



Technical Webinar Series Climate Change and Health

Gender, Climate Change and Health

16 October 2024

9:30 – 11:00 CEST
15:00 – 16:30 CEST

WHO Technical Webinar Series



<https://www.who.int/teams/environment-climate-change-and-health/climate-change-and-health/country-support/webinars>

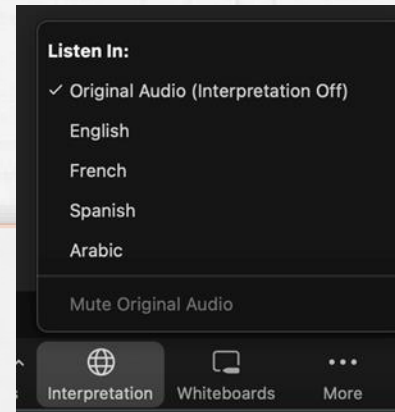


Date & time (CEST)	Topic*
24 th April 2024	Getting started: climate change and health vulnerability & adaptation assessments
30 th April 2024	WHO as an Accredited Implementing Entity of the Adaptation Fund; Accessing AF funding for Climate Change and Health
15 th May 2024	WHO Operational Framework for building climate resilient and low carbon health systems
12 th June 2024	Developing a Health National Adaptation Plan: Introduction
19 th June 2024	GIS and risk mapping in climate change and health vulnerability & adaptation assessments
10 th July 2024	Climate resilient and environmentally sustainable health care facilities
17 th July 2024	Quantitative approaches for Vulnerability & Adaptation assessments: sensitivity analyses and projecting future health risks of climate change
18 th Sept 2024	Integrating health in NDCs and LT-LEDS
25 th Sept 2024	Developing a Health National Adaptation Plan: Quality criteria for HNAPs
16 th Oct 2024	Conducting a gender analysis for climate change and health vulnerability & adaptation assessments



Interpretation

AM session: English, French and Arabic
PM session: English, French and Spanish



To activate interpretations (in English):

1. Click on the interpretation icon.
2. Select "English"
3. **Optional** : mute original audio

Pour activer les interprétations (en français):

1. Cliquez sur l'icône d'interprétation
2. Sélectionnez "Français"
3. **Facultatif** : couper le son d'origine

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2. Seleccionar "Español"
3. **Opcional**: silenciar el audio original

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**What tools and support do you need to better
integrate gender considerations in climate
change and health work?**

① Start presenting to display the poll results on this slide.

Agenda

AM Session

Time	Agenda item	Speaker
9:30 – 9:35	Welcome	Amy Savage , Technical Officer, Climate Change and Health Unit, WHO
9:35 – 9:45	Opening remarks	Alia El-Yassir , Director, Gender, Equity, Diversity and Rights for Health Department, WHO
9:45 – 10:00	Introduction to gender, climate change and health	Elena Villalobos Prats , Capacity Building and Country Support Lead, Climate Change and Health Unit, WHO
10:00 – 10:15	Impacts of climate events on maternal health outcomes	Anayda Portela , Maternal Health Unit, WHO
10:15 – 10:55	Panel discussion: Experiences from the field Q&A	Ahammadul Kabir , Programme Officer Climate Change, WHO Bangladesh Raja Ram Pote Shrestha , National Professional Officer, WHO Country Office, Nepal Tomasia de Sousa , Senior Technical Officer, MOH Timor-Leste Bounthanom Phimmasone , Director of Hygiene Management Division of the Department of Hygiene and Health Promotion, MOH Lao PDR and Souvanaly Thammavong , Technical Officer, WHO Lao PDR Facilitated by Faustina Gomez , Technical Officer Climate Change and Health, WHO SEARO
10:55 – 11:00	Close webinar	Amy Savage



Introduction to Gender, Climate Change and Health

Elena Villalobos Prats

Country Support and Capacity Building Lead
Climate Change and Health Unit WHO

Yiqi Pan

Technical Officer, Climate Change and Health

What is gender and why does it matter?

Sex vs. Gender:

- **Sex:** Biological differences between males and females
- **Gender:** Socially constructed roles and characteristics based on culture and history

Gender roles and norms that result in the **mistreatment of one group or sex over the other**, or that result in **differences in power and opportunities**, lead to **gender inequality**. This may result in unequal access to and control over resources (e.g., financial, social, political, time-related).

Impact on Health: Both sex and gender are important **determinants of health**, influencing

- the exposure of men and women to risk factors, access to health information and services, health-seeking behaviour, treatment options, and experience in health-care settings
- the access and control over resources, affecting health vulnerability and adaptive capacity

Climate change

Addressing the wide range of the health impacts of climate change

Health risk

Vulnerability factors

- Demographic
- Geographical
- Biological factors & health status
- Sociopolitical
- Socioeconomic
- Health system capacity
- Gender & equity

Climate-related hazards

- Extreme weather events
- Heat
- Sea level rise
- Air pollution
- Vector distribution & ecology
- Water scarcity
- Reduced food production

Exposure

- People & communities
- Health workforce
- Infrastructure
- Energy systems
- Water systems
- Food systems
- Health systems

Environmental threats and GHG emissions

Health outcomes



Injury and mortality from extreme weather events



Heat-related illness



Respiratory illness



Water-borne diseases and other water-related health impacts



Zoonoses



Vector-borne diseases



Malnutrition and food-borne diseases



Noncommunicable diseases (NCDs)




Mental and psychosocial health



Impacts on health care facilities



Effects on health systems

A close-up photograph of a woman with dark skin and hair, looking down with a distressed expression. Her hand is raised to her face, partially covering her mouth. She is wearing a patterned orange and black garment. The background is a blurred scene of a destroyed building with rubble and debris, suggesting a disaster zone. The sky is overcast.

**Weather and
climate affect
everyone, but
not in the
same way.**

Health impacts of climate change: A gender perspective

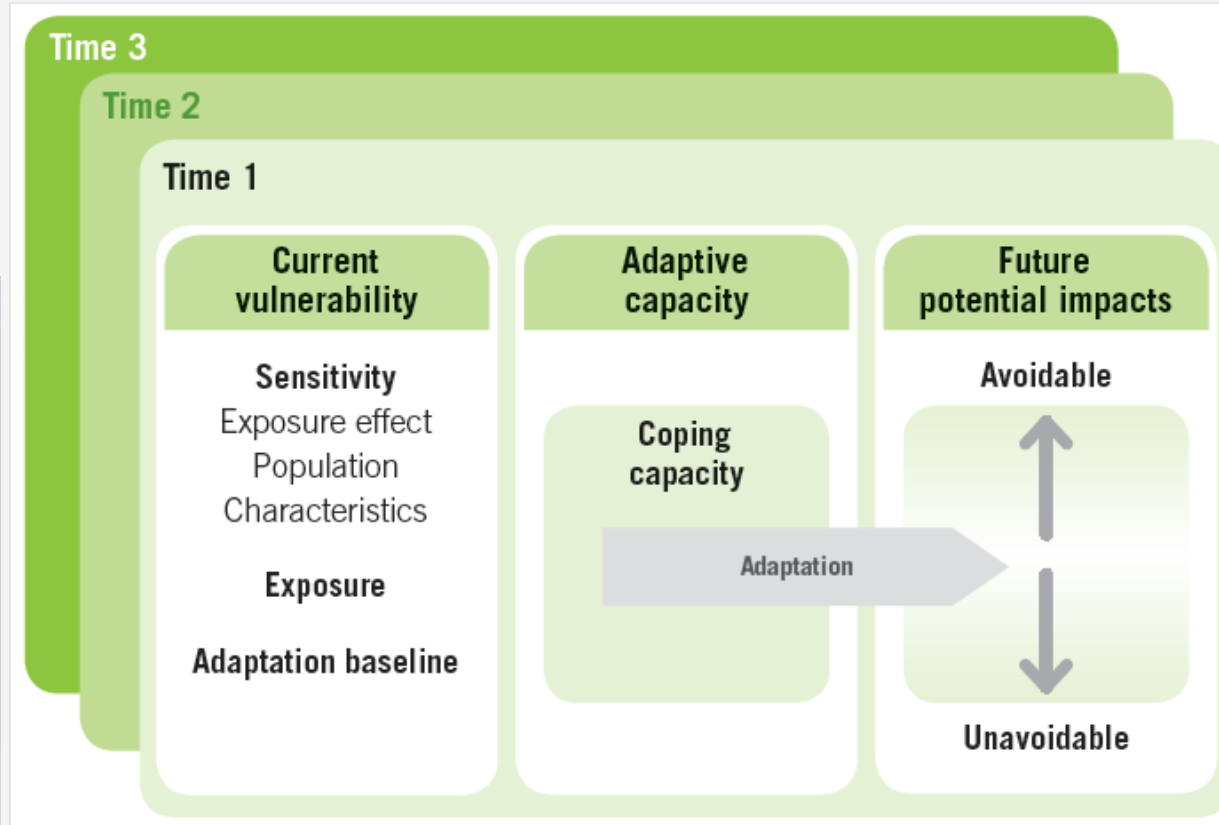
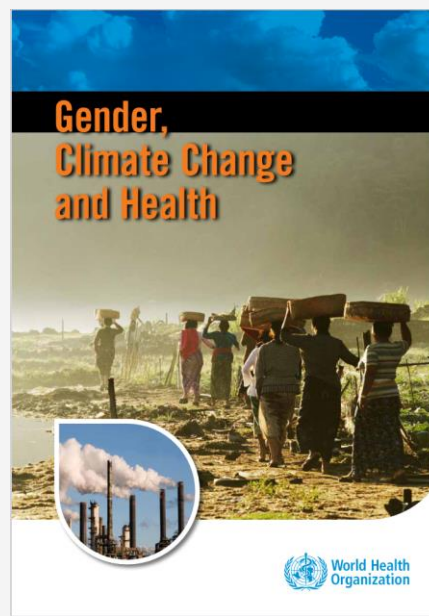
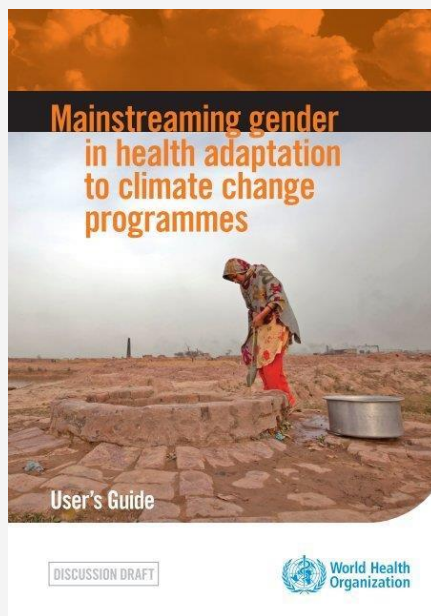
Conditions	Examples of health impacts	Gender perspective
Heatwaves and increased hot weather	<ul style="list-style-type: none"> • Heat-related fatalities and heat exhaustion • Vector-borne diseases such as malaria, dengue, leishmaniasis, Lyme disease, tickborne encephalitis due to altered range and seasonality • Increased or decreased risk of pre-eclampsia and hypertension due to changes in temperature and humidity 	<ul style="list-style-type: none"> • Studies have found that women may be more at risk of dying in heatwaves in some situations; at the same time, elderly men may be at increased risk due to social isolation • Men and women may have different levels of exposure to extreme heat and certain vectors due to gender differences in occupation and the division of household chores • Due to physiological changes, pregnant women have higher risk of malaria infection • In many societies, gender roles attribute the task of caring for the sick to women • Because of biological differences, only women are at risk of pre-eclampsia or pregnancy-related hypertension

Health impacts of climate change: A gender perspective

Conditions	Examples of health impacts	Gender perspective
Shift in farming and land use	<ul style="list-style-type: none">• Malnutrition caused by disruptions or decreases in food supply• Mental health issues caused by loss of livelihood• Loss of plants and herbs used for income, traditional medicinal use, and nutritional Supplements	<ul style="list-style-type: none">• Breastfeeding and pregnant women have unique nutritional needs• Women may be more vulnerable in times of food scarcity due to gendered food hierarchies• Men may be less likely to seek help for psychological conditions• Social expectations and attitudes concerning rural masculinity may contribute to high suicide rates among male farmers in some situations• Many rural women in different parts of the world depend on plants and herbs for income, traditional medicinal use, and nutritional supplements

Gender dimensions of health and climate change

The different health impacts of climate change on the population depends on several factors such as the vulnerability and adaptive capacity of groups.



Gender analysis

What is the impact of gender inequality on health?

How do men and women differ considering capabilities and vulnerabilities in relation to the health impacts of climate change?

Gender analysis is the process used to ensure that gender considerations are taken into account within programmes and policies.

What are common gender norms and roles, and how might they lead to different exposure to health hazards, vulnerability, and health impacts?

Does access and control over resources differ between men and women?





Gender norms

- Mobility restrictions
- Access to information
- Decision making
- Participation

Gender roles & relations

- Who does what?
- What spaces do men and women usually occupy?
- What are acceptable interactions?

Tool 1: Gender Analysis Matrix

Factors that influence health impacts of climate variability and change Health-related considerations for current and projected health risks	Gender-related considerations		
	Biological factors	Sociocultural factors	Access to and control over resources
Risk factors and vulnerabilities			
Access to and use of current health protection programmes, including health emergency and disaster risk management actions			
Treatment options			
Health-seeking behaviours			
Experiences in health care settings			
Health and social outcomes and consequences			

Table: Matrix for gender analysis of health vulnerability and impacts due to climate variability and change

Tool 1: Gender Analysis Matrix

Guiding questions (selection)

Questions	Where the information could fit in the matrix:
Adaptation: What are the people affected by the condition doing about it?	
Are both women and men seeking services appropriately for this health outcome? Analyse who is accessing health services for treatment and the reasons why some individuals or groups are not doing it. Consider who is consulting traditional healers or alternative therapists instead and why they do so	Access and use of health services
Do women and men, or groups of women or men, have the same willingness, ability and control over resources to recognize that they are ill and/or to seek treatment?	Health-seeking behaviour
How do health services meet the needs of the men and women affected by this condition?	
Are health workers generally aware of the different ways men and women of different ages can express their symptoms when suffering from this condition?	Treatment options
Do women and men have different experiences (e.g. stigma, discrimination) with health services for this condition? What kinds? For what reasons? If the health outcome is the result of an extreme weather event, special attention should be provided to gender-based violence.	Experiences in health care settings

Gender mainstreaming across phases of health adaptation of climate change

- **Vulnerability and adaptation assessments** are iterative processes to be considered in all phases of project management.
- A **checklist** has been developed with specific recommendations for each phase of the project cycle.
- The checklist can serve as a **guide** during each phase **or** be used retrospectively to assess gender considerations.

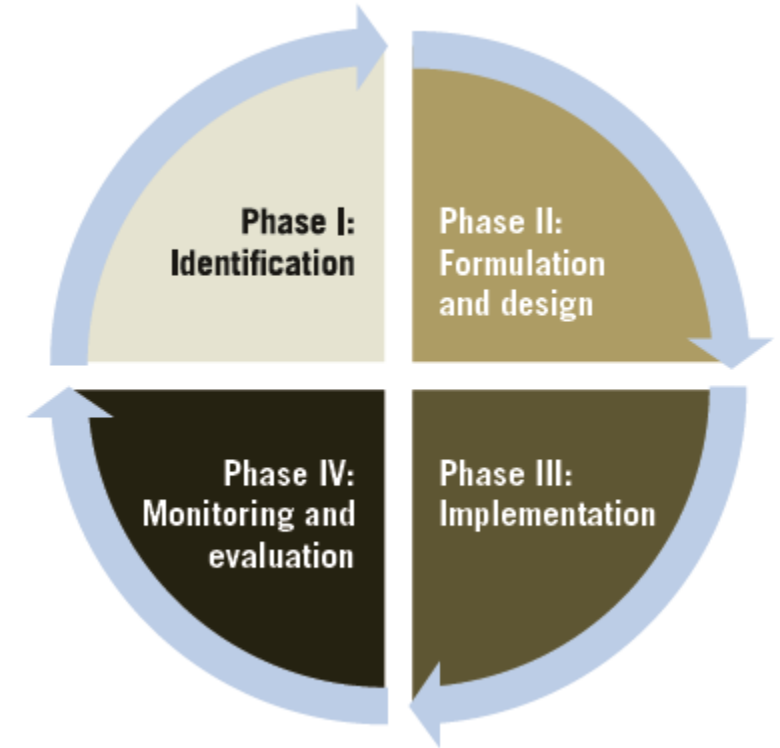


Figure: Phases of the health adaptation to climate change project cycle

Tool 2: Checklist for Gender Mainstreaming

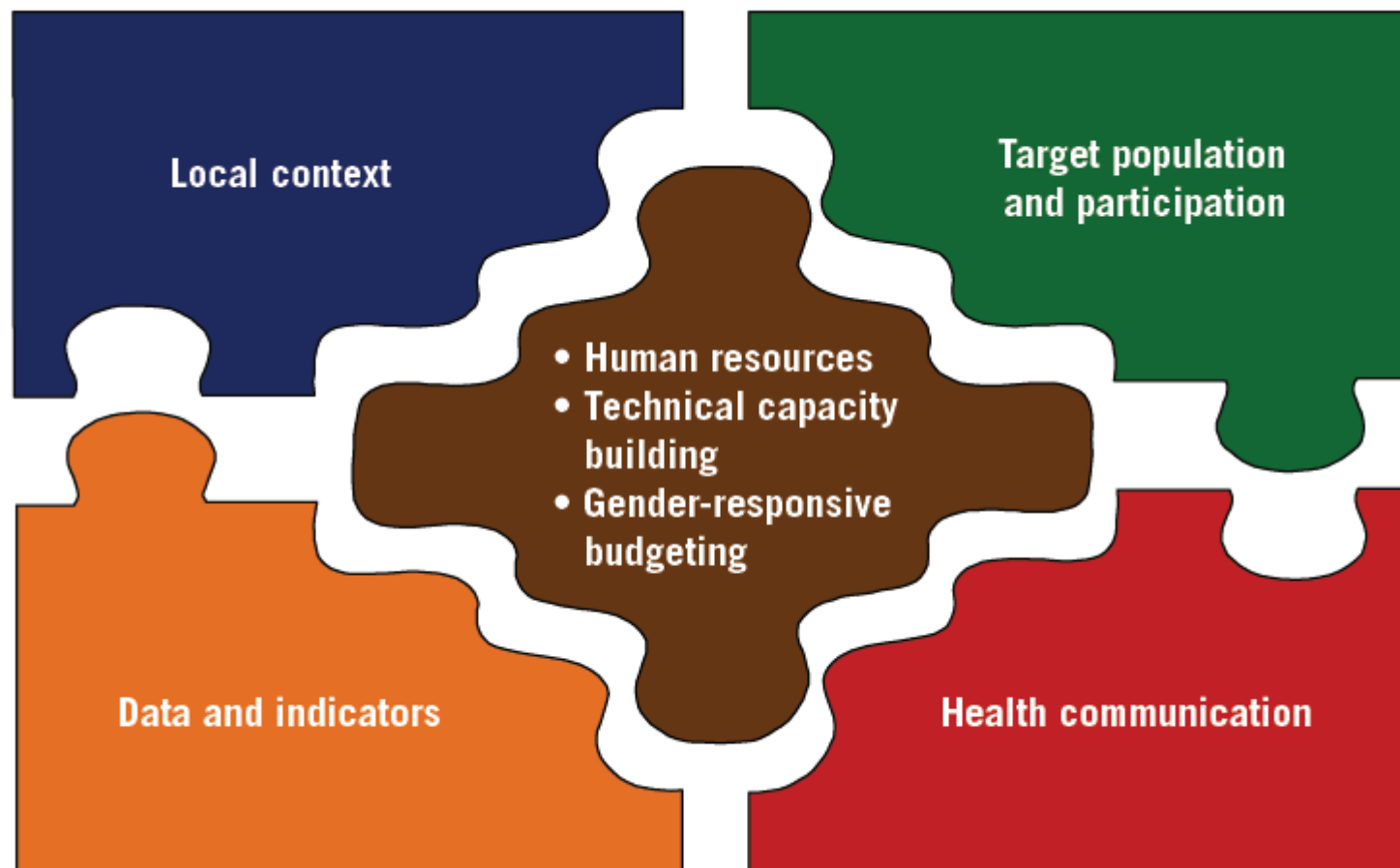
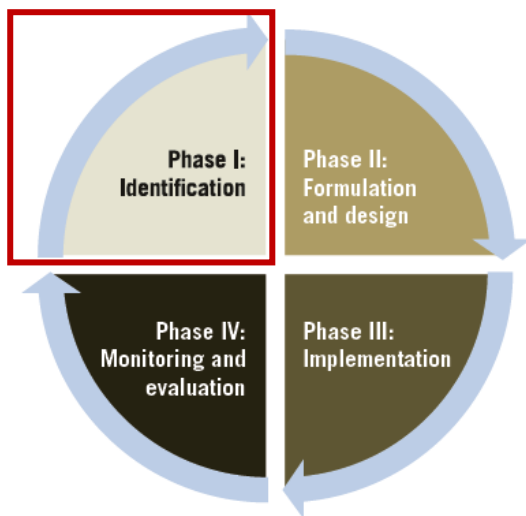


