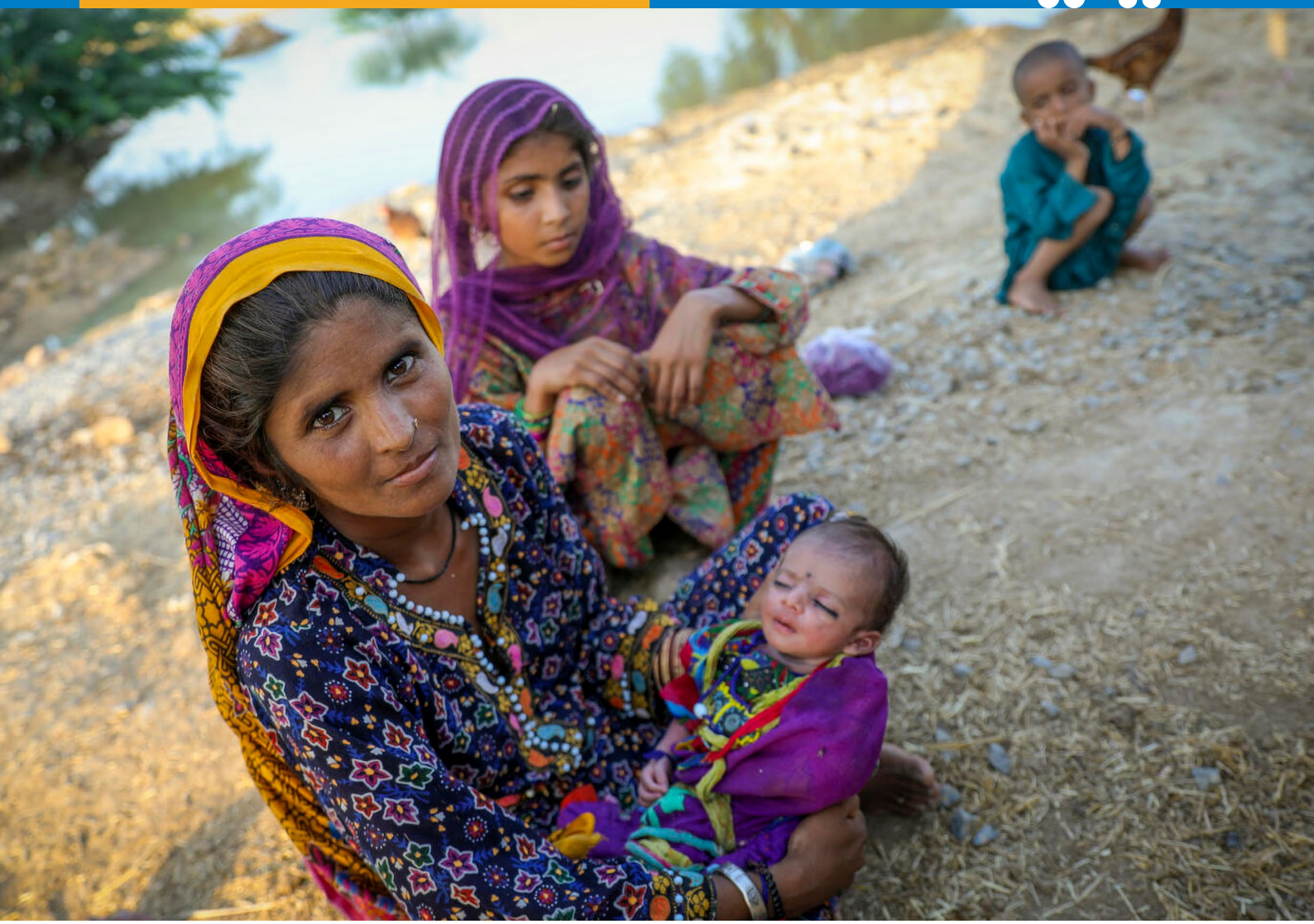
Protecting maternal, newborn and child health from the impacts of climate change

A call for action



World Health Organization

unicef for every child

UNFPA

human reproduction programme hrp research for impact

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Cover photo

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Bakhtawar, a mother of four children, sits next to flood water, after fleeing their flood-hit home. She and her family have taken refuge on the roadside in Jacobabad district, Sindh Province, Pakistan.

>> Climate change is one of the **gravest threats facing humanity**. **Pregnant women***, **newborns** and **children** face distinct **risks** from climate change-related health **impacts**, due to a host of **physiological, clinical, social** and **behavioural factors**.

>> Climate change is a **growing threat** to **maternal, newborn** and **child health** that can no longer be ignored. With **progress stalling** on many fronts, **immediate action** is needed to meet the **Sustainable Development Goals**, with a focus on women, newborns and children.

>> **Hard-won advances** of the past decades for maternal, newborn and child survival and well-being **must be protected** to ensure the right to health for all.

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Women from a temporary camp in Modeka, Kenya, fetch drinking water from a makeshift trough. Most people in the camp have been hit hard by the ongoing drought in the region.

*The term "women" is used to refer to all those who identify as women regardless of sex assigned at birth but recognizes that there are other gender-diverse individuals who do not identify as women but who have reproductive capacity. The intention is not to exclude their experiences but reflects the current lack of data identifying, and/or reflecting the specific experiences of, gender-diverse individuals.

