

# Climate Change, Health and Equity - Growing Ethical Crisis

**10<sup>th</sup> National Summit of Health and Population  
Scientists in Nepal  
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# Outline of presentation

An overview of health impacts of climate change

Climate change, health and equity- Divided world

Ethical crisis on climate change and health

Nepal's response to address health risks of climate change

Way forward



# Understanding Climate Change

**“Climate change threatens our fragile existence on this planet.”**

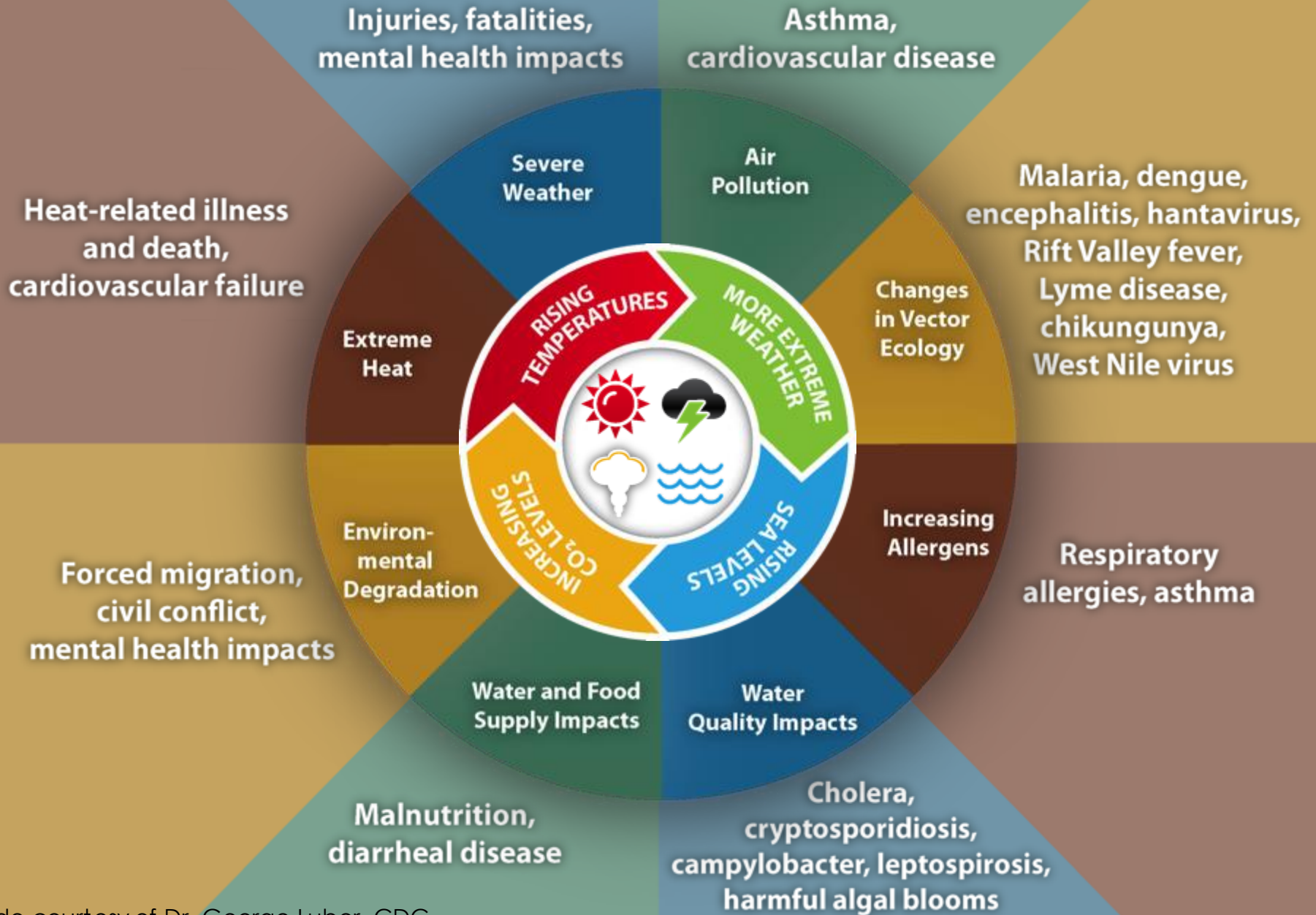