Figure: Gender mainstreaming recommendations categories

Tool 2: Checklist for Gender Mainstreaming

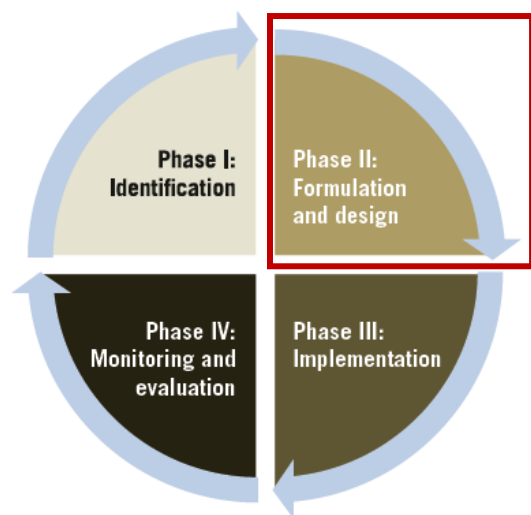
Proposed actions (selection)



PHASE I: Identification <input checked="" type="checkbox"/>	
Local context	
Identify any and all legal and policy framework(s) the country has on gender equality, health equity and climate change and any potential interlinkages between them	
Review international commitments and obligations that promote gender equality (e.g. CEDAW) in general, and specifically within health and environment/climate change policies (e.g. Decision 5/CP.17 on National Adaptation Plan)	
Assess national and/or district health sector policies for their attention to gender equality in general, and specifically within health and environment/ climate change policies	
Data and indicators	
Use the knowledge and information that exist on gender, climate change and health from sources other than health indicators and/or reports as part of the evidence base	
Conduct a baseline study, using sex-disaggregated data, to serve as benchmarks against which progress can be measured	
Use existing knowledge on gender norms, roles and relations to inform data analysis	
Target population and participation	
Use the health vulnerability and adaptation assessment guidance alongside the gender analysis methods and tools (i.e. matrix and guiding questions) to identify key target population groups that may require specific attention within the project	

Tool 2: Checklist for Gender Mainstreaming

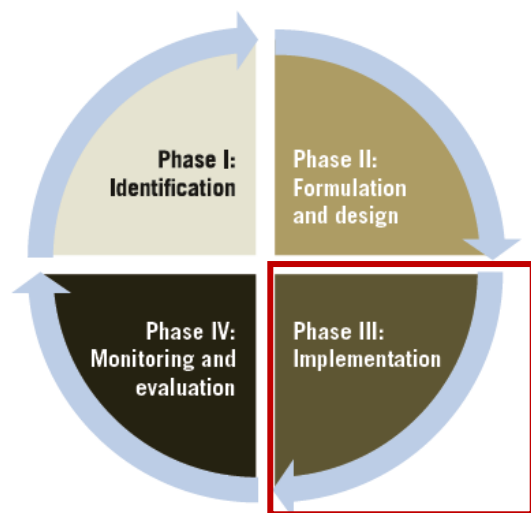
Proposed actions (selection)



PHASE II: Formulation and design		<input checked="" type="checkbox"/>
General tips to consider when formulating and designing the programme		
Identify at least one objective for the programme that explicitly addresses gender equality or gender as a determinant of health. If this is not possible, make sure that activities related to vulnerability and adaptation assessment properly reflect gender and other social determinants of health.		
Target population and participation		
Ensure the equal and meaningful participation of men and women when designing the different activities of the health adaptation to climate change project or programme		
Human resources		
Make sex parity an explicit recruitment criterion		
Strive for balance between men and women working in the programme at all decision-making levels. Avoid involving women just as volunteers. If positions are created by the project, the same possibilities should be given to men and women		
Gender-responsive budgeting		
Allocate specific funds towards objectives and/or activities addressing gender inequality in climate change and health programmes. Ensure that budget lines exist for work on gender		
Data and indicators		
Indicators should provide more data than number of bodies or diseases, they should address broader public health issues such as social (including gender) and environmental determinants of health		

Tool 2: Checklist for Gender Mainstreaming

Proposed actions (selection)



PHASE III: Implementation <input checked="" type="checkbox"/>	
General recommendations for implementation	
Ensure that the delivery of programme interventions is equally accessible to women and men. These include preparedness for public health consequences of extreme weather events, epidemics and population displacement, as well as the preventive and curative interventions for the effective management of identified climate-sensitive public health concerns	
Consider constraints women or men may face in accessing selected sites of programme delivery. Choose sites that are accessible to all – even if this means multiple programme delivery sites	
Consider times where both women and men are available to access the sites of programme delivery	
Technical capacity building	
Ensure that all technical capacity building and awareness raising activities (e.g. on health impacts of climate variability and change) promote the participation of women and men as target populations	
Identify and address technical capacity-building needs within the team on gender. Provide training to all staff that would build skills and address staff beliefs and attitudes around gender towards common understandings and approaches	
Health communication	
Ensure that communication and awareness raising materials or publications are gender-responsive	
Ensure that methods or strategies for delivering programmes, including communication, do not reinforce or uphold existing stereotypes about different groups of men and women, but rather challenge them	

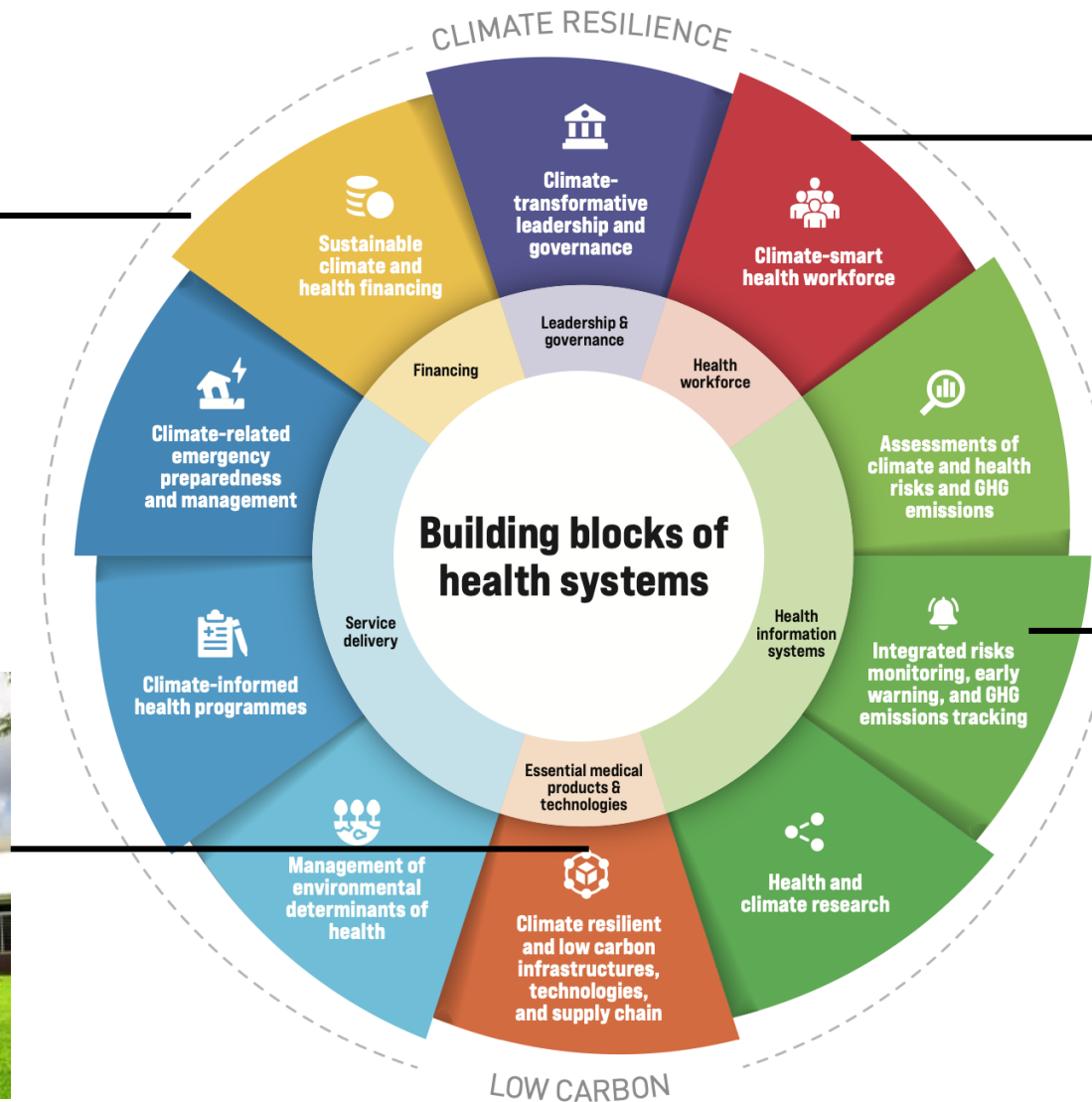
WHO Operational framework for climate resilient and low carbon health systems



GREEN
CLIMATE
FUND

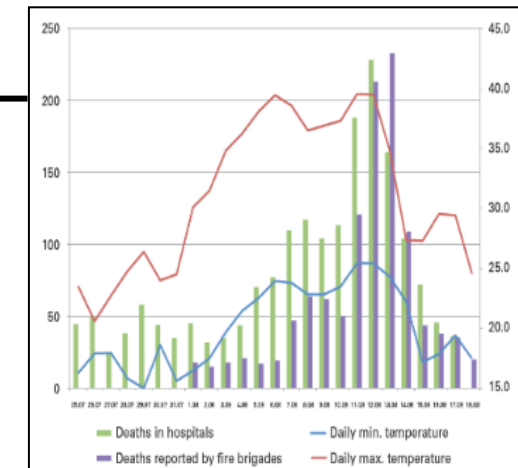
Health access to
climate finance

Resilient, sustainable health
facilities

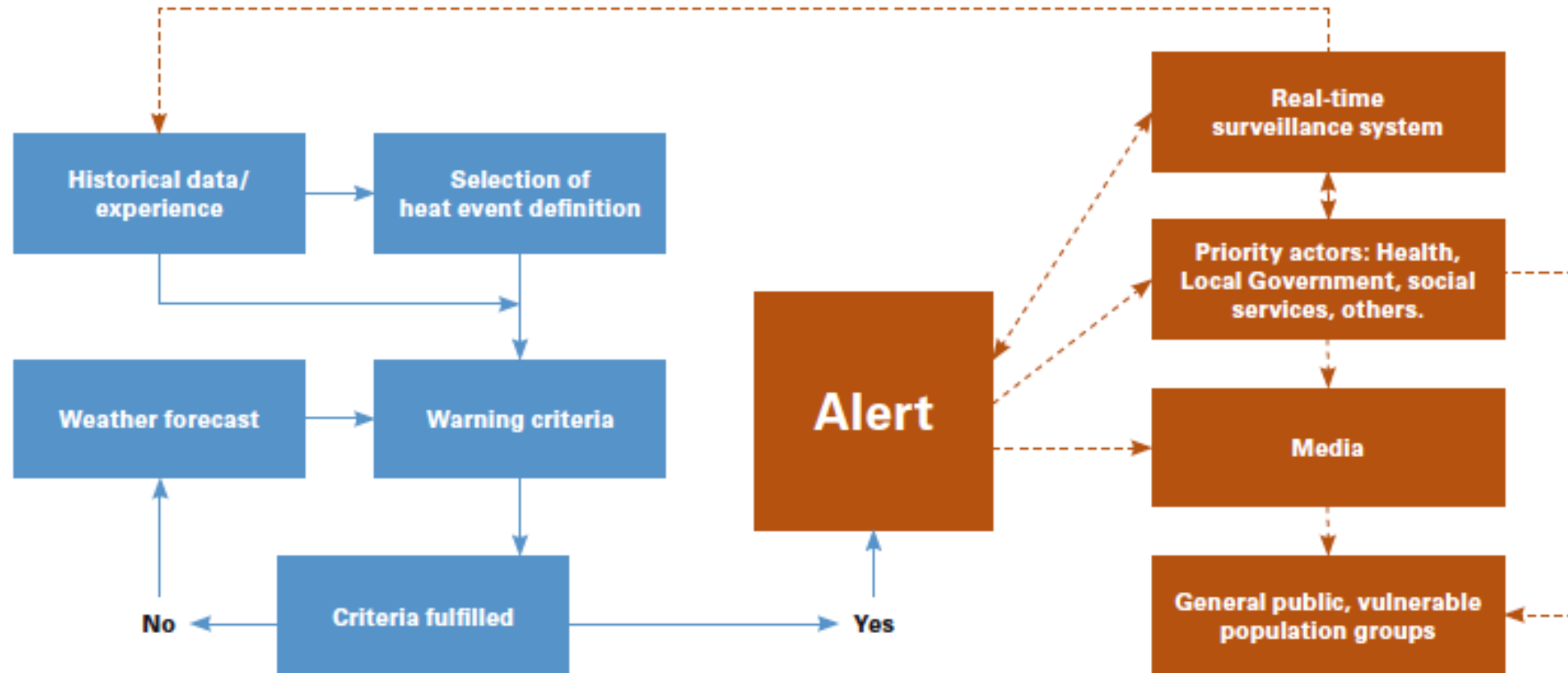


Health workers trained,
engaged on climate

Climate informed
surveillance systems



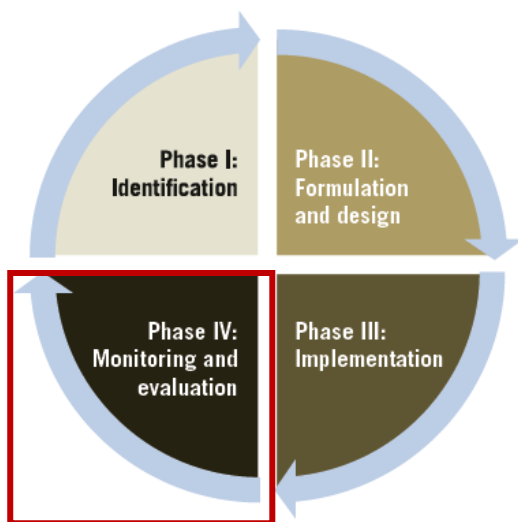
Example intervention: Heat early warnign systems



The information generated by meteorological agencies needs to be connected to preventive actions by health and other sectors to form a heat-health action plan¹³

Tool 2: Checklist for Gender Mainstreaming

Proposed actions (selection)



PHASE IV: Monitoring and evaluation		<input checked="" type="checkbox"/>
General recommendations for monitoring and evaluation		
Ensure that data on demographics, mortality, morbidity and health impacts of climate change are routinely collected and reported at least disaggregated by age and sex and preferably by other social and environmental stratifiers such as socioeconomic status, education level, rural or urban settlement, regional or ethnic origin, access to safe water, housing and employment conditions, among others		
Ensure that the programme monitors progress on gender equality and health equity		
Ensure that sex-disaggregated data are collected and reported when conducting integrated environment, climate and health surveillance		
Indicators		
Use both quantitative and qualitative indicators together for cross-validation		
Use the information collected from monitoring and evaluation activities to inform gender-related amendments, corrective action or subsequent cycles of programmes		

Tool 3: Integrating gender analysis in climate change and health V&A assessments



Example: Malaria

Toolkit (*Forthcoming*): Includes checklists for Focus Group Discussions (FGDs) and an indicative list of quantitative gender sensitive indicators usable for gender analyses

Example FGD Checklist (Selection)

Vulnerability to disease

- Has malaria increased/decreased in your village over the last few years?
- Who gets malaria more, men or women? (probe intersectionality - vulnerability on bases of socio-economic status, location of house, women headed households)

Access to preventive, diagnostic and curative services

- Do most families in the village own bed nets/ITNs?
- Which families do not have bed nets in the village? (probe vulnerability on bases of socio-economic status, women headed households)

Prioritisation of high-risk groups – Pregnant women and children

- Are pregnant women provided bednets by government?
- Do pregnant women sleep under bed nets?
- What are some of the problems faced by pregnant women in taking IPTp?