Known effects and impacts of climate change on health

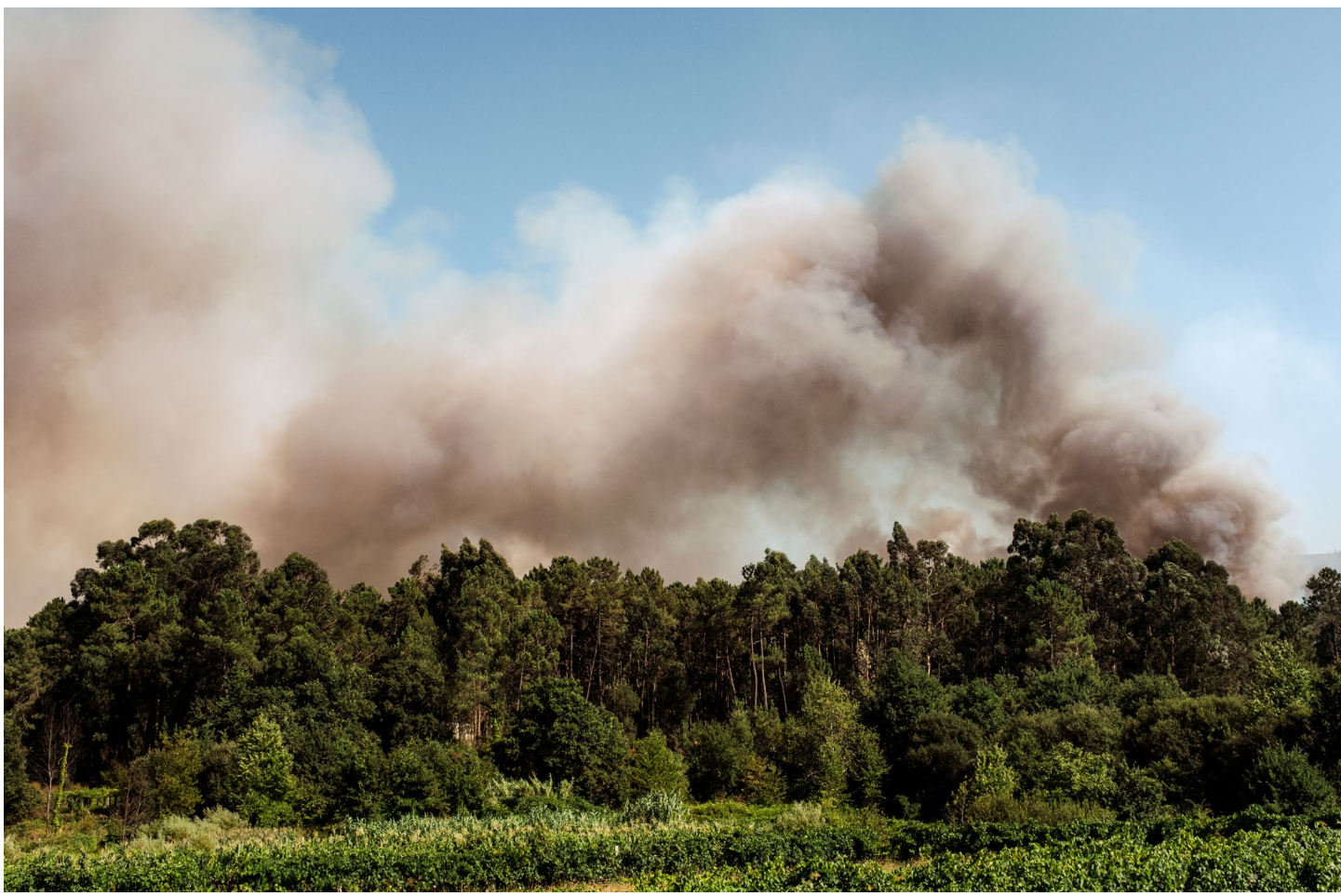
- Temperature extremes
- Rising sea levels and salination
- Floods and drought
- Windstorms and wild fires
- Ambient air pollution
- Threats to livelihoods and human rights
- Displacement and migration
- Weakened health systems and infrastructure
- Impacts on food and water systems
- Infectious and vector-borne diseases
- Exacerbation of social determinants and inequalities

Adapted from Etzel RA, Weimann E, Homer C et al. The impacts of climate change across the life course. (unpublished)

While there is a need to understand the potential risks of climate change better, available evidence suggests links between climate change and adverse health effects.

Climate change is altering the epidemiology, geography of health conditions, such as respiratory conditions. With rising temperatures, the geography and intensity of vector-borne disease are shifting and increasing. Both too little water (due to drought) and too much water (due to flooding) impact agriculture, food security, housing and infrastructure, as well as safe access to clean water, sanitation and hygiene, and access to health services and information. At its extreme, climate change can manifest as humanitarian crises, contributing to mass migration, accelerating population displacement.

What we know now serves as a justifiable basis for urgent action by stakeholders to invest and develop climate action plans for all individuals that focus on improving maternal, newborn and child health (MNCH) – now and in the long-term.



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A wildfire burned at least 400 hectares on the border between Spain and Portugal in 2022. Climate change makes it more likely for droughts and wildfires to happen.