**—Jim Yong Kim, World Bank**

**“For public health, climate change is the defining issue for the 21st century.”**

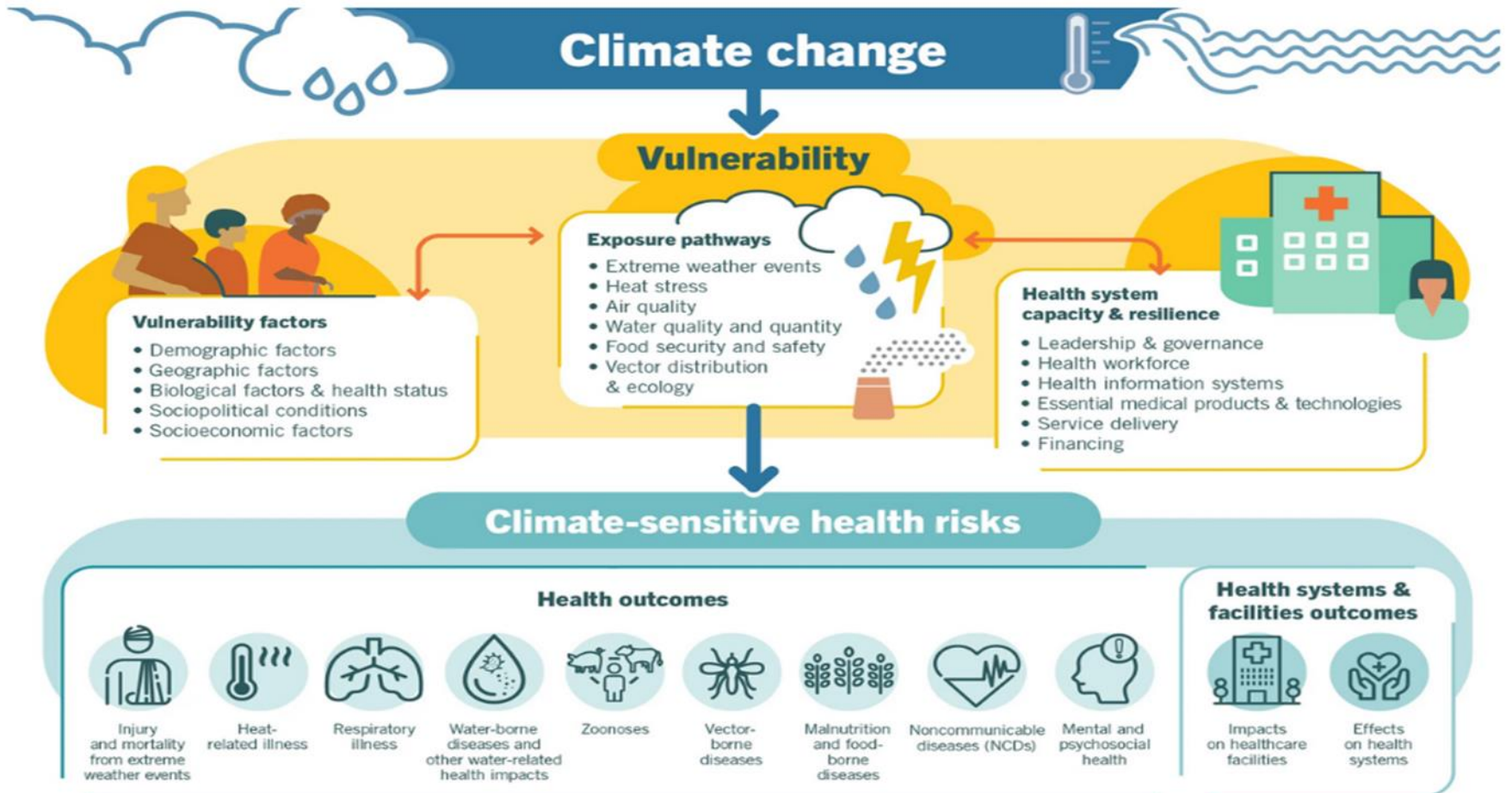
**—Margaret Chan, World Health Organization**



# Impact of Climate Change on Human Health



# Pathways of Climate Change and Health Risks





# Relevance of climate change and health to the Global Development Agenda



PARIS2015  
UN CLIMATE CHANGE CONFERENCE  
COP21·CMP11

## THE GLOBAL GOALS For Sustainable Development



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# Health risks from climate change