Additional probes

- Checklist on Malnutrition
- Checklist on extreme weather events
- Checklist on Gender Roles
- Checklist on Health services and access

Tool 3: Integrating gender analysis in climate change and health V&A assessments



Example: Malaria

Toolkit (*Forthcoming*): Includes checklists for Focus Group Discussions (FGDs) and an indicative list of quantitative gender sensitive indicators usable for gender analyses

Indicators (Selection)

Malaria-specific

- Malaria incidence in women
- Malaria incidence in men
- Malaria mortality in women
- Malaria mortality in men
- Bednet usage rate among women
- Bednet usage rate among men
- Malaria incidence in pregnant women
- Malaria mortality in pregnant women
- Bednet usage rate among pregnant women

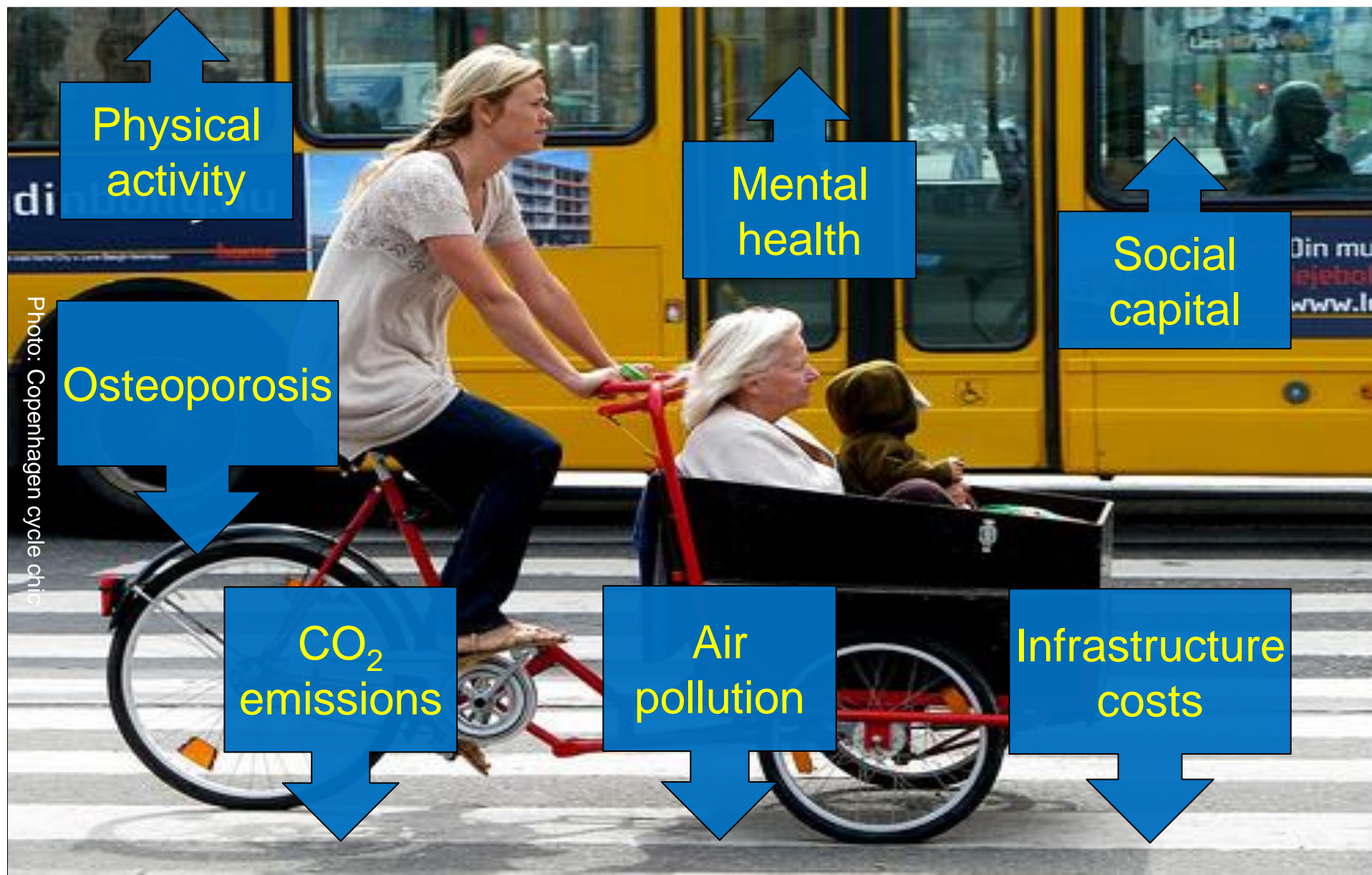
Decision-making and women's empowerment

- Currently married women who usually participate in household decisions on their own health care
- Women who worked in the last 12 months and were paid in cash (%)
- Women having a mobile phone that they themselves use (%)
- Men owning a house and/or land (alone or jointly with others)
- Women owning a house and/or land (alone or jointly with others)

Healthcare utilisation

- Proportion of women in total hospitalisations
- Proportion of female workers in the health workforce
- Proportion of households incurring catastrophic health expenditure

Creating a positive vision for the future



Gender responsiveness

Gender responsive policies and programmes fulfill the **two criteria**:

- It considers gender norms, roles and relations
- It includes measures that actively reduces the harmful effects of gender norms, roles and relations, including gender inequality

Figure: Gender responsive assessment scale criteria for assessing programmes and policies

	Gender unequal					Gender transformative				
	LEVEL 1 Gender unequal	LEVEL 2 Gender blind	LEVEL 3 Gender sensitive	LEVEL 4 Gender specific	LEVEL 5 Gender transformative					
Gender norms, roles and relations	Perpetuates gender inequality by reinforcing unbalanced norms, roles and relations	Ignores gender norms, roles and relations	Considers gender norms, roles and relations	Considers gender norms, roles and relations for women and men and how they affect access to and control over resources	Considers gender norms, roles and relations for women and men and how these affect access to and control over resources Includes ways to transform harmful gender norms, roles and relations					
Gender equality	Privileges either men or women Often leads to one sex enjoying more rights or opportunities than the other	Very often reinforces gender-based discrimination Ignores differences in opportunities and resource allocation for women and men	Does not address inequality generated by unequal norms, roles and relations	Intentionally targets and benefits a specific group of women or men in order to achieve certain policy or programme goals or to meet certain needs	The objective is often to promote gender equality					
Gender equity		Often constructed based on the principle of being 'fair' by treating everyone the same		Makes it easier for women and men to fulfil duties that are ascribed to them based on their gender roles	Addresses the causes of gender-based health inequities					
Gender-specific needs consideration				Considers women's and men's specific needs	Considers women's and men's specific needs					
Gender Awareness			Indicates gender awareness, although often no remedial action is developed	Indicates gender awareness	High level of gender awareness					



Impacts of climate events on maternal health outcomes

AM Session

Anayda Portela

Maternal Health Unit

Department of Maternal, Newborn, Child and Adolescent
Health and Ageing, WHO

Climate Change and Maternal and Newborn Health

Department of Maternal, Newborn, Child
and Adolescent Health and Ageing (MCA)
World Health Organization, Geneva (Switzerland)



*What is **known**?*

Overview of the evidence on the impact of climate change on maternal, newborn & child health.

Francesca Conway, Annie Portela & Bernadette Daelmans

Department of Maternal, Newborn, Child and Adolescent Health and Ageing (MCA)

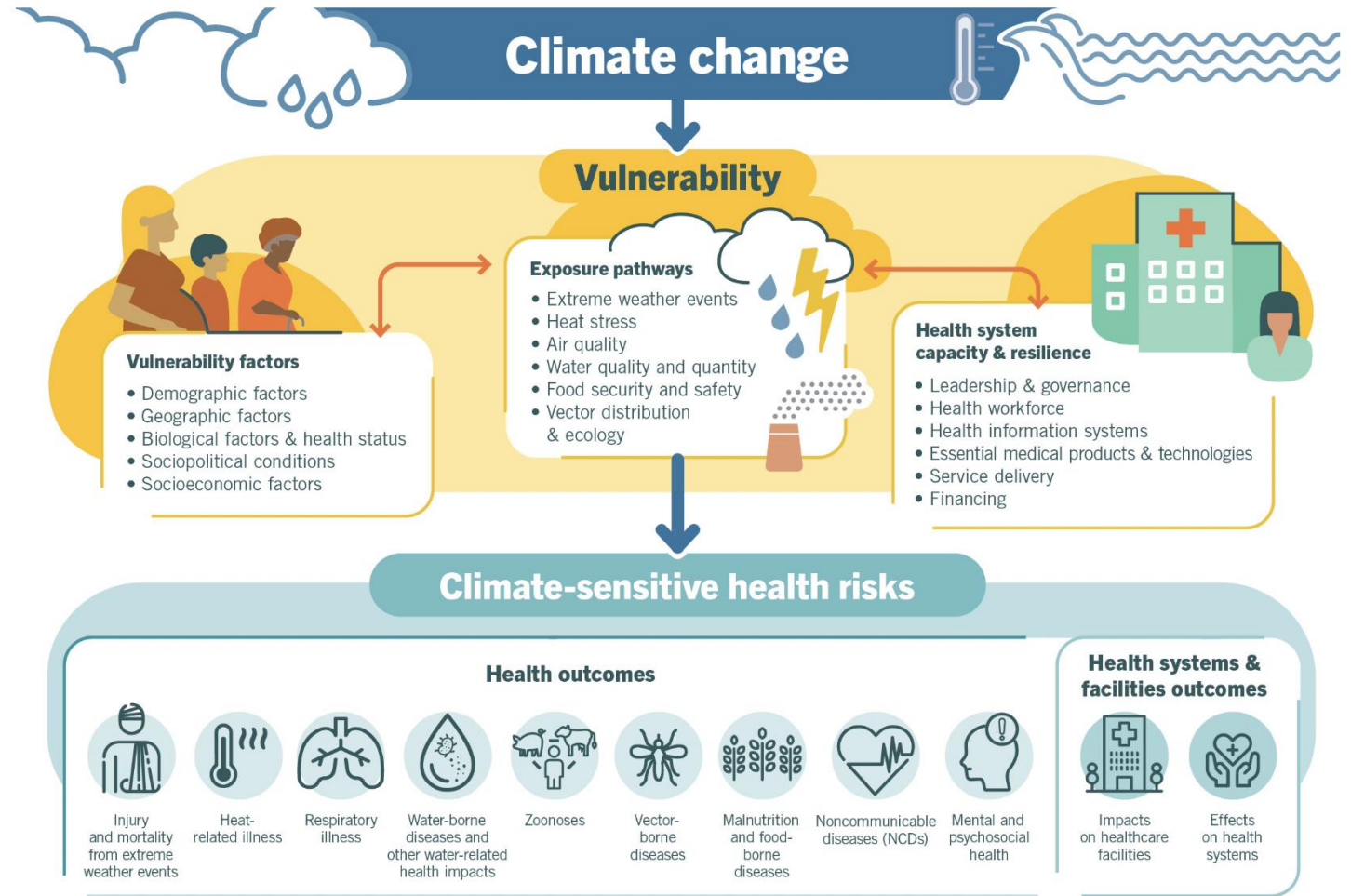
World Health Organization, Geneva (Switzerland)



© Photo: UN Photo/Kibae Park

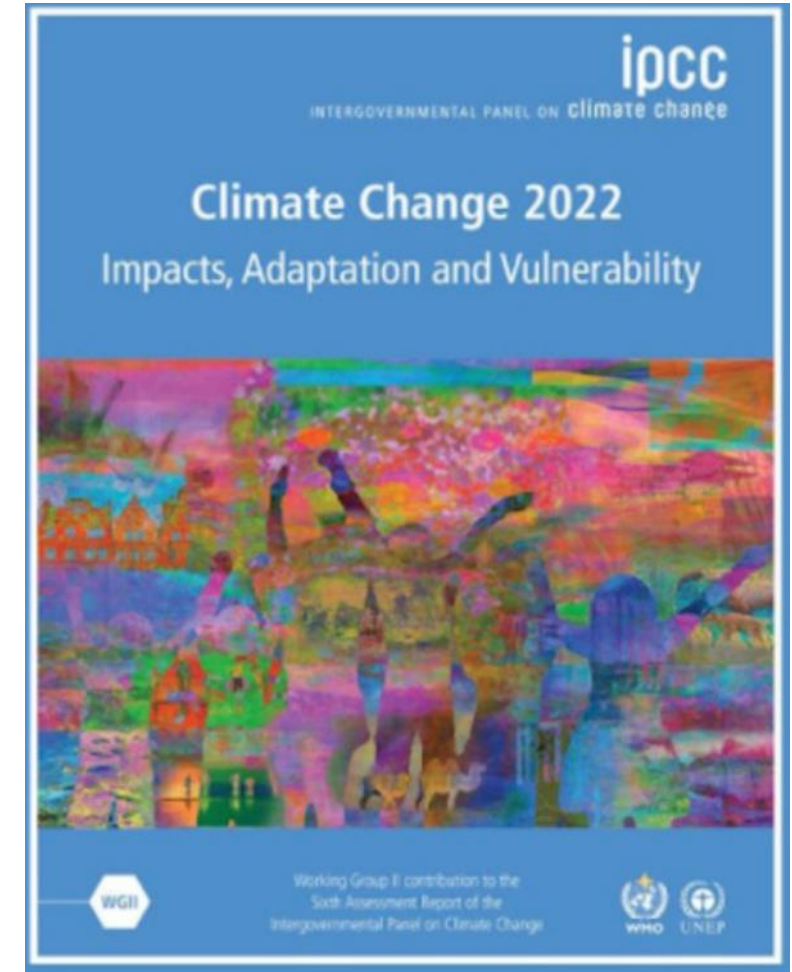
Climate Change & Health

- Between 2030 and 2050 the climate crisis is expected to cause approximately 250,000 additional deaths per year.
- The most vulnerable and disadvantaged, including women, children, ethnic minorities, poor communities, migrants, older populations are at heightened risk.



MNCH and the unique vulnerability to climate change

- Pregnant and postpartum women, newborns and children are uniquely vulnerable to climate change.
- A growing body of epidemiological evidence links climate hazards to adverse MNCH outcomes.
- Climate change additionally threatens MNCH by disrupting the quality, provision and use of health services and care practices in the home.



Initial reviews to support the MNCH community to Identify strategic directions to respond to the challenges and threats caused by climate change.

JoGH Collections

Collection <https://jogh.org/jogh-collections/>

Home

Climate change and health across the life course

Climate change impacts on health across the life course

May 24, 2024

Climate change, air pollution and maternal and newborn health: An overview of reviews of health outcomes

May 24, 2024

Climate change impacts on child and adolescent health and well-being: A narrative review

May 24, 2024

Climate change and healthy ageing: An assessment of the impact of climate hazards on older people

May 24, 2024

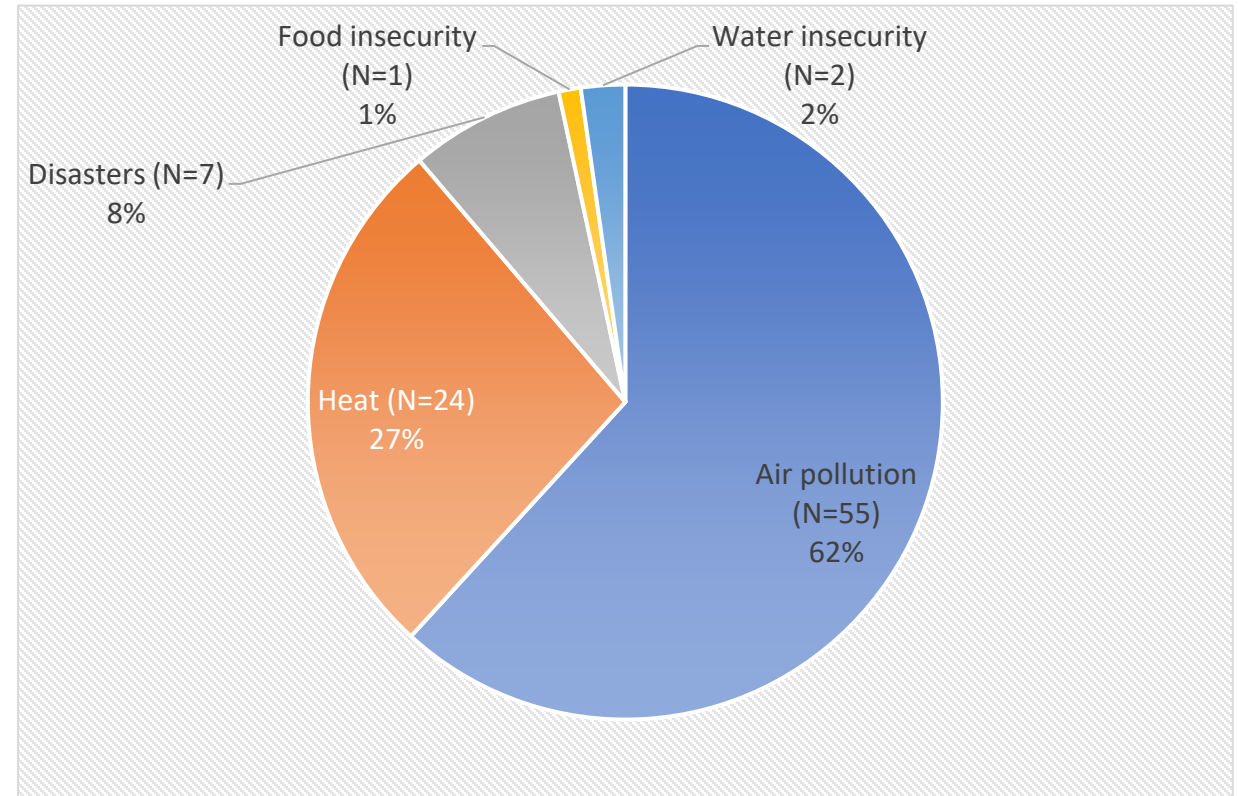


Impact on maternal and newborn health outcomes

Developed by Francesca Conway, Annie Portela, Veronique Filippi, Doris Chou and Sari Kovats

Methodology

- WHO/MCA commissioned a **review of systematic reviews** focusing on climate change impacts on MNH.
- Searches were performed in OVID Medline for reviews published up to February 2023 combining climate risks or hazard terms and MNH terms.
- Additional Google Scholar and hand searches were performed.