Climate risks to maternal, newborn and child health

Maternal and perinatal

Climate hazards, including extreme heat, are associated with increased risks of developing complications that lead to adverse maternal and perinatal outcomes. These may include multiple causes of maternal and neonatal morbidity and mortality such as gestational diabetes, hypertensive disorders of pregnancy, preterm birth, low birth weight and stillbirth.

In addition to the health risks related to poor nutrition, water, hygiene and sanitation, the effects of exposure to climate hazards and their aftermath during and after pregnancy can affect mental health and contribute to intergenerational trauma. They may increase stress, anxiety and depression – known risk factors for adverse perinatal outcomes.

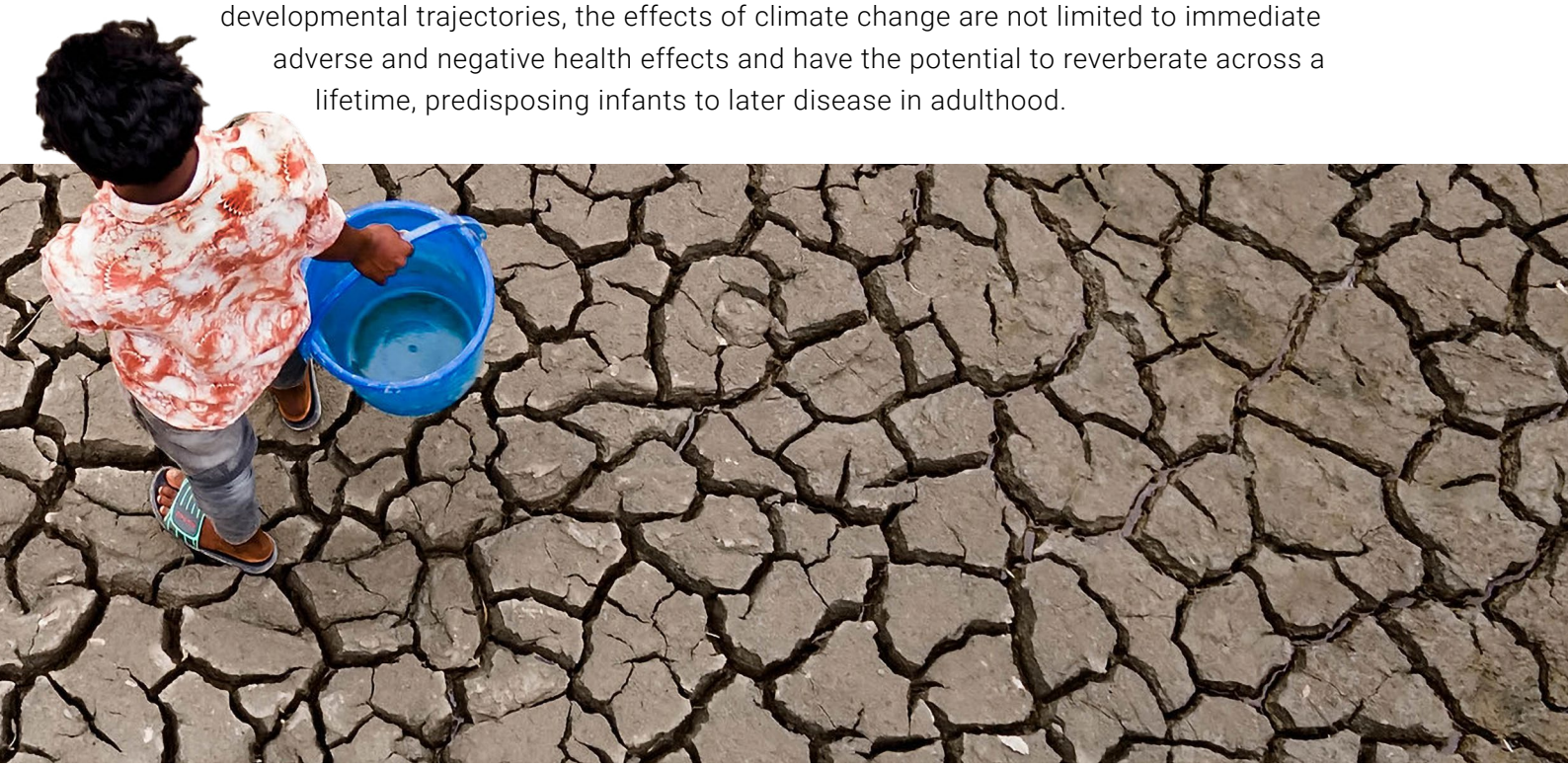
> Extreme heat, are associated with incr eased risks of developing complications that lead to adverse maternal, perinatal and neonatal outcomes.

Women and girls carry a disproportionate burden of the impacts of climate change, since it contributes to the complex interplay of gender and social norms and roles within homes and communities. As women often engage in agriculture and other outdoor or household work such as collecting water and cooking outdoors, they are at greater risk of additional exposure to temperature extremes and vector-spread infectious diseases; this includes pregnant and postpartum women. Emergencies caused by climate change, as well as financial and economic stress, also put women and children at increased risk of violence.

Newborns and infants

Newborn babies undergo rapid development. Their immature temperature regulation systems and their dependency on others for cooling, shading and feeding explain their increased vulnerability to climate change.

