprehensive and durable. The early warning device was installed in an informal settlement in Jakarta in 2019. Children and youth led the installation process and briefed the community on how to use the device and what to do when the alarm sounded.

On January 1, 2020, at 3:00a.m., the flood early warning system sounded. People woke up and told other residents to evacuate. Thanks to the early warning device, many lives were saved in the settlement. Sadly, in other parts of Jakarta, 48 people died in the floods.

As of June 2021, the child and youth developers are still working with the Jakarta Agency for Assessment and Application of Technology to further develop the early warning system and install it in more informal settlements. The project also continues to develop the leadership capabilities of children and youth to support its implementation.
Spotlight on Bangladesh

Children actively participate in climate change adaptation (Dhaka)

Bangladesh is one of the most disaster-prone countries in the world, with a regular cycle of floods, storms and cyclones affecting different parts of the country. With 1,240 people per square kilometre, it is also one of the most densely populated countries. The Global Climate Risk Index placed Bangladesh as the 7th most-affected country by extreme weather events in 2000-2019. It is therefore critical for local and national government systems to support and strengthen community resilience through an increased ability to anticipate, plan for and adapt to climate change impacts.

World Vision’s Dhaka Urban Programme was launched in Bangladesh in 2012 with the aim of addressing the urban issues in relation to access to water, sanitation, hygiene and waste management. In 2014, the programme incorporated community resilience and disaster risk reduction interventions into its work. These new areas include risk assessment, hazard mapping, capacity building, awareness raising, contingency planning, community-based disaster preparedness, early warning system, and waste management in its work. In 2020, the programme expanded its scope towards building healthy and safer cities for children and youth, through various advocacy and awareness initiatives with partners and stakeholders, such as Green School Movement.

Key successes

- Over 92 urban communities have integrated child protection measures in their disaster risk reduction plans, where children participated in the planning process. Together they design and prototype ideas for urban resilience and climate change adaptation in their own communities.
- Through these interventions, urban residents – especially children – acquired knowledge on disaster risk reduction and climate change adaptation, changed their attitude and concentrated disaster preparedness initiatives by themselves.

Yeasin, 15, is Vice President of the Hazaribagh Bhandon Child Forum. Speaking to the partners and stakeholders as part of a community consultation meeting, he said:

“We worked closely with the Urban Neighbourhoods Development Committee (UNDC) members to prepare a plan for disaster response and relief distribution [during the COVID-19 pandemic]. We also participated in awareness-raising sessions and simulations for fire and earthquake [response]. These were facilitated by the fire service in our school and arranged by World Vision.

“Now we are prepared and feel confident to respond to any disaster. We shared the learning in our child forum meeting (a child-led organisation), [and we also] conducted awareness-raising sessions in our neighbourhoods on disaster preparedness.”
In cities and densely populated areas across the globe, solid waste management services struggle to meet demand. This is exacerbated during crises where large and unplanned flows of people inundate urban areas. Finding effective and sustainable waste management systems for the new population – especially in refugee and internally displaced people’s camps and settlements – are key to maintaining adequate and hygienic living standards and for minimising environmental and health impacts. Improper solid waste disposal can lead to public health risks, environmental degradation and socio-economic problems. With the right approach, waste management can also be a source of environmental protection, revenue and employment.

World Vision, with support from the European Union, has been providing solid waste management services at Azraq Camp in Jordan since 2017. The purpose-built refugee camp covers 14.7km² and is 25km from the nearest town. It has a population of around 36,500 Syrian refugees.

Approximately 20.7 tonnes of waste are produced at the camp daily – just over 15% of which is recyclable. The rest is primarily organic waste, which is currently not compostable in Jordan. World Vision created the ‘Green Centre’ to provide the only solid waste management at Azraq Camp. The Green Centre uses an environmentally friendly approach with the aim of reducing both environmental and health impacts of waste, whilst also reducing operating costs and providing sustainable livelihood opportunities for residents.

Behaviour change is crucial. World Vision targeted awareness-raising campaigns towards children and their caregivers. An average of 35.1 tonnes of recyclable materials are collected monthly, 29% of which are plastic waste. Recyclables are then sold to local buyers, who collect directly from the Green Centre, generating an income of approximately 2,500 Jordanian Dinars (US$3,526) per month. This covers 20% of the Green Centre’s running costs. The remaining 18 tonnes of non-recyclable daily waste is sent to the nearby landfill at Zarqa.

**Key successes**

- Construction and running of a Green Centre for sorting and processing waste, powered in part by solar energy.
- Provision of two types of bins for recyclable and non-recyclable waste for every eight households.
- Daily collection of 21 tonnes of solid waste from households and community centres.
- Behaviour change campaign – targeting community meetings, households, schools and children’s centres – to encourage sorting and recycling at the source.
- Community mobilisers organised child-focused awareness-raising on waste separation.
- Cash-for-work opportunities for Syrian refugees through the hiring of 40 Incentive-Based Volunteers (IBVs) for daily collection and sorting and 150 IBVs on a monthly rotation for behaviour-change activities.
In Mongolia’s densely populated and largely unplanned capital city of Ulaanbaatar, air pollution levels during the winter have been recorded at levels averaging 500 ug/m³ and even briefly surpassing 1,000 ug/m³. This is a startling 20 to 40 times higher than the WHO recommended levels. These high levels of particulates are linked to coal-burning stoves in informal settlements around the city. Air pollution jeopardises the health of entire populations, but the developing respiratory systems of children and adolescents are at a significantly higher risk.