Number of included systematic reviews by climate risk or hazards (N=88)

High Ambient Temperatures and Maternal and Newborn Health

Key findings

24 systematic reviews

Maternal Health

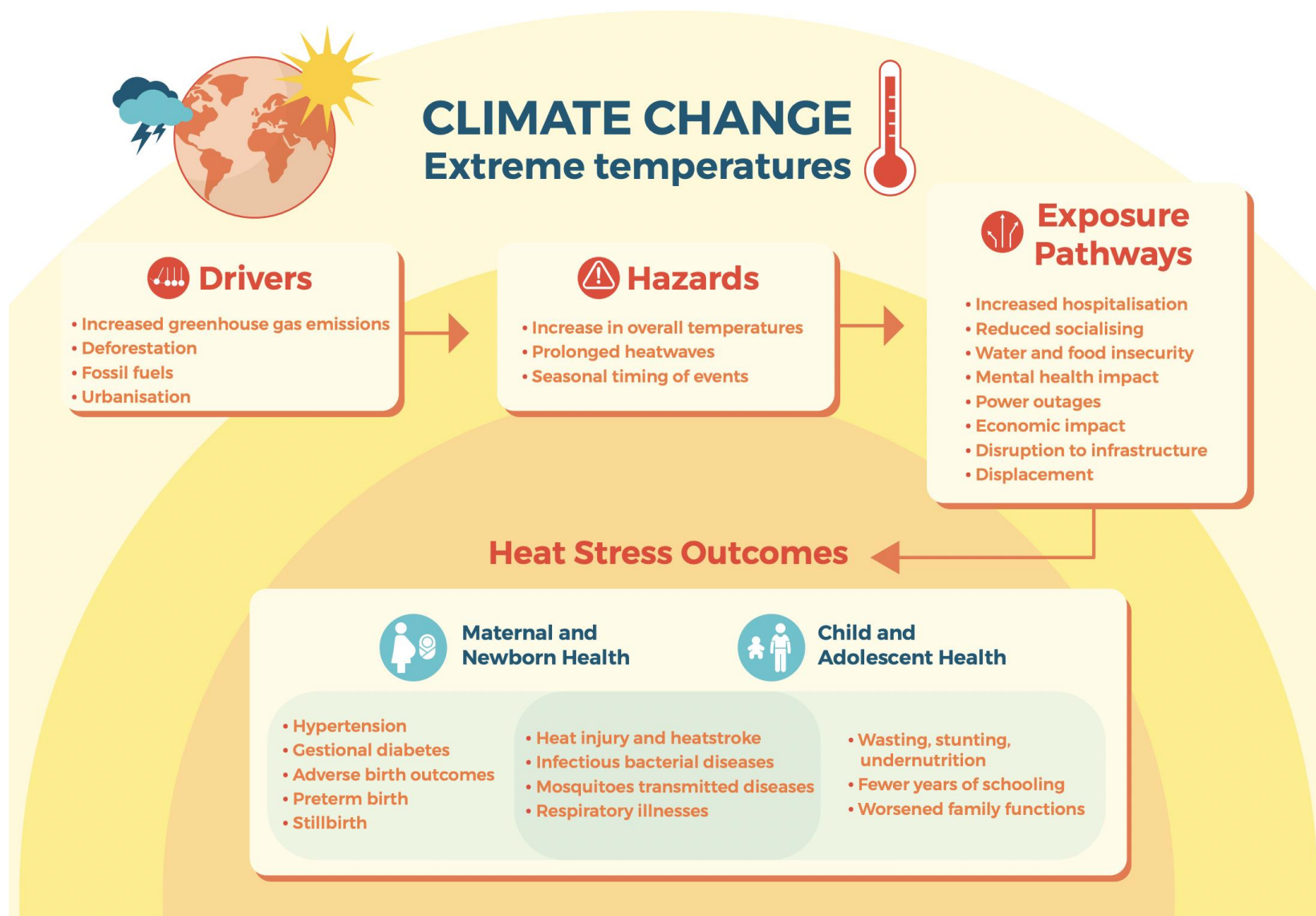
- Hypertensive disorders of pregnancy
- Gestational diabetes
- Mental health
- Access to health services

Fetal and Perinatal Outcomes

- Miscarriage
- Stillbirths
- Preterm births
- Congenital anomalies

Newborn Health

- Low birthweight
- Small for gestational age
- Hospization
- Sub-optimal feeding practices
- Morbidity/mortality







High Ambient Temperatures and Maternal and Newborn Health



Original research

**BMJ
Public
Health**

A scoping review on heat indices used to measure the effects of heat on maternal and perinatal health

Chloe Brimicombe ¹, Francesca Conway,² Anayda Portela ³,
Darshnika Lakhoo,⁴ Nathalie Roos ⁵, Chuansi Gao,⁶ Ijeoma Solarin,⁴
Debra Jackson ^{7,8}

[https://bmjpublichealth.bmj.com/content/bmjph/2/1/e000308.full.p
df](https://bmjpublichealth.bmj.com/content/bmjph/2/1/e000308.full.pdf)



Air Pollution and Maternal and Newborn Health

55 systematic reviews



Key findings (continued)

Maternal Health

- Hypertensive disorders of pregnancy
- Gestational diabetes
- Mental health
- Access to health services

Fetal and Perinatal Outcomes

- Miscarriage
- Stillbirths
- Preterm births
- Congenital anomalies
- Intrauterine growth restriction

Newborn Health

- Low birthweight
- Small for gestational age
- Hospitalization
- Sub-optimal feeding practices
- Morbidity/mortality



Weather disasters (floods, windstorms) and Maternal and Newborn Health

1 systematic review

Key findings (continued)

Maternal Health

- Mental health
- Mortality

Fetal and Perinatal Outcomes

- Miscarriage
- Congenital anomalies
- Preterm birth

Newborn Health

- Low birthweight
- Morbidity
- Sub-optimal feeding practices
- Poor developmental outcomes later in life



Food security & water quality/accessibility and Maternal and Newborn Health

3 reviews



Key findings (continued)

Maternal Health

- Hypertensive disorders of pregnancy
- Mortality
- Mental health

Fetal and Perinatal Outcomes

- Intrauterine growth restriction
- Preterm birth

Newborn Health

- Sub-optimal feeding practices



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Vector borne diseases and Maternal and Newborn Health

0 reviews with direct link to climate change



Key findings (continued)

Maternal Health

- Maternal anaemia (malaria)
- Hypertensive disorders of pregnancy
- Postpartum Haemorrhage
- Mortality

Fetal and Perinatal Outcomes

- Miscarriages
- Congenital anomalies
- Stillbirths
- Preterm births

Newborn Health

- Low birthweight
- Small for gestational age
- Hospitalization
- Morbidity/mortality

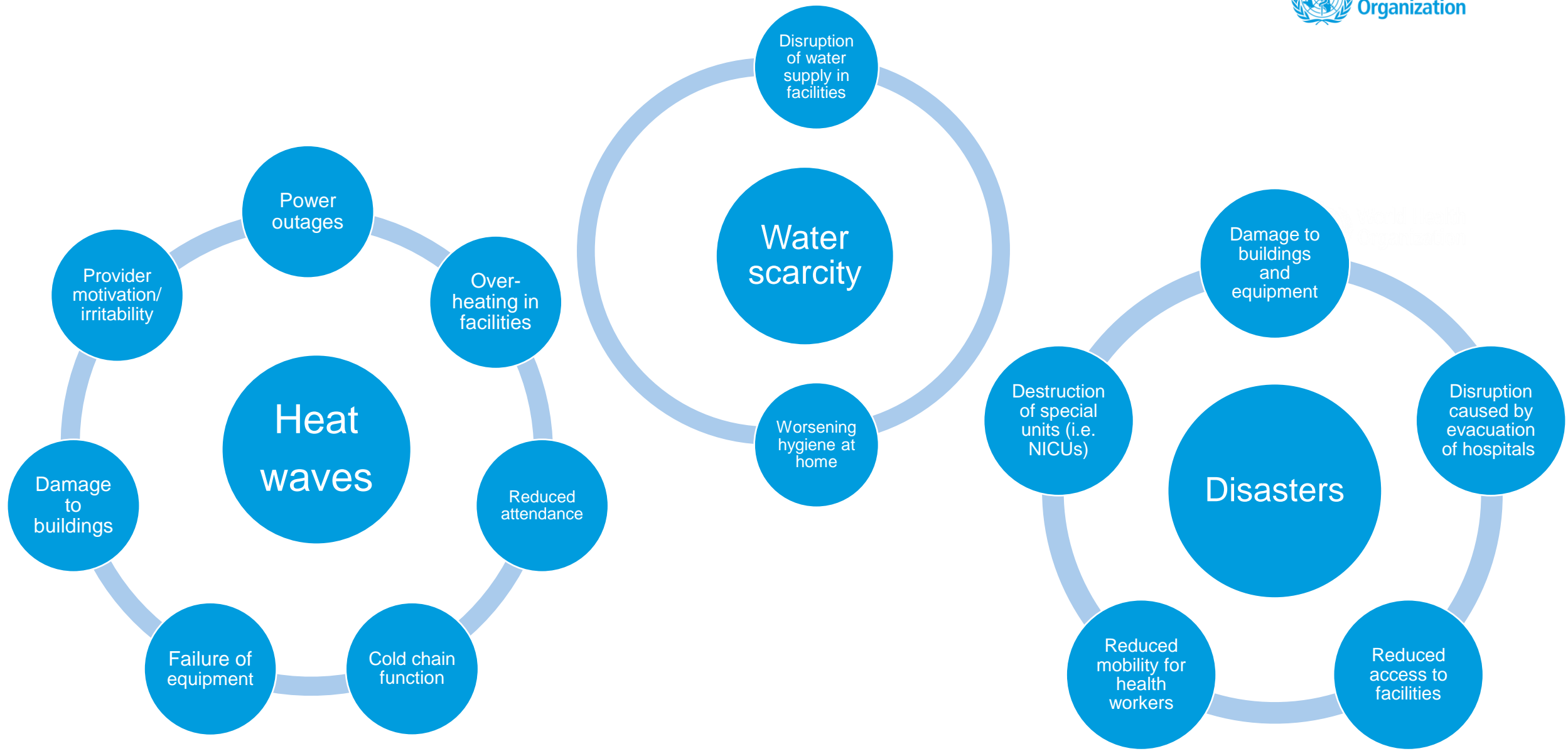


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Key Findings (MNH)

High Ambient temperatures	Air pollution*	Floods and windstorms	Food security & water quality/accessibility	Vector-borne disease**
Maternal health				
<ul style="list-style-type: none"> Hypertensive disorders of pregnancy Gestational diabetes Mental health Access to health services 	<ul style="list-style-type: none"> Hypertensive disorders of pregnancy Gestational diabetes Mental health Access to health services 	<ul style="list-style-type: none"> Mental health Mortality 	<ul style="list-style-type: none"> Hypertensive disorders of pregnancy Mortality Mental health 	<ul style="list-style-type: none"> Maternal anaemia (malaria) Hypertensive disorders of pregnancy Postpartum Haemorrhage Mortality
Fetal and perinatal health				
<ul style="list-style-type: none"> Miscarriage Stillbirth Congenital anomalies Preterm birth 	<ul style="list-style-type: none"> Miscarriage Stillbirth Intrauterine growth restriction Congenital anomalies Preterm birth 	<ul style="list-style-type: none"> Miscarriage Congenital anomalies Preterm birth 	<ul style="list-style-type: none"> Intrauterine growth restriction 	<ul style="list-style-type: none"> Miscarriages Congenital anomalies Stillbirths Preterm births
Newborn health				
<ul style="list-style-type: none"> Low birth weight Small-for-gestational age Hospitalization Morbidity Mortality Sub-optimal feeding practices 	<ul style="list-style-type: none"> Low birth weight Small-for-gestational age Hospitalization Morbidity Mortality Sub-optimal feeding practices 	<ul style="list-style-type: none"> Low birth weight Morbidity Sub-optimal feeding practices Poor developmental outcomes later in life 	<ul style="list-style-type: none"> Preterm birth Sub-optimal feeding practices 	<ul style="list-style-type: none"> Low birth weight Small-for-gestational age Morbidity Hospitalization Mortality
* Ambient air pollution and household air pollution				

Climate Change Maternal and Newborn Health Services



Gaps in evidence

- Despite progress, many gaps in the knowledge base regarding the impact of climate change on MNH persist.
- A large part of the evidence is **indirect, and few systematic reviews** explore the effects of climate hazards on MNH. Evidence on newborns is particularly scarce.
- **Estimating the impact and scale of the associations** between climate hazards and MNH is challenging.
- There is a lack of studies investigating how climate change interferes with health care delivery for MNH.
- Research from **low-and-middle income countries** is lacking.
- A **standard and common definition of climate hazards and standard definitions for MNH** would be beneficial to compare findings across studies.



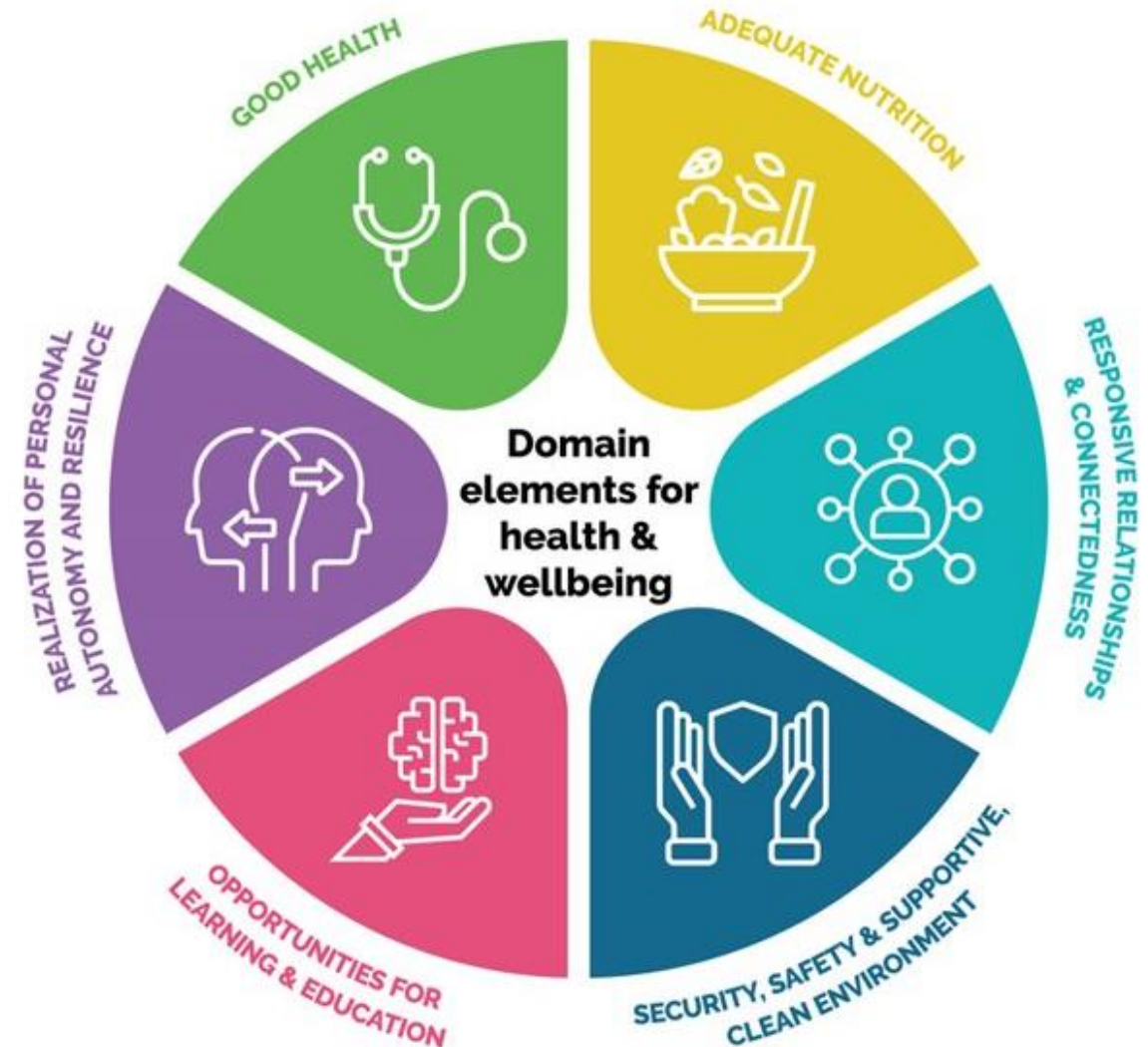
Impact on child and adolescent health and wellbeing

Paper developed by Kerrie Proulx, Bernadette Daelmans, Valentina Baltag and Prerna Banati



Methodology

- **Overviews and 19 systematic reviews** published since 2012 were identified in PubMed and Google Scholar.
- Search terms were specific to each of the six domains (as in the figure).
- Reference lists from the review articles were reviewed for additional systematic reviews and individual studies.
- For two domains (learning and autonomy), individual studies are presented instead, focusing on LMIC evidence where available.



Key Findings (CAH)

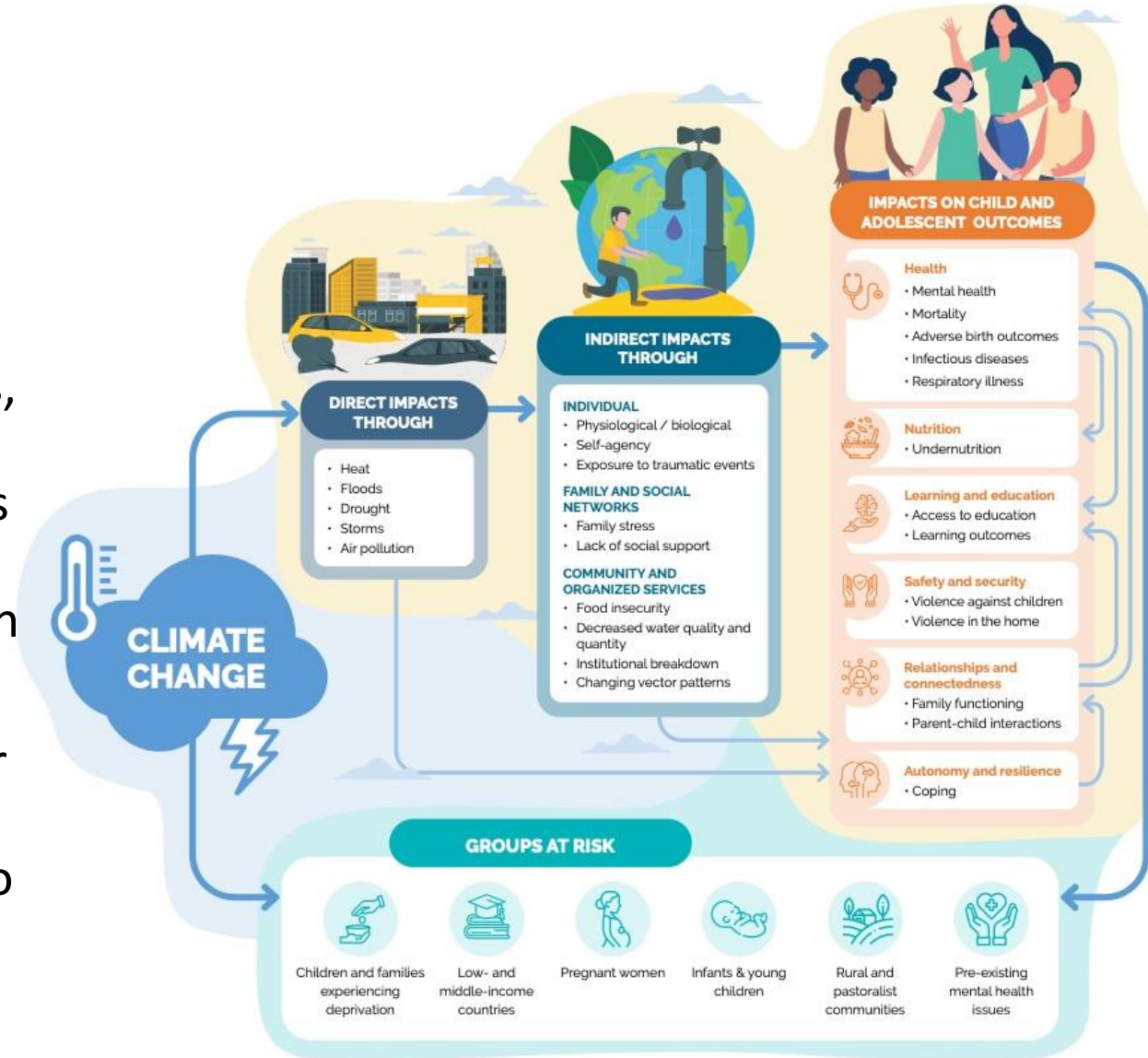
Health conditions	Nutrition	Learning and education
<ul style="list-style-type: none">• Respiratory diseases including risk of asthma due to heat and air pollution• Gastrointestinal disease• Vector-borne disease• Increased infant mortality due to extreme heat.• Association between higher temperatures and all-ages childhood mortality inconsistent.	<ul style="list-style-type: none">• Wasting, stunting, and being underweight, especially for rural children due to excessive rainfall, extreme temperatures, and drought.• Young children are particularly vulnerable to undernutrition associated with climate-related events.	<ul style="list-style-type: none">• Interruptions in schooling• (Poorer educational outcomes)• (Lower cognitive development)
Safety and security	Responsive caregiving	Autonomy and resilience
<ul style="list-style-type: none">• Increases in domestic violence• Stress due to domestic or intimate partner violence.• Deteriorated family functioning, family conflict, and hostile parenting following extreme weather events	<ul style="list-style-type: none">• Poor caregiver and child mental health• Depression and PTSD following extreme weather• Compromised caregiving practices	<ul style="list-style-type: none">• Anxiety and stress, lack of agency• Climate change movement driven by youth engagement– younger school pupils and especially girls

Potential Pathways (CAH)

Evidence on the mechanisms that link climate change to child and adolescent health and well-being remains limited and incomplete.