Climate change-related exposures during infancy such as exposures to extreme heat and air pollution are associated with increased mortality and morbidity from stunting, respiratory diseases and adverse neurodevelopmental outcomes. As prenatal and early-life exposures influence developmental trajectories, the effects of climate change are not limited to immediate adverse and negative health effects and have the potential to reverberate across a lifetime, predisposing infants to later disease in adulthood.



A young person braves the drought in Shyamnagar Union, Bangladesh, trekking to a reservoir to collect water. Despite the passage of many years since Cyclone Aila, the community continues to endure the struggle for access to clean drinking water.

Children

Extreme weather events, such as floods and severe tropical storms, can increase rates of depression and post-traumatic stress disorder in children, with potentially long-lasting mental health impacts into adulthood. Extreme weather events can also negatively impact parents and caregivers' mental health due to trauma, financial strain and loss of housing and other resources, for example. Post-disaster distress in parents, in turn, can impact on family functioning and increase the risk of poor parenting. Changes in temperature, as well as precipitation and humidity, have a direct effect on children's health. For example, high temperatures can increase pathogens in water and food, putting children at an elevated risk for diarrhoeal disease. High temperatures are also associated with food insecurity and other factors, increasing the risk of childhood undernutrition, especially in children under two years of age.

Extreme temperatures, both hot and cold, and poor quality air, negatively affect respiratory health in children. Such exposures impair lung function, increase the risk of asthma and lead to more frequent respiratory infections. Combined with food insecurity, children are at greater risk of malnutrition as well as increased mortality.

Health systems that support maternal, newborn and child health

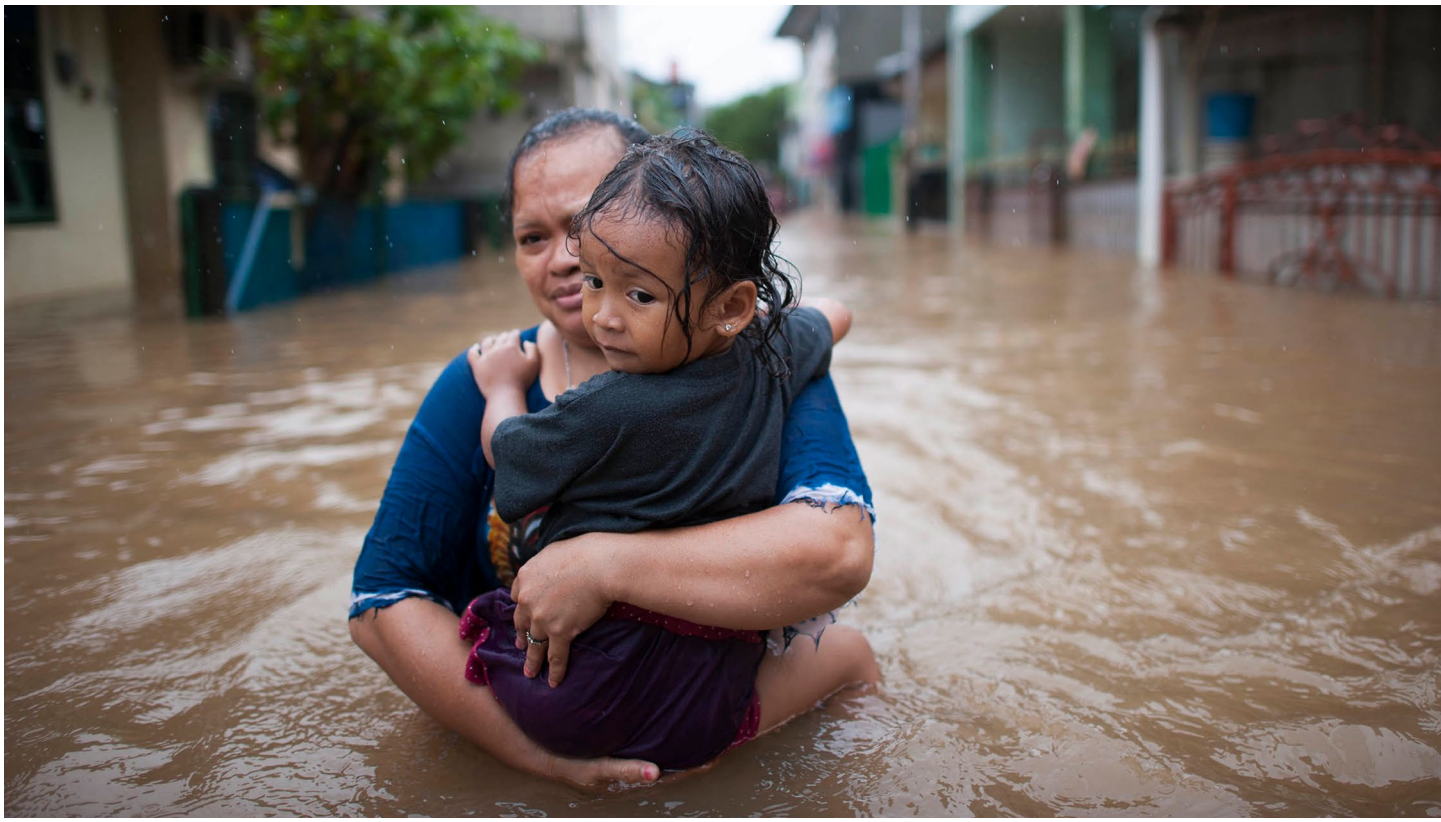
Extreme weather events due to climate change impact communities and the functioning of health systems through loss of physical infrastructure and threats to human resources. Families and communities can face barriers in accessing any health services and become compromised in their ability to withstand the consequences of extreme heat, drought, landslides or flooding.