UNICEF applied an adolescent-centred approach to programming and advocacy for reduction of air pollution to bring about positive developmental, health, environmental and climate outcomes for adolescents and the wider society. In 2015, as part of its ‘Children and Environmental Change in Mongolia’ programme, UNICEF and public health partners researched air pollution-related health impacts on children living in Ulaanbaatar to develop and advocate for mitigation measures. This resulted in a partnership with the Mongolia National Centre for Public Health (NCPH) and other international partners developing a clear road map for reducing health impacts from air pollution, transitioning to clean energy, and raising awareness on how the government can improve air quality to the benefit of children and adolescents. The programme aims to address the associated and disproportionate adverse effects of air pollution on children and adolescents by reducing their exposure and the amount of air and climate pollutants and improving air quality.

During the project, UNICEF engaged adolescents to use a citizen-science approach to research how air pollution and to take a leading role in educating others and mobilising local action.

**Key successes**

- Adolescents from two districts in Ulaanbaatar were actively involved in addressing air pollution through data collection that documented the adverse effects of air pollution levels in the city.
- More than 1,000 adolescents learned about air pollution at the Mongolian National Scouts Jamboree in mid-2019.
- Attendees learned digital mapping; photography and blogging to better communicate for greater awareness-raising and advocacy; how to protect themselves, their peers, and families from adverse effects of air pollution; and how to measure air pollution levels in their communities. They were provided with simple air quality monitors by UNICEF Mongolia to note pollution indexes and log results inside and outside of school.
Our extensive experience working with girls, boys and families impacted by urban vulnerabilities in developing countries, including those living in urban slums, informal settlements and fragile cities, gives us an exclusive insight into many of the world’s most vulnerable members of society. We therefore call on governments and the international community to **ensure children’s rights to a healthy, safe and sustainable future.**

We also call on governments, corporations and the international community, including the UN and international civil society organisations (CSOs), to step up climate action to limit global temperature increase to 1.5°C and support the full realisation of the UNCRC, the SDGs, the Paris Agreement and the Sendai Framework for Disaster Risk Reduction (2015-2030).

**In particular, we call on city and national governments, corporations, the UN agencies, local, national and international CSOs to:**

- **Strengthen social accountability** and foster greater participation of those most affected by climate change, especially children, by:
  - **Empowering girls and boys** in urban areas, especially the most marginalised in urban slums, informal settlements and fragile cities, to meaningfully participate in local, national and global climate change discussions and decision-making processes, and listening to what they say;
Embedding children’s rights to environmental education and access to information in decisions under the Action for Climate Empowerment of the UNFCCC dialogue and associated decisions in accordance with the UNCRC; and

Ensuring the participation of the urban poor and vulnerable in climate action at all levels and investing in training and capacity building to enable the meaningful participation of those most vulnerable.

- **Strengthen planning and monitoring at the local level** by:
  - Investing in disaggregated intra urban data;
  - **Strengthening engagement of poor and marginalised communities and children** in local level planning; and
  - **Strengthening coordination** between local governments, national ministries and other stakeholders.

- **Support urban residents and communities to build their resilience** to climate change and prepare, mitigate, cope with and recover from the immediate impacts of climate-related disasters by:
  - **Expanding support for child-centred, community-led climate change adaptation** and disaster risk management programmes in cities, including in urban slums, informal settlements and fragile cities;
  - **Mandating that at least 50% of climate finance** is allocated to climate change adaptation; and
  - **Strengthening public services and health systems in cities**, especially in urban slums and informal settlements where those services are lacking, including child-sensitive and shock-responsive social protection, child protection, education, and water, sanitation and hygiene, to reduce children’s vulnerability, achieve universal health coverage and enable more rapid recovery.

- **Ensure climate action is child-centred and inclusive**, targeting the most vulnerable urban communities by:
  - Making Nationally Determined Contributions and National Adaptation Plans child-centred, inclusive and protective of human rights;
  - Building the capacity of governments, at all levels, including at city level, for effective climate change-related planning and management, with a focus on the most vulnerable children, youth, women and marginalised neighbourhoods and communities;
  - Mobilising US$100 billion in annual climate finance to support developing countries, in particular least developed countries and fragile contexts, to meaningfully adapt to the impacts that are already unavoidable;
  - Establishing partnerships across multiple levels towards the development of evidence-based solutions, increased financial resources, and improved budgeting to create climate-resilient environments for children in cities, including in urban slums and informal settlements;
  - Increasing support for multi-year, neighbourhood-focused programmes that build resilience to climate change across urban communities and reduce needs, vulnerability and risks over the long term; and
  - Improving access to equitable, quality and ethically provided urban public services, safe spaces and a healthy, stable environment where children and youth can live, learn, develop and thrive.

Ibid.


World Health Organisation, “Gender, Climate Change and Health,” 2011. https://www.who.int/globalchange/GenderClimateChangeHealthfinal.pdf?ua=1


German Watch, “Global Climate Risk Index,” 2021. https://reliefweb.int/sites/reliefweb.int/files/resources/Global%20Climate%20Risk%20Index%202021_1_0.pdf


Data collected by the Government of Mongolia reported January 30, 2018, at 5PM, air pollution levels of 3,320 μg/m³—133 times the recommended daily average concentration. See http://agaar.mn/index for daily reporting.

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