The following are some proposed pathways.

- Individual-level: infants and young children are physiologically vulnerable and lack self-agency to respond to climate risks, particularly extreme heat and pollution.
- Family-level: loss of financial resources, livelihoods, or housing from climate events contributes to undernutrition and disruption to education; causes family stress; can lead to displacement and lack of social support; exacerbates caregiver mental health issues; contributes to poor family functioning.
- Community-level: food insecurity, decreased water quality and quantity, and institutional or health care breakdown from climate events contributes to poor health and other outcomes.



Limitations and knowledge gaps

- Despite progress, many gaps in the knowledge base regarding the impact of climate change on MNCH persist.
- Estimating the impact and scale of the associations between climate hazards and MNCH remains challenging due to:
 - considerable statistical heterogeneity across studies
 - marked methodological diversity in exposure management and analysis methods
 - high levels of non-differential bias in exposure and outcome measures
 - many potential biases in reproductive health epidemiology
 - limited data on newborns
 - few studies from heavily affected areas (limited geographical scope)
 - limited analysis beyond demonstrating associations
- There are few studies investigating how climate change affects MNCH service delivery.



HIGH Horizons?



Heat Indicators for Global Health:

monitoring, Early Warning Systems and health facility interventions for pregnant and postpartum women, infants and young children, and health workers

1 September 2022 - 31 August 2026

HIGH Horizons is funded by the European Union's Horizon Research and Innovation programme under Grant Agreement number 101057843. Project partner LSHTM is funded by UKRI Innovate UK reference number 10038478.



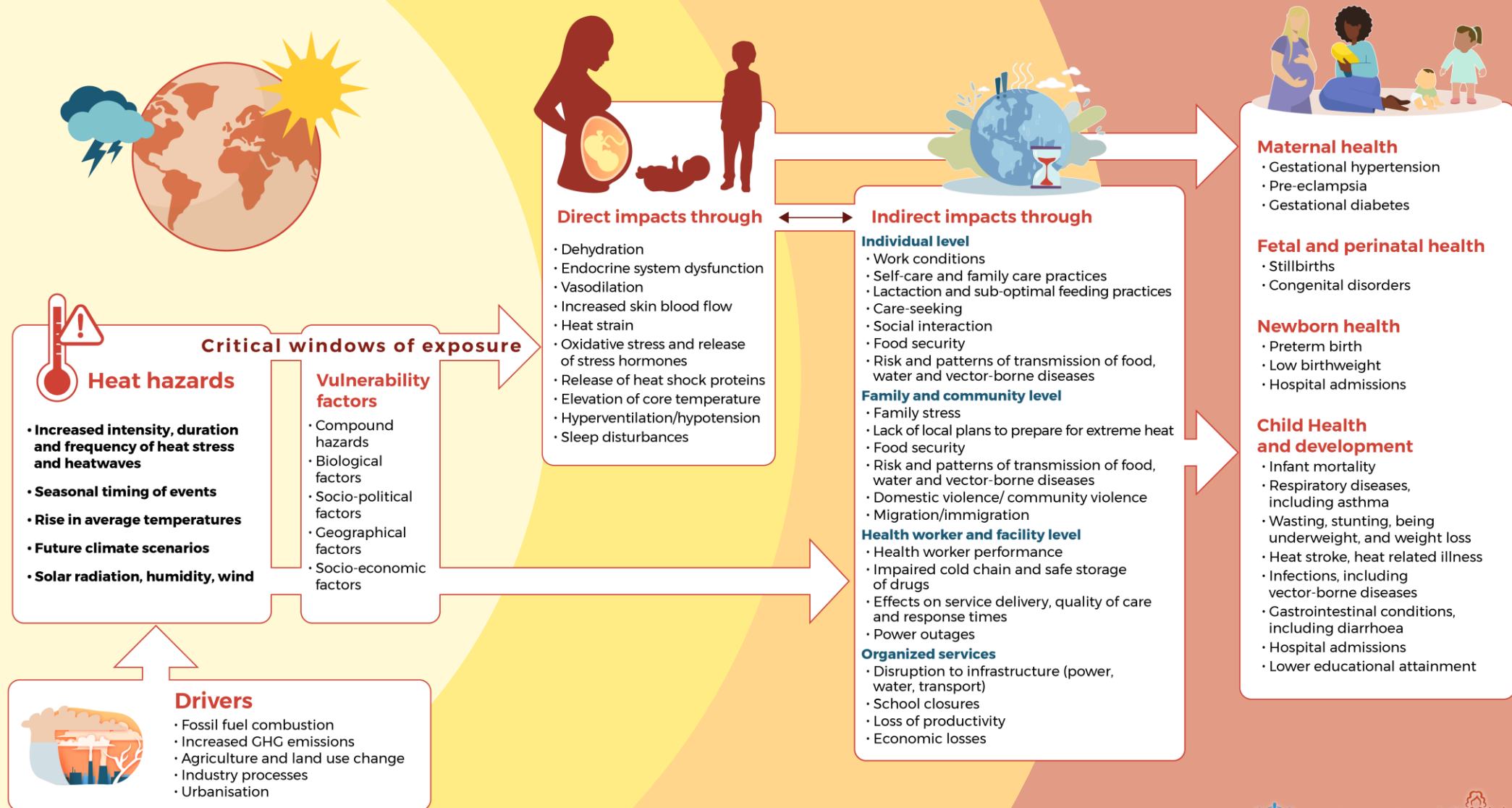
Funded by
the European Union



Innovate
UK

Conceptual framework

Extreme heat and maternal, newborn and child health



WHO/UNICEF/UNFPA/WMO publication on global and national indicators for monitoring impact of heat on MNCH



*What is **has been done**?*

Inventory of actions to protect MNCH from heat & air pollution

Department of Maternal, Newborn, Child
and Adolescent Health and Ageing (MCA)
World Health Organization, Geneva
(Switzerland)



Climate Change and Maternal and Newborn Health: the need for Action

Short communication

Short communication: The global health community needs to start planning for the impact of the climate crisis on maternal and newborn health



Skye Wheeler*, Elena Ateva, Robyn Churchill, Elizabeth Pleuss, Betsy McCallon, Andrew Storey, Muhammad Ihatsham Akram, Maria Teresa Carpio, Yogan Pillay, Olufunke Fasawe

Human Rights Watch, United States

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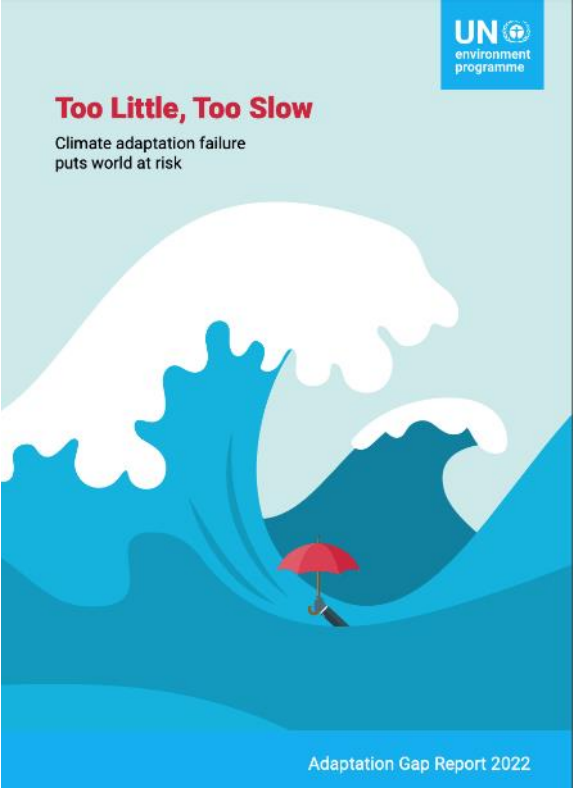
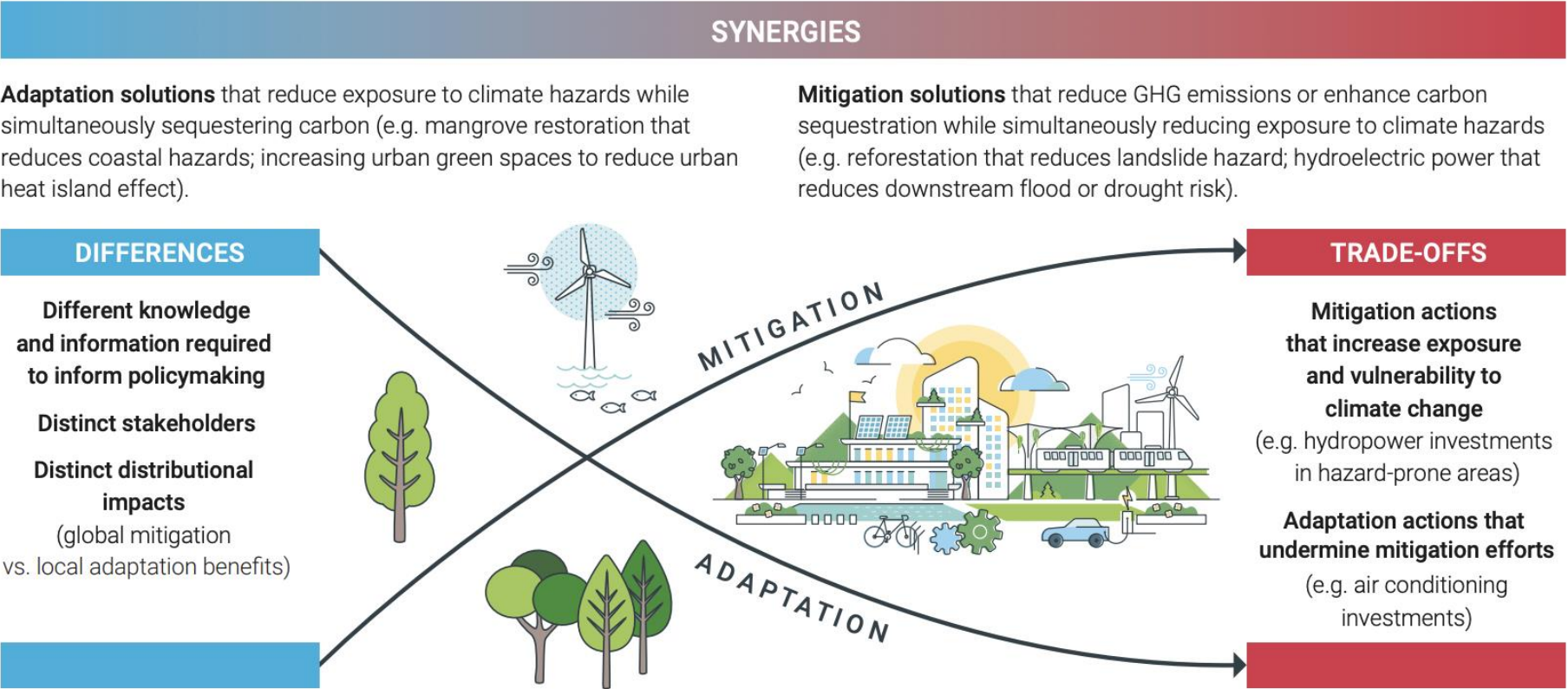
Neonatal mortality

ABSTRACT

The climate crisis will worsen already high rates of maternal and newborn mortality and adverse birth outcomes, exacerbating existing inequities between and within countries. Governments should consider beginning plans for responses now, engaging with partners such as national and international non-governmental organizations, local civil society groups, the private sector and donors, and the wider global community, to commence implementation of relevant policy and health service delivery measures while accelerating ongoing efforts to better improve maternal and newborn health.

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Figure ES.6 Aligning climate change mitigation and adaptation action: differences, synergies and trade-offs



Source: Adapted from OECD (2021a). Strengthening adaptation-mitigation linkages for a low-carbon, climate-resilient future. OECD Environment Policy Papers, No. 23. Paris: OECD Publishing. <https://doi.org/10.1787/6d79ff6a-en>.

WHO/MCA's work on Heat and Air Pollution and MNCH

Inventory of actions:

- The evidence from the WHO/MCA commissioned reports synthesizing the impacts of CC on MNCH mostly focused on **heat** and air **pollution**.
- For this reason, WHO/MCA has developed an **inventory** to map implemented responses targeted towards reducing the impacts of heat and/or air pollution on MNCH.
- The inventory collects examples of interventions implemented at community, sub-national and national level, whether evaluated or not.
- Information extracted from both peer-reviewed and grey literature is included in the inventory.



**Interventions to Safeguard Maternal,
Newborn, and Child Health From
Extreme Heat and Air Pollution**
A Mapping of the Literature

Methodology

- Searches were performed in two phases:
 - Phase I: three electronic databases (OVID Medline, EMBASE and Global Health) combining an extensive list of search terms, compiled to capture key populations, interventions and climate hazards (heat and/or air pollution). Papers published between 2016 and 2022 were included, no restrictions were applied with regards to country and language. Colleagues and relevant networks of experts on climate change and/or MNCH were also consulted for relevant document.
 - Phase II (*ongoing*): Searches of repositories of grey literature were also conducted, including websites of UN-agencies, NGOs, climate change research centers and alliances.

Key Findings (Phase I)

- 91 references were included in the inventory
- The majority of references included were from high-income-countries (the majority from the United States, 30%), with a focus on the region of the Americas and Europe.
- References from the Eastern Mediterranean, Southeast Asian and African regions was scarce.



Key Findings (Phase I)

- **79 references related to air pollution** (of which, 60 evaluated), with the majority focusing on **child health**; the most common type of intervention was the **use of air filters or purifiers** targeting targeting CO and ultrafine particulate matter.
- **Only 14 references related to heat**, with the majority focusing on **child health** and the health of the general population; **policy interventions were the most common**, followed by urban landscape management.