Health workers in affected communities may face undue challenges in providing care while managing personal safety. Disruptions in basic health services in rural and urban settings jeopardize access and quality of MNCH care, including sexual and reproductive health services.

"Extreme weather events can also negatively impact parents and caregivers' mental health due to trauma, financial strain and loss of housing..."

A call for action NOW!

The impact of climate change on MNCH demands action. In addition to a wide range of immediate health risks, climate change threatens to lead to many long-term consequences that affect the health and well-being of women, newborns and children throughout their lives.



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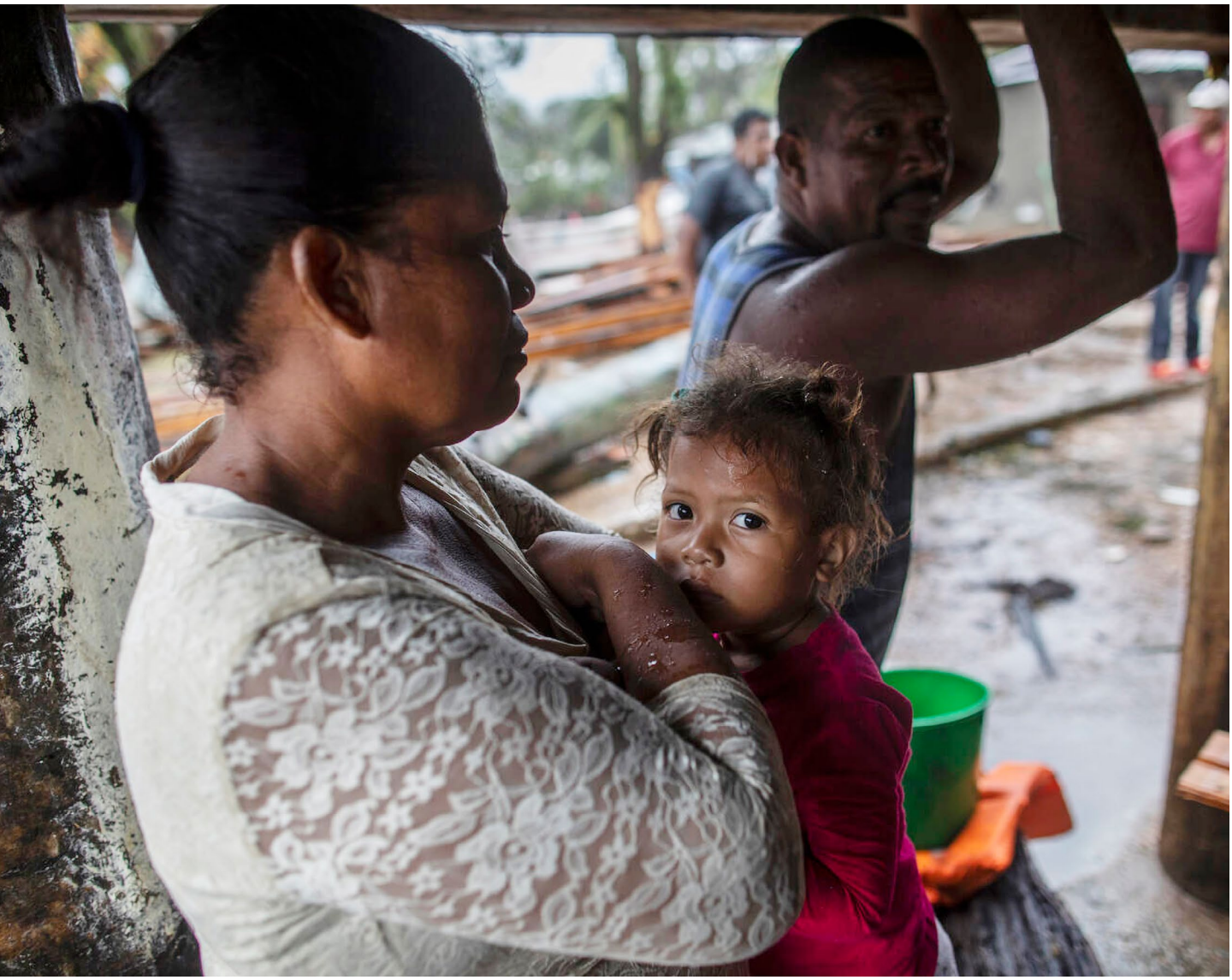
A woman carries a child through floods in Indonesia caused by the Sunter River overflowing.



©UNICEF/Ocon/AFP-Services
A family protects themselves under the house of their neighbours after theirs was destroyed by the strong winds brought by Hurricane Iota in Nicaragua.