	Air pollution	Extreme Heat
References	79	14
Populations		
Maternal & Newborn health	11	3
Children	57	8
General population	25	8
Type of intervention		
Behaviour change interventions for women, children, families and communities	47	3
Behaviour change interventions for health workers	4	2
Health system interventions	5	2
Structural changes to health facilities	0	1
Policy	22	6
Urban Landscape Management	6	5
Digital interventions	5	0
Other interventions	1	5

Heat— Examples of behavioural adaptations

Cooling garments:
Cooling vests

Rest Breaks

Hydration

Acclimatisation

**Pre-cooling
measures**

- Ingestion of 250 ml of water prior work

Clothing

Monitoring

- Environmental
- Physiological
- Self-monitoring

**Early warning
systems**

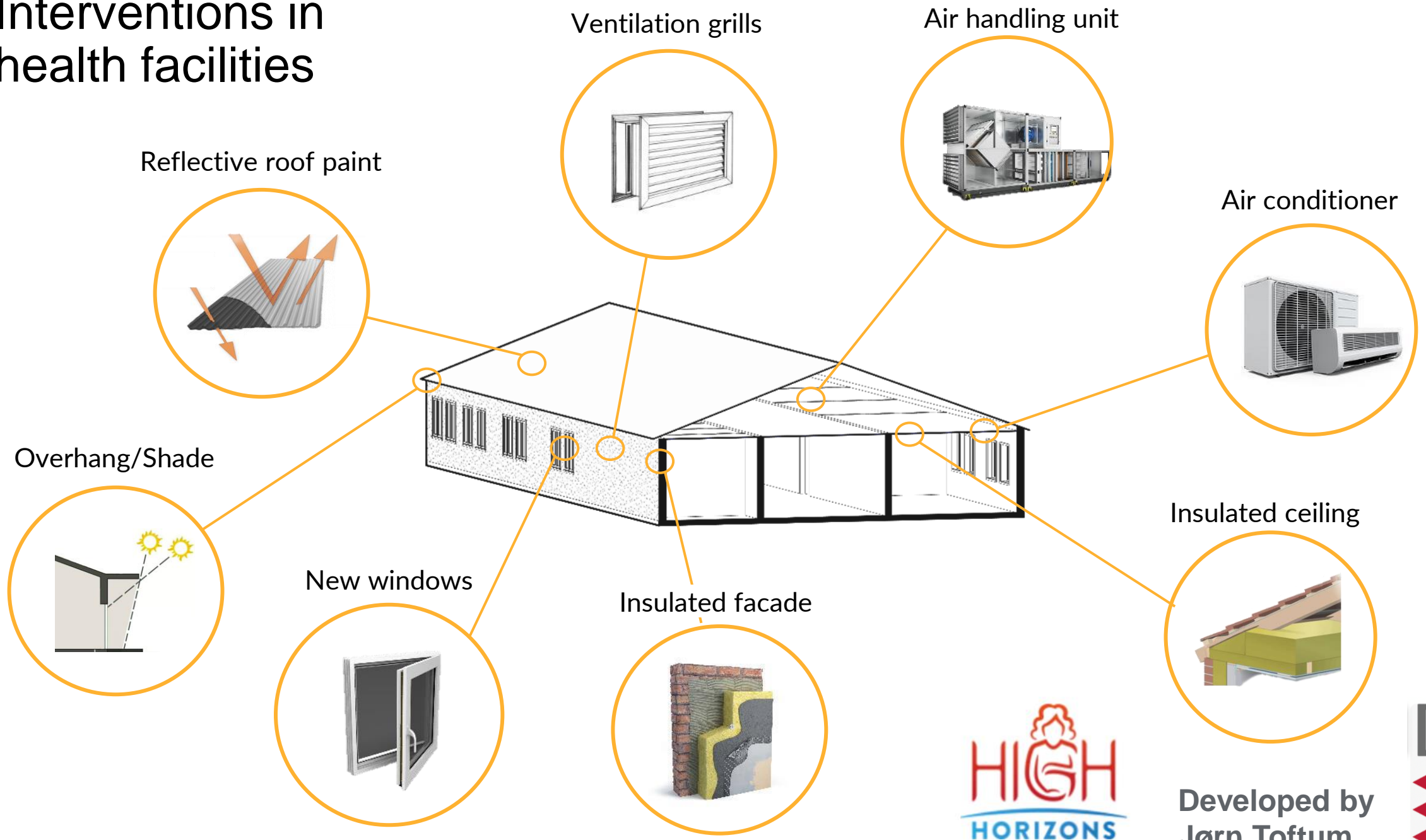
Dietary advice

Buddy system

Summary

- The inventory has several limitations, ranging from the lack of formal quality assessment for the included references to language limitations, to the acknowledgement that health focused electronic databases were searched to find peer-reviewed references. In addition not all interventions included in the inventory were evaluated.
- Nonetheless the (initial) findings demonstrate that :
 - There is a limited number of interventions addressing extreme heat, most are targeted toward air pollution;
 - Few interventions are designed for pregnant women and newborns, even fewer for postpartum and lactating women; the majority are targeted towards children and the general population;
 - Most interventions have been implemented in high-income-countries, evidence from low-income countries is generally scarce as is the evidence from heavily affected areas (South- East Asia, Africa and Eastern Mediterranean region);
 - Longitudinal evaluations are lacking, with the most intervention evaluations spanning weeks or less than 12 months;
 - Health workers are overlooked as effective change makers;
 - Interventions targeting the workplace are lacking.

Interventions in health facilities



Heat – Health systems and heat preparedness and management

The document highlight the need for health care facilities to define a plan to be adopted against high temperatures:

- preparedness of health care providers and facilities for the hot season, including for adequate treatment and care of heat-related illnesses;
- building modifications and interventions to reduce indoor overheating in health care facilities (such as air-conditioned rooms and wards);
- thermal environment standards for hospitals;
- reductions of the carbon footprint of health care facilities and promotion of environmentally sustainable interventions



Heat and health in the WHO European Region:

updated evidence for
effective prevention

February
2021

Content analysis of heat health plans and MNCH

- We identified 83 plans from 24 countries with MNCH content
- Largely from high- and middle-income countries
- Most of these identify risk for children (83%), many for pregnant women (52%), less for newborns/infants (39%) and less for postpartum/breastfeeding women (14%)
- Activities include:
 - Information, education and awareness raising
 - Providing material or financial assistance
 - Improving care in health service or school settings
 - Improving infratructures in healht services, community or school settings
 - Improving work conditions for pregnant/postpatum women



Next steps for WHO/MCA

- *Continue* close collaborations with WMO, UNICEF, UNFPA and other partner agencies
- *Publish* the inventory of actions to protect MNCH from heat and air pollution and the content analysis of heat health plans.
- *Identify* indicators to monitor the impact of heat on MNCH in (EU and UKRI funded HIGH Horizons project
- *Develop* global messages for heat and MNCH, identify priority manifestations of heat stress in pregnant women, newborn and children for clinical guidance and early notification systems, develop inventory of promising interventions and next steps for building the evidence base



© Mohammad Al-Arief/World Bank

Panel discussion: Experiences from the field

AM Session

Ahammadul Kabir, Programme Officer Climate Change, WHO Bangladesh

Raja Ram Pote Shrestha, National Professional Officer, WHO Country Office, Nepal

Tomasia de Sousa, Senior Technical Officer, MOH Timor-Leste

Bounthanom Phimmasone, Director of Hygiene Management Division of the Department of Hygiene and Health Promotion, MOH Lao PDR and

Souvanaly Thammavong, Technical Officer, WHO Lao PDR

Facilitated by **Faustina Gomez**, Technical Officer Climate Change and Health, WHO SEARO



**World Health
Organization**

Agenda

PM Session

Time	Agenda item	Speaker
15:00 – 15:05	Welcome	Yiqi Pan , Technical Officer, Climate Change and Health Unit, WHO
15:05 – 15:20	Opening and setting-the-scene	Miriam Ciscar Blat , Head of the Sectoral Cooperation Department of the Multilateral, Horizontal and Financial Cooperation Directorate, AECID Alia El-Yassir , Director, Gender, Equity, Diversity and Rights for Health Department, WHO
15:20 – 15:35	Introduction to gender, climate change and health	Elena Villalobos Prats , Capacity Building and Country Support Lead, Climate Change and Health Unit, WHO
15:35 – 15:50	Gender, equity and climate-resilient water safety plans	Rory McKeown , Technical Officer, Water, Sanitation, Hygiene and Health Unit, WHO
15:50 – 16:25	Panel discussion: Experiences from the field Q&A	Brama Koné , Technical Officer Climate Change and Health, WHO AFRO Peter Berry , Climate Change and Health Office, Health Canada Malala Ranarison , National Professional Officer, WHO Madagascar Facilitated by Amy Savage , Technical Officer Climate Change and Health, WHO
16:25 – 16:30	Close webinar	Amy Savage

Gender, equity and climate-resilient *water safety plans*

Dr Rory Moses McKeown
WHO, Switzerland

Technical series: Gender, climate change & health

16 October 2024



OVERVIEW

- 1. Key principles of water safety planning**
- 2. Strengthening climate resilience and equity through water safety plans (WSPs)**
- 3. Resources to support water safety planning**

SAFE DRINKING-WATER, EQUITY AND RESILIENCE



Challenges

Disadvantaged groups face increased risks & burdens due to climate change



Impacts

Inequalities limit these group's access to safe water & increase risk of illness, with adverse social & economic impacts



Opportunities

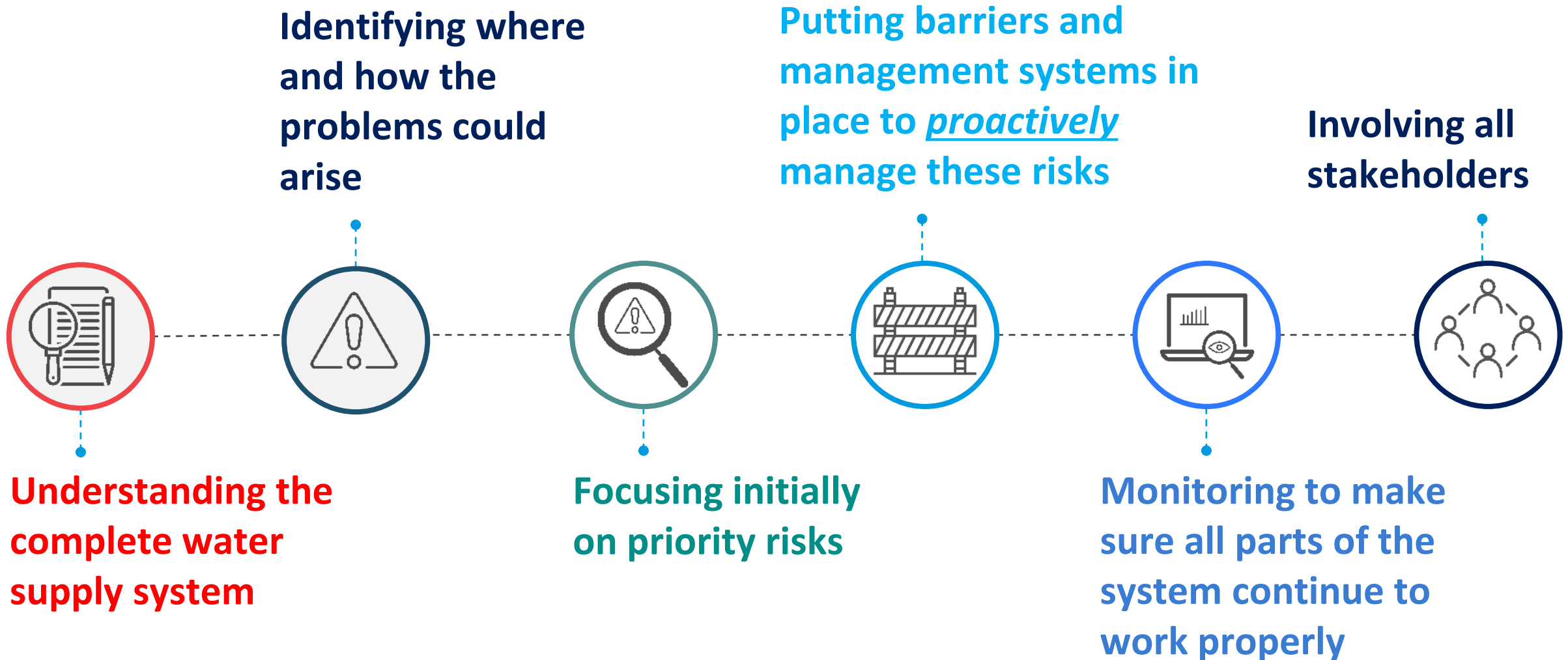
Considering these groups in safe drinking-water management practices can improve public health & reduced inequalities

WATER SAFETY PLANNING (WSP)



WSP

A comprehensive **risk assessment & risk management** approach that includes **all steps** in the water supply



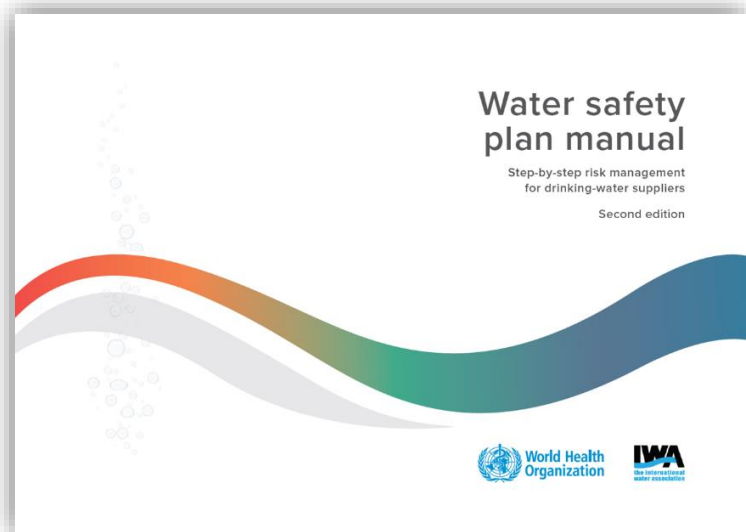
BENEFITS OF WSP

Successful adoption of WSP principles can include:

- ✓ Safeguards public health through the provision of safe and reliable drinking-water services
- ✓ Supports a step-wise and continuous cycle of improvement
- ✓ Strengthens stakeholder engagement
- ✓ Enhances preparedness, response and recovery in emergencies, including climate-related threats
- ✓ Can support safer, more equitable water service delivery

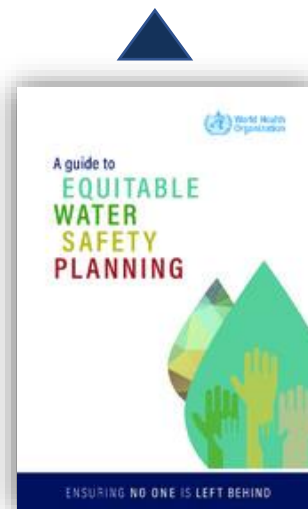


WSP MANUAL, SECOND EDITION (WHO & IWA, 2023)



Reflects over 10 years of practical experience since the first edition (2009)

Streamlined integration of climate resilience and equity into WSPs



STRENGTHENING CLIMATE RESILIENCE THROUGH WSP



*Water supply
infrastructure*



*Operations &
maintenance*

*Water supply &
demand*



User-level practices

INTEGRATION OF CLIMATE CONSIDERATIONS INTO WSP



PREPARATION

Draw on external expertise, to better understand the vulnerability of the system to the effects of climate change

SYSTEM ASSESSMENT

Access climate information to understand how ***past climate events*** that affected the system, and how ***projected changes*** in climate could threaten the system in the future
Assess and prioritize risks, and implement a progressive improvement plan

MONITORING

Consider ***flexible and adaptive monitoring*** programmes to manage climate-related risks

MANAGEMENT AND COMMUNICATION

Develop **management procedures** that consider climate-affected operations and emergencies
Consider capacity building programmes to **support the implementation** of the climate resilient WSP

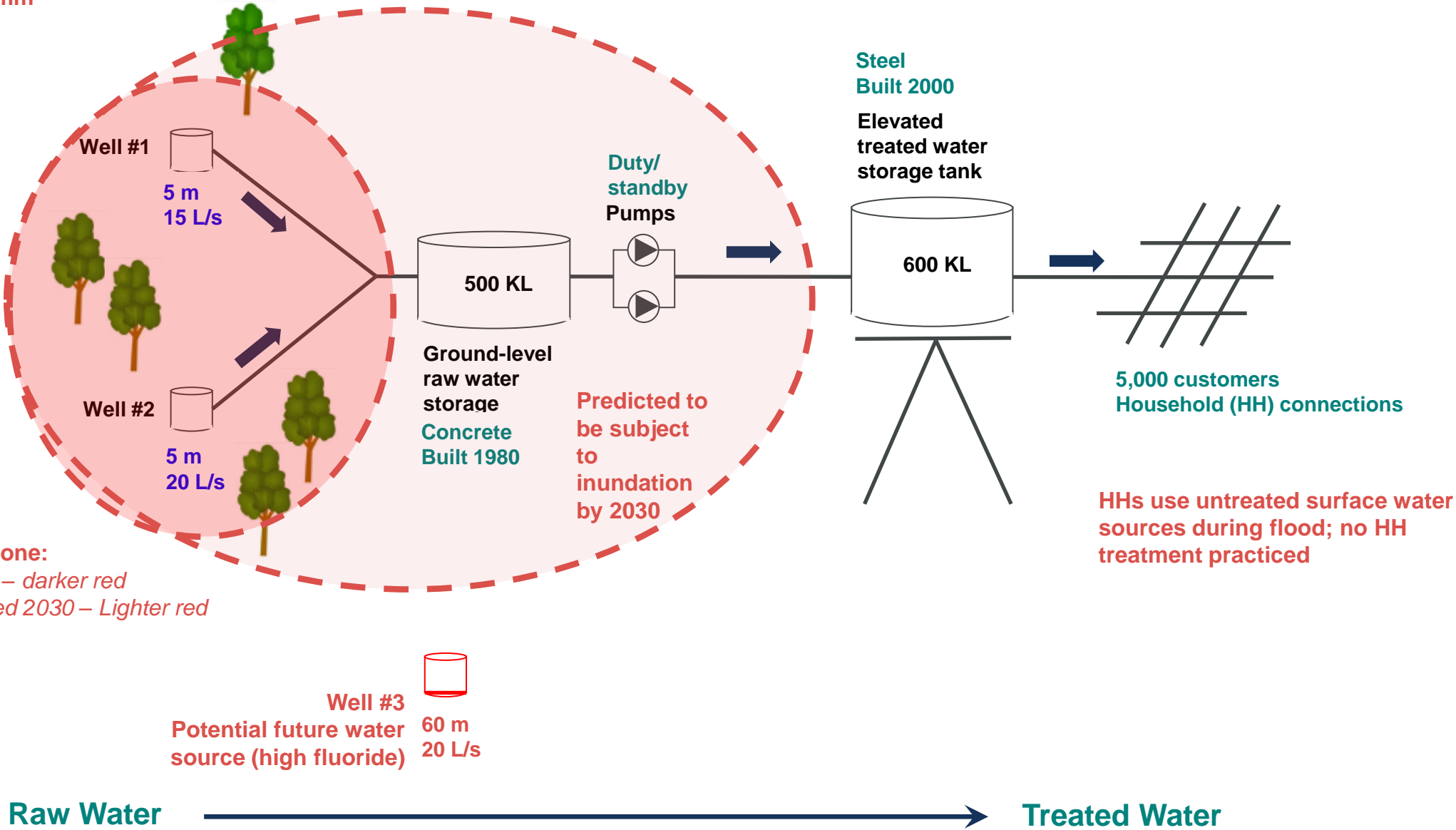
WSP REVIEW AND IMPROVEMENT

Keep the WSP **up to date** based on new climate information and operational experiences

WSPs for enhanced resilience *in practice*

Annual rainfall:
2020 – 75 mm
2030 – 150mm

Protected catchment
(nature reserve)



HHs use untreated surface water sources during flood; no HH treatment practiced

WSPs for enhanced resilience *in practice*

WSPs provide a systematic approach to prioritize current and future climate threats