The health of pregnant women, mothers, newborns and children reflects the stability and robustness of a community's resilience to potential health disruptions. The evidence linking global warming with adverse outcomes is mounting and is cause for alarm. While climate change will affect all populations, it is critical to remember that women, newborns and children are impacted disproportionately. The 2015 Paris Agreement called "for Parties taking action to address climate change to respect and promote the right to health." Yet actions have thus far been insufficient. Few Nationally Determined Contributions even mention maternal and child health – a glaring omission and emblematic of the status of women, newborns and children in the climate change discourse.

The World Health Organization, the United Nations Children's Fund, and the United Nations Population Fund together call on Member States, partners, collaborators and stakeholders to protect the health of women, newborns and children from the impacts of climate change.

Without delay, the following urgent actions must be taken to achieve a healthy, sustainable and equitable future for all.

>> Address the needs of women, newborns and children in the global climate response.

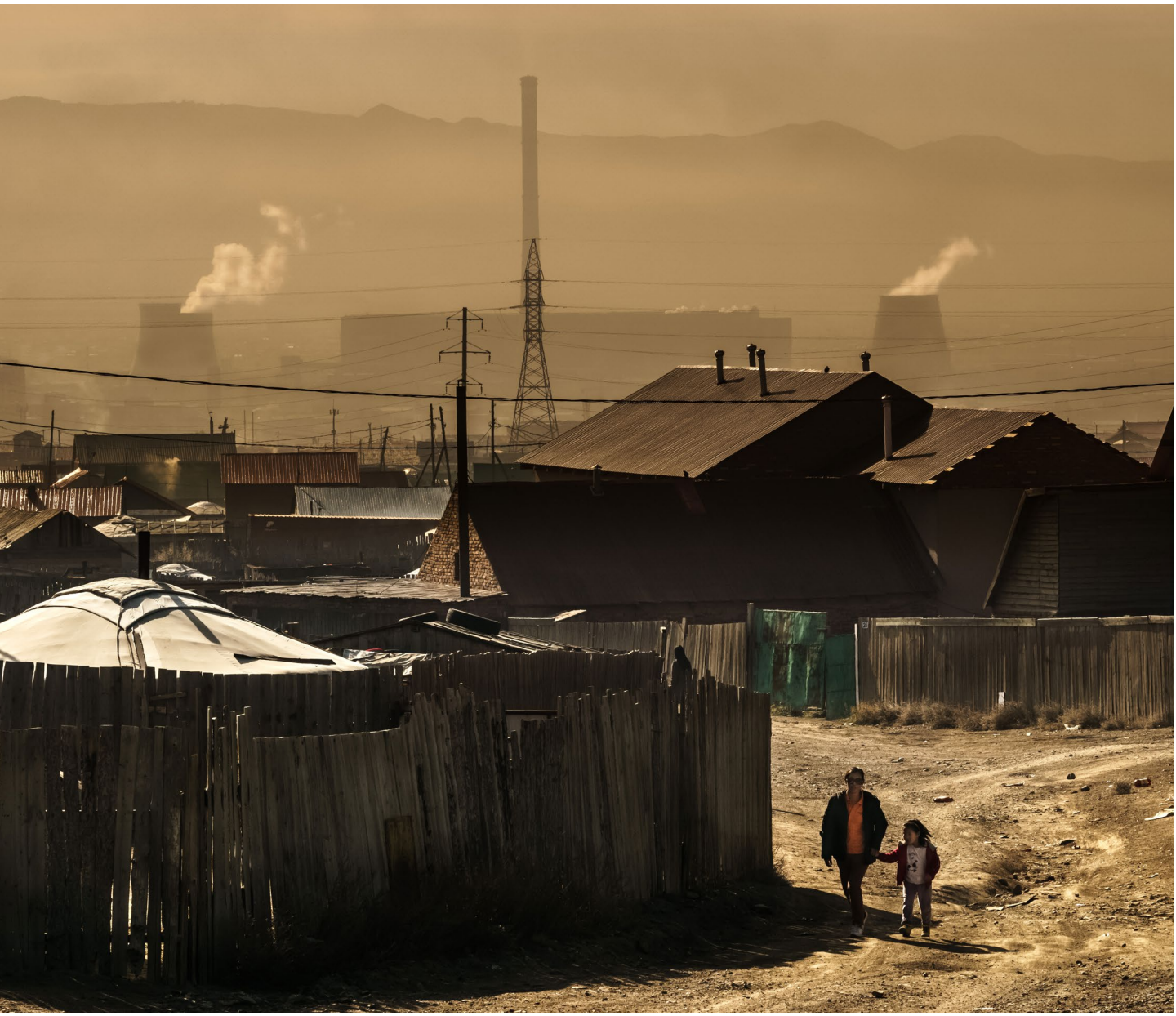
Existing global commitments, frameworks and policies for climate adaptation inadequately address or neglect the risks of climate change on MNCH. Climate response polices should prioritize women, newborns and children. These policies need to recognize and address climate risks to health, including policies to reduce carbon emissions and protect health. The needs of women, newborns and children should be integrated into climate mitigation, adaptation and disaster risk reduction strategies, to address their unique needs, including access to essential sexual, reproductive, maternal, newborn and child health services.

>> Frame climate change as a health and human rights issue with a human capital approach.

Inequalities in power structures influence the causes and consequences of climate change on the health of women, girls and gender-diverse people, especially those facing multiple and intersecting forms of discrimination. Considering the impact of intersectional factors such as gender, age, culture and equity when addressing the impact of climate change supports the achievement of the Sustainable Development Goals. By amplifying underrepresented voices and ensuring meaningful participation, gender-responsive and equitable climate action under the Paris Agreement can be created, leading to creative solutions that are context-appropriate and aim to ensure high-quality MNCH care that is available, accessible and acceptable to all in need. This approach must be holistic and built over time, acknowledging the cumulative effect that access to services offers over a lifetime. Human rights must be prioritized in climate change preparedness, adaptation and mitigation planning. Consideration should be given to existing inequities in access to and quality of MNCH care. The needs of women, newborns, children and adolescents are essential in decision-making, from local to national levels.

>> Institute robust monitoring frameworks.

There is an urgent need to better understand the links between climate-related exposures and MNCH and well-being. Countries need to strengthen existing monitoring frameworks and agree on indicators to track health outcomes with disaggregated, spatially-referenced population data, including the location, characteristics and mobility of populations in areas exposed to current and projected climate hazards. This will improve the quality of services provided and help target resources to populations and areas with the most needs, as well as allow countries to track progress over time.



©WHO/Yoshi Shimizu
Air pollution captured in Ulaanbaatar, Mongolia.

>> Accelerate research and share information on the impact of climate change and MNCH.

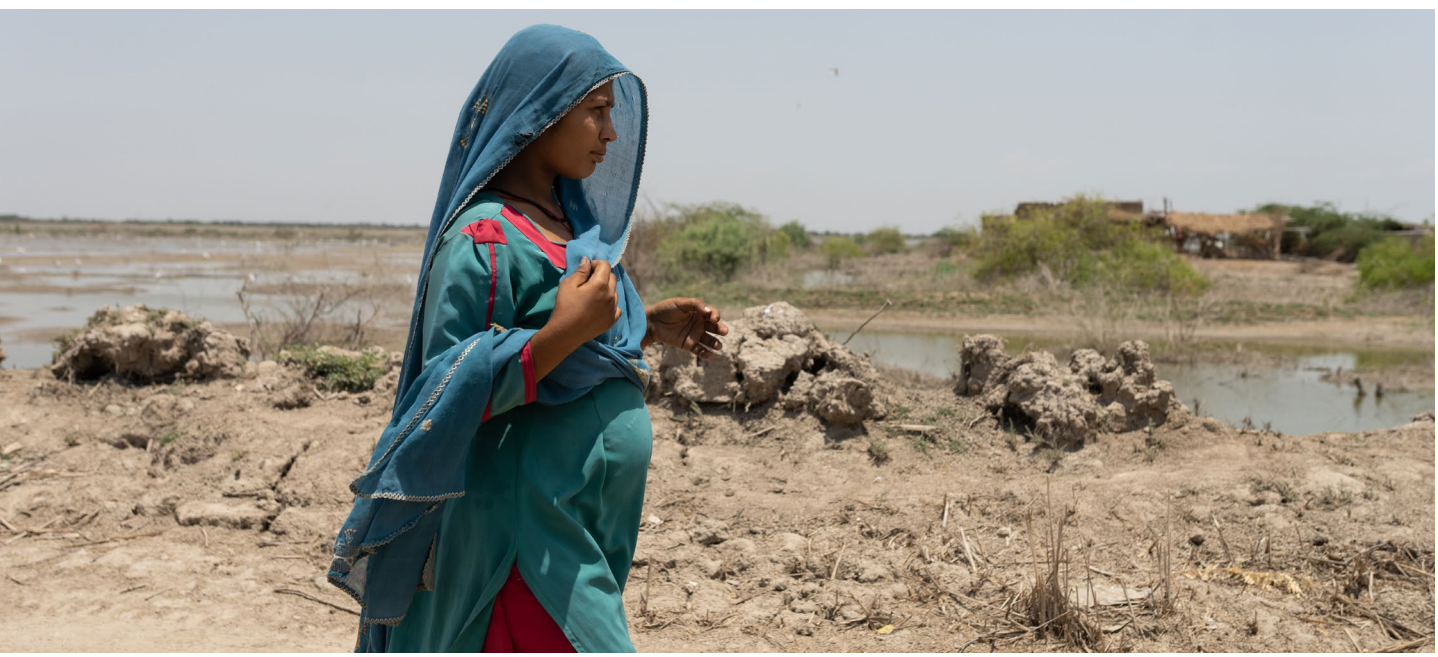
Significant data gaps remain in our understanding of the potential health risks of climate change, including a lack of studies from low- and middle-income countries. As the available evidence on the impact of climate risks on MNCH is synthesized, research on potential strategies and interventions to reduce the negative health effects from the impacts of climate change during the critical periods of pregnancy, infancy and childhood is paramount. High-quality data are necessary to estimate the global burden of climate-related impacts on MNCH and quantify the strength of these associations. All actors should contribute to building knowledge on the effect of climate change on health risks for MNCH. Education on the concepts of climate change should be available for all individuals, at community level and within health worker training programmes. Understanding the effects of climate change on health will enhance willingness to act on climate change and to ensure that high-quality data are available to strengthen knowledge of its impacts. Research is also needed to identify the effectiveness of interventions to address these climate-related health outcomes, as well as to articulate the relationship between climate change, social determinants of health and their corresponding risks to MNCH. Understanding the context and conditions needed to implement effective interventions will be critical to scaling sustainable actions.