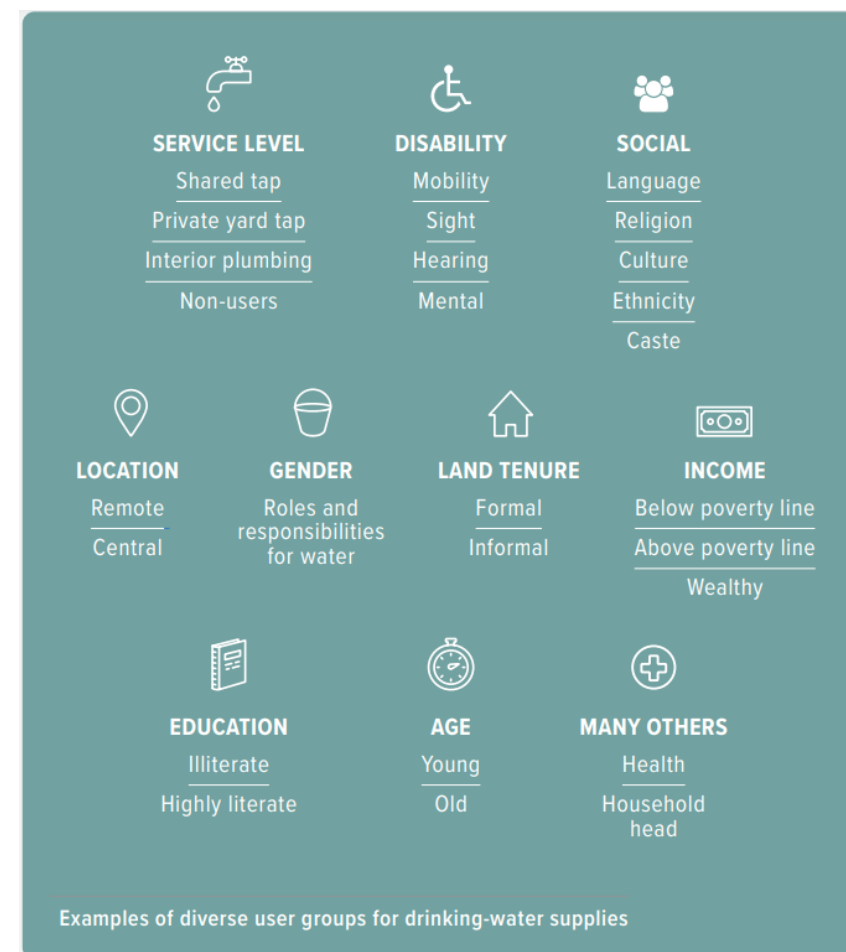
→ considers the implications of climate change at each stage of the water supply

Example climate impacts	Hazardous event	Example improvement measures needed
Increased temperature Reduced precipitation Increased drought	Reduced water quantity due to reduced rainfall and increased user demand	Catchment/source Provision of additional boreholes to supplement existing water source
		Treatment Backwash water recovery program to minimize water wastage
		Distribution/storage Leak detection/mains repair programme
		Household User education on water conservation during drought

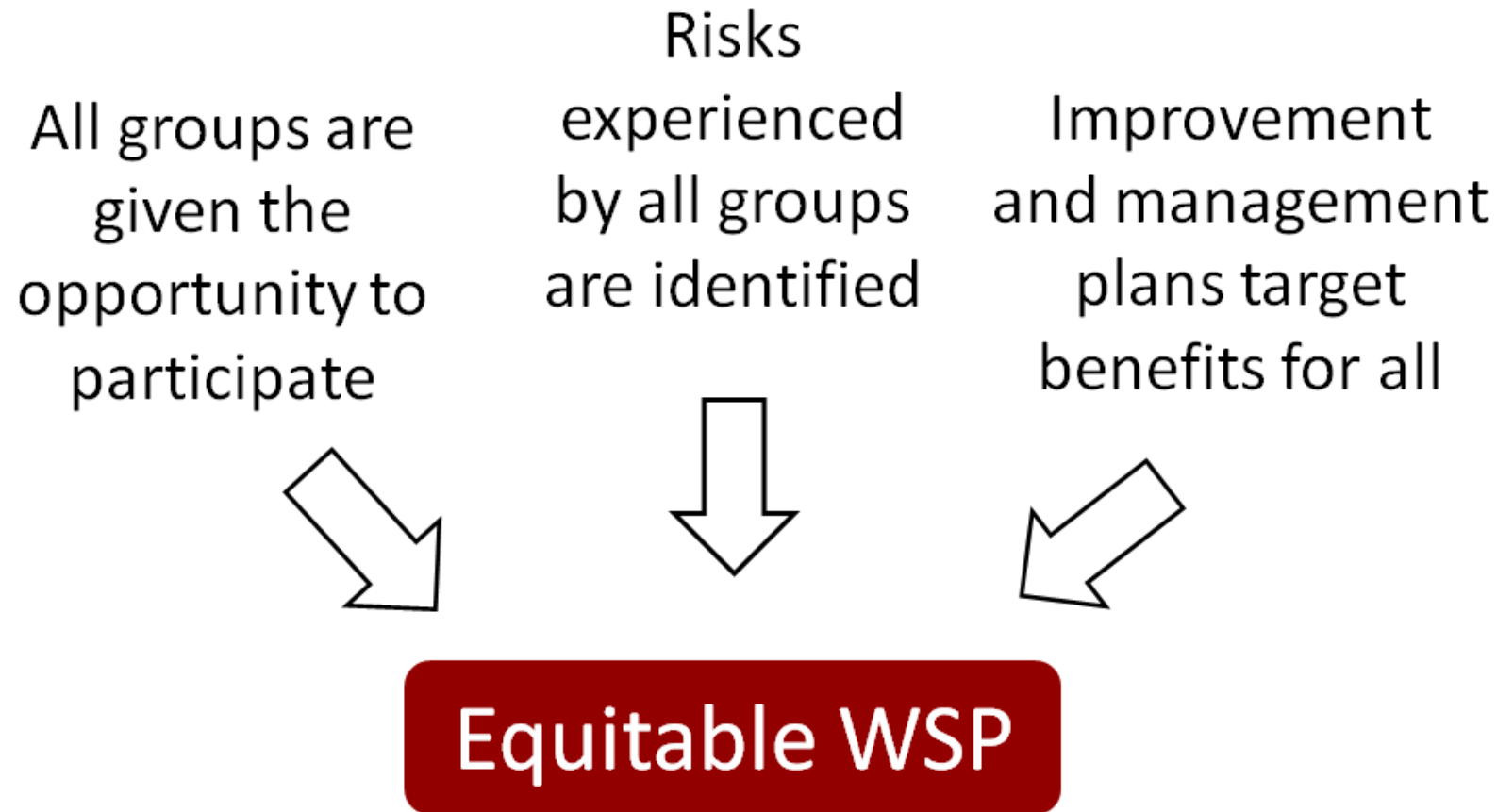
STRENGTHENING EQUITY THROUGH WSP

Vulnerable and disadvantaged user-groups should be explicitly considered in WSPs to help reduce inequalities in access to safe drinking-water

→ Water safety planning can support tangible improvements for the full diversity of water users



Strengthening equity through WSPs: *in practice*



EXAMPLE

Strengthening equity through WSPs: *in practice*

Users of this public tap stand in an informal settlement face different risks than users with a household connection

- Women/girls often responsible for collecting water, which brings about tremendous disadvantages for this group
- Must be considered in the WSP process



STRENGTHENING EQUITY THROUGH WSP

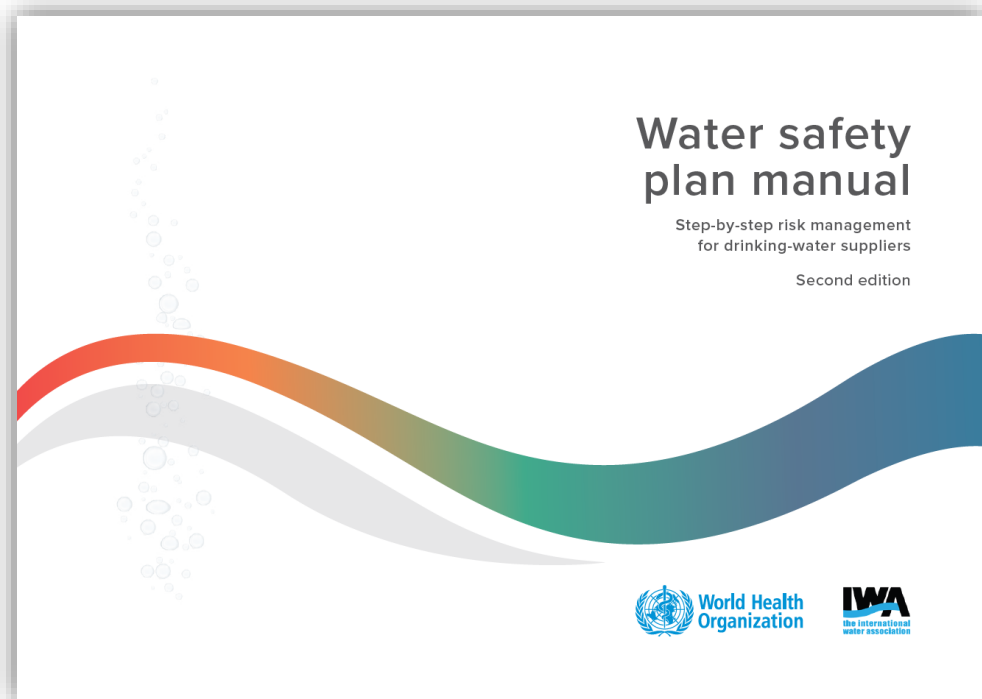
WSPs can support equity if all groups participate in the process and derive equitable benefit from its outcomes

Examples include:

- explicitly considering users in informal settlements when assessing risks
- recognizing the need to compensate stakeholders adversely affected by improvement measures
- considering all users in monitoring programmes
- developing emergency response plans that consider the needs of different groups

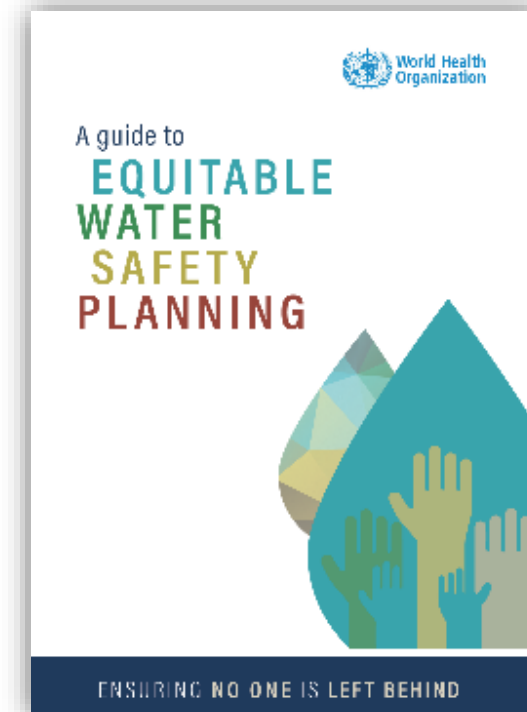


FURTHER GUIDANCE ON WSP

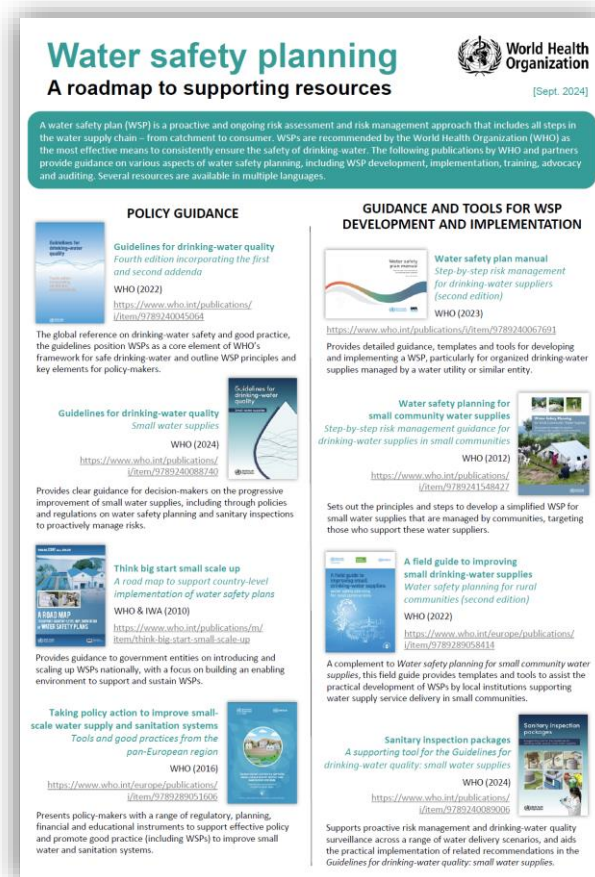
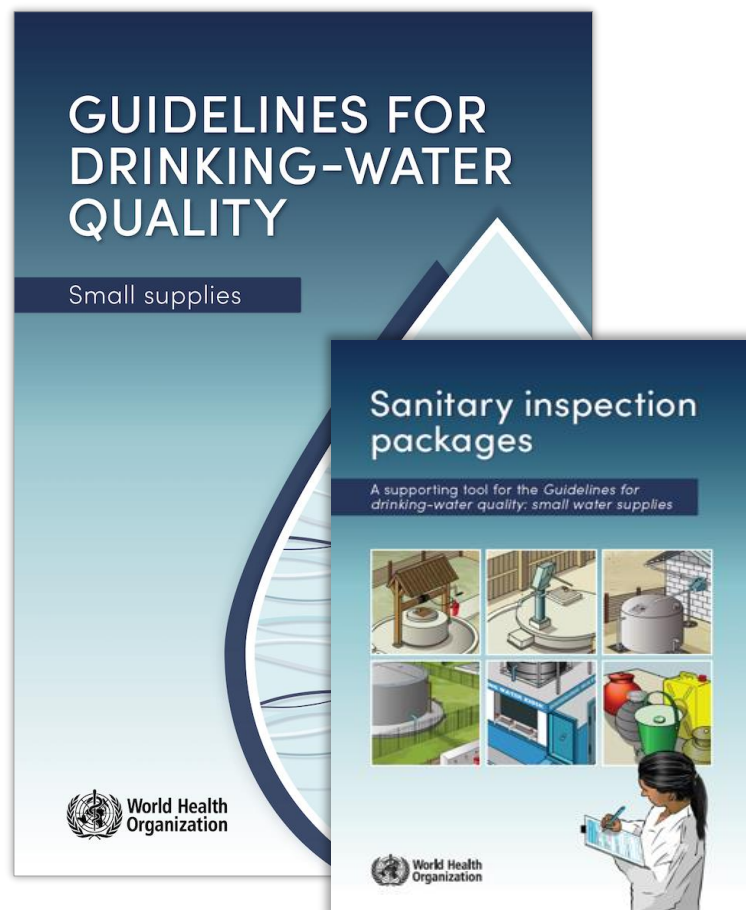


Published March 2023

***Includes a worked example, templates & tools
to support new practitioners***



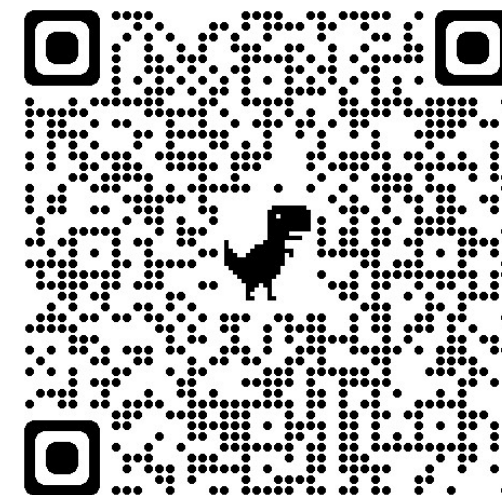
FURTHER GUIDANCE ON WSP



Updated
September 2024

Published 2024

WHO WSH Website ▶



Panel discussion: Experiences from the field

PM Session

Brama Koné, Technical Officer Climate Change and Health, WHO AFRO

Peter Berry, Climate Change and Health Office, Health Canada

Malala Ranarison, National Professional Officer, WHO Madagascar

Facilitated by **Amy Savage**, Technical Officer Climate Change and Health, WHO

Gender, Climate Change and Health

Canadian Experience and Learnings

Peter Berry Ph.D.
Climate Change and Health Office
Health Canada

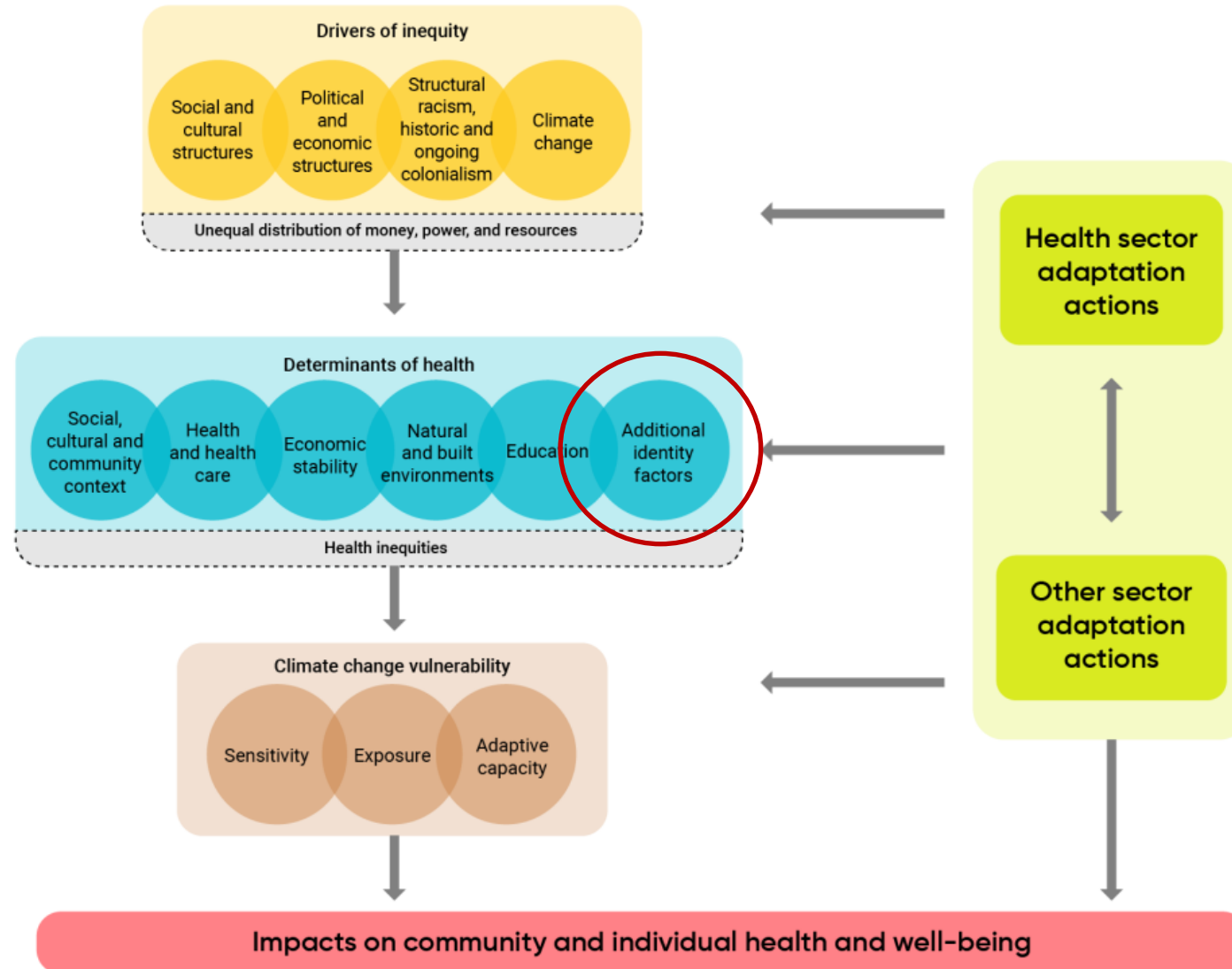
WHO Climate Change and Health
Technical Webinar Series