>> Strengthen resilient health systems sustainably.

Action is needed to reduce carbon emissions in the health sector to improve health. The health sector is responsible for up to 4.4% of all greenhouse gas emissions, although these emissions are not experienced or emitted equally. Climate-resilient, low-carbon and environmentally sustainable health-care facilities protect MNCH from water scarcity and food insecurity, as well as unsafe structural environments. Health facilities guarantee the availability, quality and accessibility of health services for women and children. These facilities are vulnerable to climate change and other environmental stresses. It is essential that climate and health programmes reflect the voices and needs of women, children, adolescents and youth, communities and health workers, with MNCH services integrated into ongoing activities to mitigate climate change. A health sector that is fit for the future is able to increase the capacity for protecting health in an unstable and changing climate by building climate resilience and contributing to mitigation through reduced greenhouse gas emissions, becoming low-carbon or net-zero systems and reducing all other negative impacts on the environment, without forgetting how to address the health and needs of health workers while keeping person-centred care at the forefront.

>> Promote greater collaboration between sectors to jointly define long-term, sustainable policies that outline MNCH targets in climate financing policy.

Climate change and climate hazards have serious economic and fiscal impacts. Increases in government expenditures due to additional demands resulting from exposure to climate hazards reduce the availability of funding, which in turn can impact the availability of resources for MNCH. There is a need to strategically mobilize funds to enhance and expand the climate resilience of the health sector with specific allocation to MNCH needs. At the microeconomic level, the negative consequences include increases in out-of-pocket payments for health care and reductions in household livelihoods and income, which can affect the affordability of MNCH services and reduce access to health care. Investments in primary health care within universal health coverage are needed to ensure that MNCH services are available and affordable to all who need them. Multilateral climate funds and climate-related assistance can jointly promote MNCH goals, with a particular focus on distributional effects for the populations most affected by climate events. Similarly, financing mechanisms for MNCH can incorporate or improve service provision across multiple sectors, including financing global health-responsive climate action. Commitment is needed to ensure that adaptation programmes allocate resources to the health sector, including ensuring an equal split in adaptation and mitigation financing.



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A pregnant mother near flooded areas in Moosa Jessear village, Sindh Province, Pakistan. Noor's first baby passed away due to complications during her first pregnancy; her second child died at only three days old when floods hit Pakistan in August 2022.

>> Prioritize an “all of society”, multisectoral approach to take sustained and impactful action on MNCH in the climate change response.

Communities, social sectors, private sector actors and governments need to come together around shared goals and responsibilities to institute the necessary enabling environments to protect MNCH from the direct and indirect impacts of climate change. A coordinated response to the climate change and health crisis requires integrated, multisectoral programming. This approach will be key to providing comprehensive solutions that promote resilience and sustainable growth, particularly in heavily affected areas. It is crucial to promote collective action outside the health sector, such as the energy, agriculture, housing, education and private sectors. Economic stability is mandatory for addressing and mitigating the effects of climate change on populations at risk. Private sector actors have a responsibility to contribute to maintaining this stability, sustainably, as it is key to managing business risks and ensuring long-term returns on investment. The private sector will be a critical partner in delivering effective solutions that reduce the risk of adverse MNCH outcomes.

Every action will count.

Pledge your commitment to protect MNCH needs from the impact of climate change, now, for the future.

Show your support for climate action

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Methods

This call for action to protect maternal, newborn and child health from the impacts of climate change was conceptualized and developed through a consultative process between WHO, UNICEF and UNFPA. It is based upon the WHO Operational framework for building climate-resilient and low carbon health systems and the impact of climate change on maternal, newborn and child health, as described in the reviews by Conway et al. and Proulx et al.

Acknowledgements

Acknowledgements are due to the many experts whose contributions made this publication possible.

Technical contributions were made by:
WHO: Doris Chou (Department of Sexual and Reproductive Health); Francesca Conway, Bernadette Daelmans and Anayda Portela (Maternal, Newborn. Child and Adolescent Health and Ageing); Diarmid Campbell-Lendrum and Elena Villalobos Prats (Department of Climate Change and Health).
UNFPA: Angela Baschieri, Chiagozie Udeh, Michel Brun and Willibald Zeck.
UNICEF: Gagan Gupta, Tedbabe Hailegebriel, Swathi Manchikanti and Abheet Solomon.
PMNCH: Etienne Langlois, Giulia Gasparri and Domenico Iaia.

Assistance with technical drafting was undertaken by Blair Wylie: The Collaborative for Women's Environmental Health at Columbia, Department of Obstetrics and Gynecology, Columbia University Medical Center, USA.

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WHO acknowledges the financial support to HRP (the UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction) from the United States Agency for International Development and to the WHO Department of Maternal, Newborn, Child, and Adolescent Health and Ageing through funds received from the WHO Department of Climate Change and Health and from the Government of Spain.

Protecting maternal, newborn and child health from the impacts of climate change: a call to action by WHO, UNICEF and UNFPA
ISBN 978-92-4-008535-0 (electronic version)
ISBN 978-92-4-008536-7 (print version)

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