October 16, 2024

Many Faces of Risk and Resilience



Climate Change and Health Equity Framework

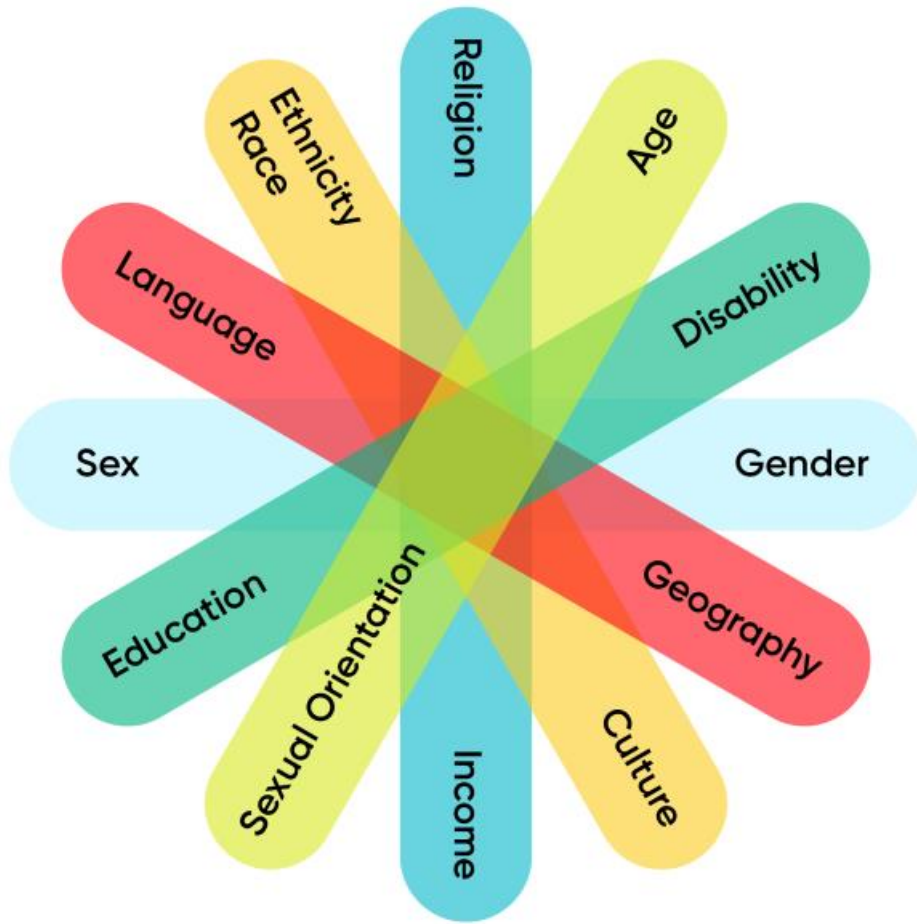


Gender is an important determinant of health and is also a factor influencing climate change vulnerability

Gender Roles that Can Mediate Climate Change Impacts on Health

- Inuit women often take part in traditional livelihood activities, such as berry picking and sewing garments with sealskin. Reduced opportunities and quality of traditionally harvested species have been observed in parts of Canada, in part due to climate change effects, resulting in a reduction in earning potential and a shift in livelihood activities, which can have implications for health and well-being
- Inuit men are traditionally responsible for hunting activities. Given changing ice conditions and other hazards related to climate change (e.g., increased severe wind and flooding), the risk of injury for hunters is increasing
- In Canada, males have been observed to have higher annual hospitalization and ED visit rates for heat-related illnesses than females. In addition, while males and females have similar annual rates of heat-related death, males had higher heat-related mortality rates in older age.
- Following extreme weather events, 2SLGBTQI+ populations often face barriers to accessing disaster relief and recovery efforts.

Intersectional Approach for V&As and Adaptation Planning



- Conduct a climate change and health V&A by devoting time and resources to thoughtfully frame health equity, and identify root causes of existing inequities
- Conduct deep, respectful and meaningful engagement with indigenous and other racialized and marginalized communities
- Conduct community asset mapping to better understand existing assets that contribute to resilience
- Collect data on the health impacts of climate change with an equity lens – enhance data collection efforts to capture sex-, race-, and gender-disaggregated data, as well as other data (e.g., socioeconomic status)
- Incorporate equity considerations into regular monitoring, surveillance and reporting
- Assess climate change actions for their implications for health equity before implementing them



Examples of Existing Research at Health Canada

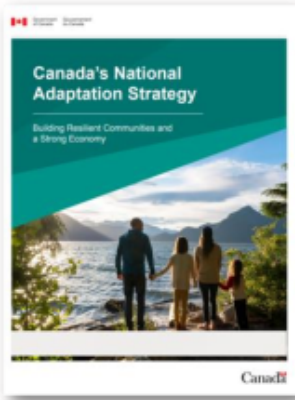
“Heat-related morbidity and mortality in Canada: A national-level examination of heat-related illnesses and deaths from environmental heat exposure”

Jessica Sutinen (jessica.sutinen@hc-sc.gc.ca)

“Identifying the potential health risks and vulnerabilities faced by pregnant people and fetuses during extreme heat events”

Caroline Li-Maloney
(cmalo020@uottawa.ca)

Canada's National Adaptation Strategy



Provides an overarching vision for resilience in Canada

All of us living in Canada, our communities, and the natural environment are resilient in the face of a changing climate. Our collective adaptation actions enhance our well-being and safety, promote justice, equity, and reconciliation with Indigenous Peoples, and secure a thriving natural environment and economy for future generations.

Underpinned by guiding principles for fair, inclusive, and equitable adaptation



Respect jurisdictions and uphold Indigenous rights



Advance equity and environmental justice

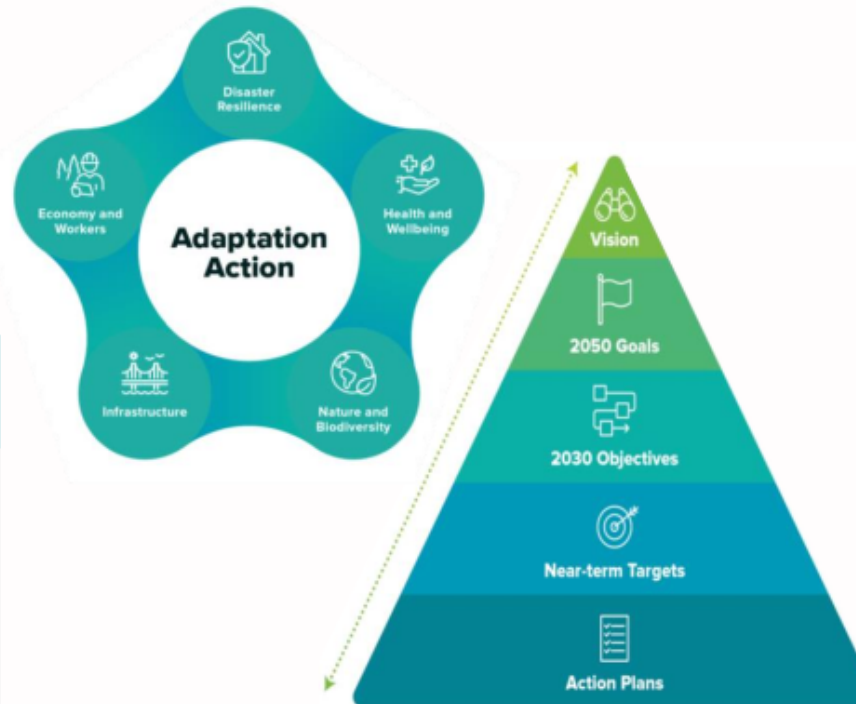


Take proactive, risk-based measures to reduce climate impacts before they occur



Maximize benefits and avoid maladaptation

Includes transformational goals, objectives, and targets under five key systems including Health and Well-being (led by Health Canada).



NEW INVESTMENTS



Protecting Canadians from Extreme Heat

Funding: Up to \$30M over 5 years



Climate-Resilient and Low-Carbon Health Systems

Funding: Up to \$13M over 5 years

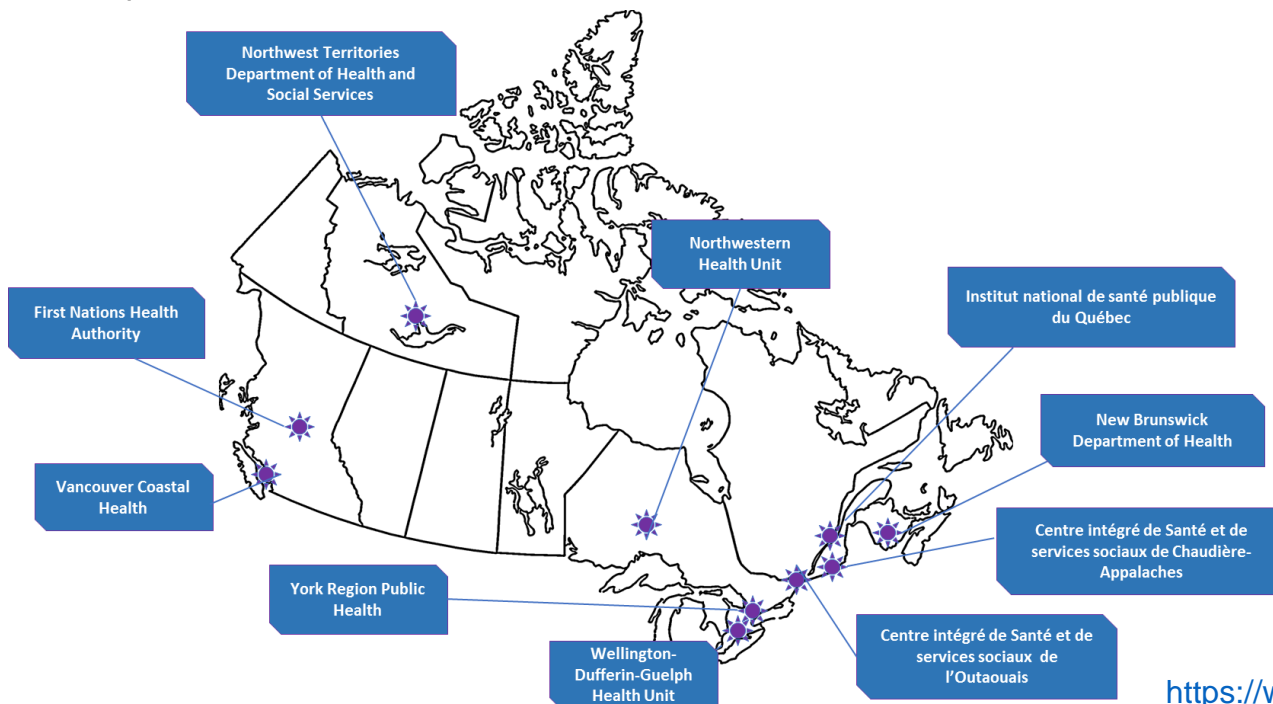
The final National Adaptation Strategy was released on June 27, 2023.

Environment and Climate Change Canada leads the National Adaptation Strategy process in collaboration with other lead federal departments including Health Canada, Public Safety, Natural Resources, Infrastructure, and Crown-Indigenous Relations and Northern Affairs.

7

Health Canada is building climate-resilient and low-carbon health systems

- **HealthADAPT** was a **multi-year program** introduced in 2019, to support projects at local, regional, and provincial and territorial levels of the Canadian health sector to prepare for and respond to the impacts of climate change.
- HealthADAPT invested approximately **\$3.5 million in partnerships** to support 10 health authorities across five provinces and territories to conduct climate change and health vulnerability & adaptation assessments.



The projects selected represent the **diversity** across the country, including:

- Indigenous Peoples
- Newcomers
- Urban/rural/coastal communities
- Health sector spectrum (i.e., provincial/territorial ministries of health, regional/local health authorities, public health units)
- Official language communities



Intégration du genre dans l'évaluation V&A à Madagascar

16 Octobre 2024



Contexte sur le genre -1

- Femmes et filles malgaches sont fortement désavantagées dans toutes les dimensions du bien-être :
 - santé (faible proportion d'accouchements assistés par des professionnels - 45,8% à cause du coût des consultations)
 - éducation (forte proportion d'analphabètes pouvant aller jusqu'à plus de 55% dans certaines régions)
 - économie, prise de décision, action.
- Forte participation aux tâches domestiques, exposition à la violence sexiste, mariages et grossesses précoces

Contexte sur le genre -2

Elles ne sont pas en mesure d'accéder aux mêmes opportunités que leurs concitoyens hommes et garçons

- + moins susceptibles que les hommes de participer au marché du travail (71,3 % contre 82,4 % respectivement)

- + femmes moins nombreuses à être salariées (24 % des femmes actives contre 35 % des hommes actifs)

- + femmes plus nombreuses en tant que travailleuses familiales (14 % contre 5 % des travailleurs masculins) et les agricultrices de subsistance (32 % contre 23 % respectivement).

Contexte sur le genre -3

- Taux élevés de violence conjugale (41 % des femmes ayant été en couple ont été victimes d'au moins une de ses formes) et de mariages précoces (38,8 % des femmes âgées de 20 à 24 ans étaient mariées avant d'atteindre 18 ans)
- Elles sont impactées de manière disproportionnée par les effets du changement climatique

MAIS

- Intégration du genre dans les stratégies et programmes liés au climat

Etapes initiales pour l'intégration du genre dans le V&A -1

-
- Effectuer un plaidoyer au niveau de la coordination de l'étude pour l'intégration du genre dans l'analyse V&A et/ou promouvoir la mise en œuvre de la stratégie nationale sur le genre et le changement climatique
 - Intégrer au moins un spécialiste en genre dans l'équipe technique
 - Renforcement des compétences sur l'approche genre
 - Intégrer l'approche genre pour les différents aspects de l'analyse de la situation, notamment lors du développement de la méthodologie de l'étude, la conception des outils de collecte des données

Etapes initiales pour l'intégration du genre dans le V&A -2

-
- Identifier les spécificités liées au genre pour les différentes questions de l'étude
 - Risques et vulnérabilité en matière de santé
 - Accès et l'utilisation des services de santé
 - Comportements vis-à-vis des soins
 - Options thérapeutiques
 - Expériences vécues dans les établissements de soins
 - Conséquences sur le plan sanitaire et social
 - Assurer l'intégration des aspects liés au genre lors du traitement des données et de la rédaction du rapport
 - Intégrer le genre lors du développement du plan d'adaptation

Défis possibles pour l'intégration du genre

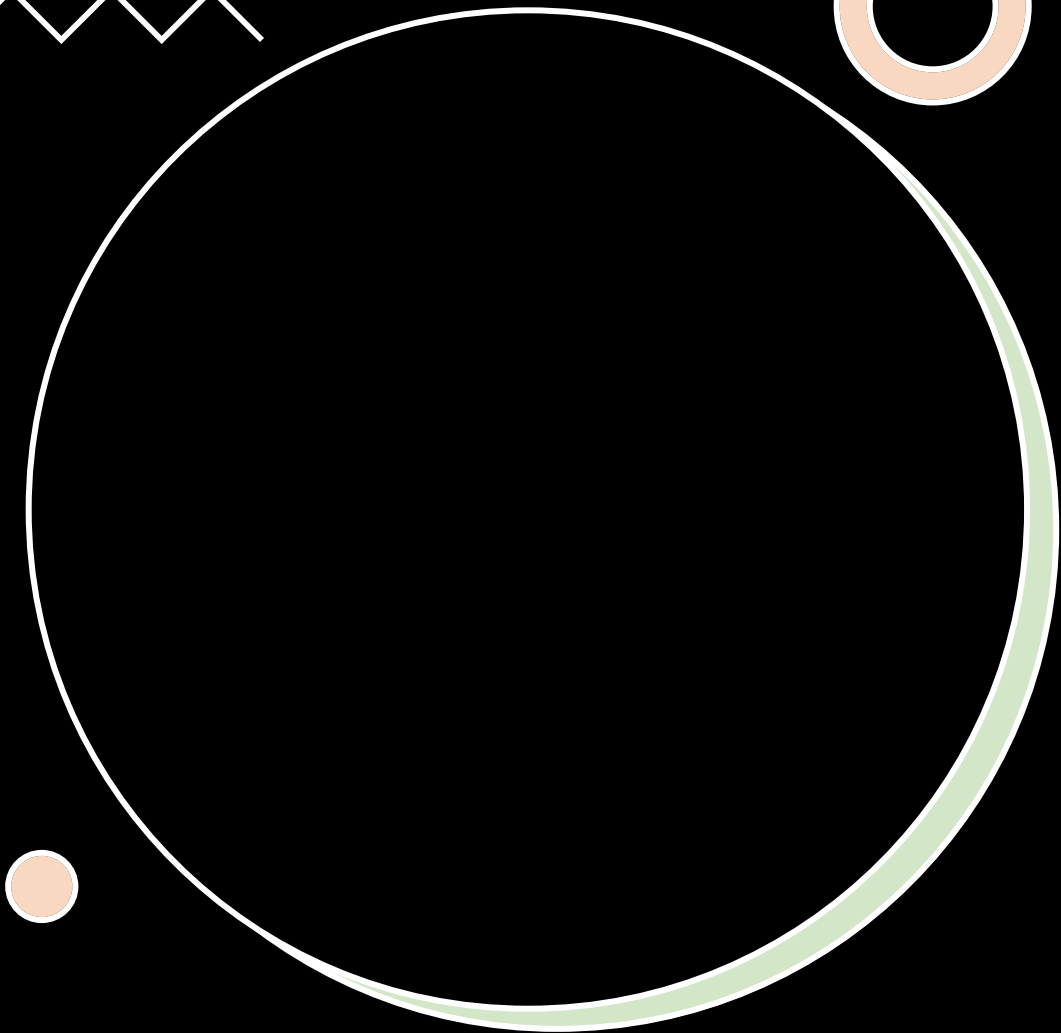
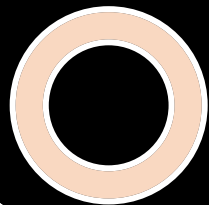
Normes culturelles

Considération du genre au niveau des décideurs et parties prenantes

Disponibilités des données et informations

Renforcement des capacités pour action

Implication effective d'un expert en genre durant toute la durée de l'étude V&A et pour le développement du plan d'adaptation.



Merci beaucoup
Thank you very much
Misaotra betsaka





**World Health
Organization**

Thank You!

ATACH Community of Practice

<https://www.atachcommunity.com/>

Climate Change

<https://www.who.int/teams/environment-climate-change-and-health/climate-change-and-health>

Email: healthclimate@who.int