**Each year:**

-Extreme weather events kill tens of thousands

-Malaria kills over 400,000

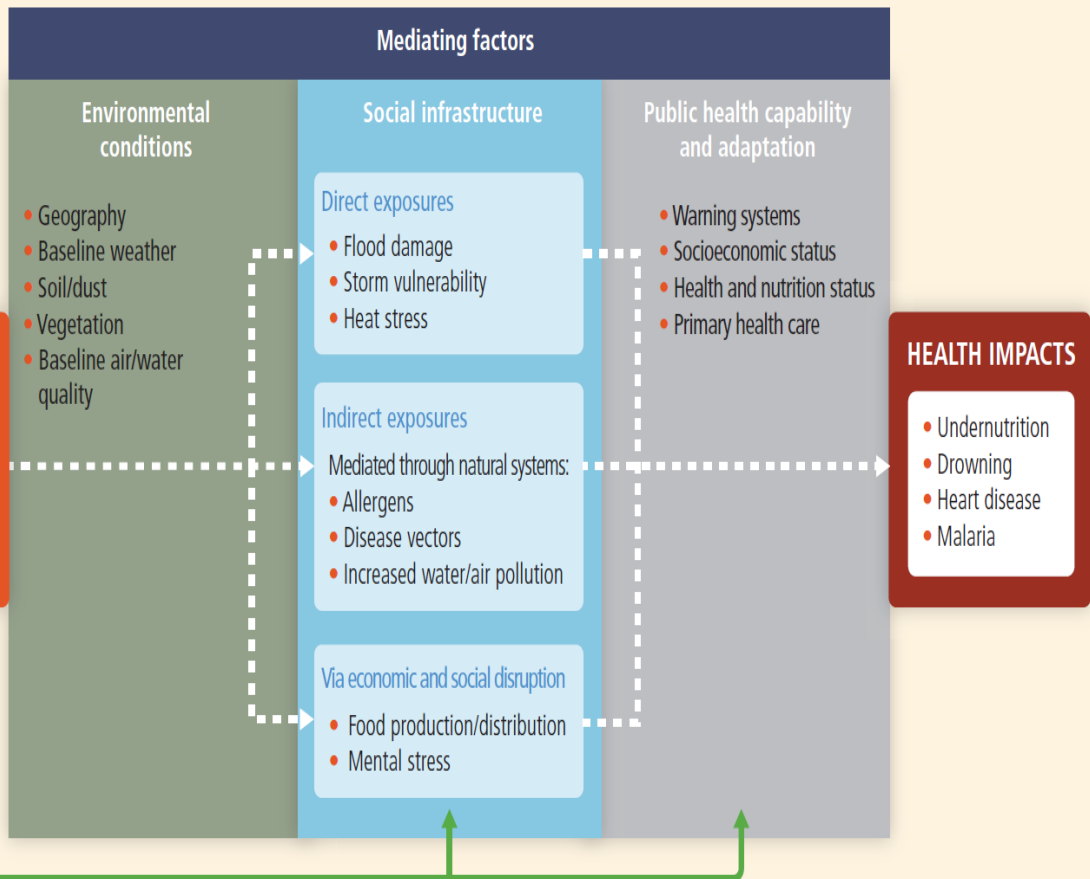
-Diarrhoea kills almost 600,000 children

-Undernutrition kills 3.1 million

**All are highly sensitive to climate conditions**

**CLIMATE CHANGE**

- Precipitation
- Heat
- Floods
- Storms



**HEALTH IMPACTS**

- Undernutrition
- Drowning
- Heart disease
- Malaria

Climate change is expected to cause approximately 250 000 additional deaths per year between 2030 and 2050; 38 000 due to heat exposure in elderly people, 48 000 due to diarrhea, 60 000 due to malaria, and 95 000 due to childhood undernutrition.

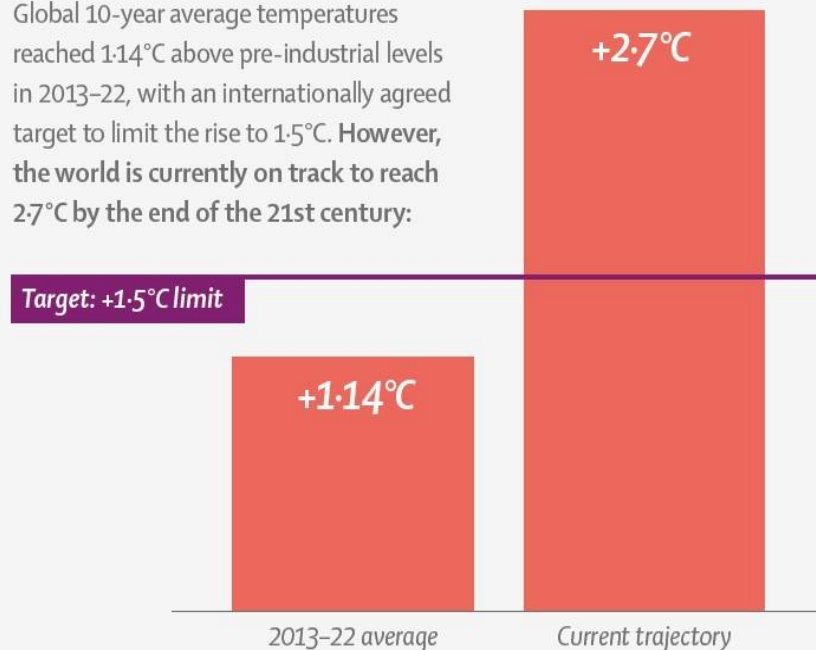
Source: WHO 2023







# The Lancet Countdown report 2023

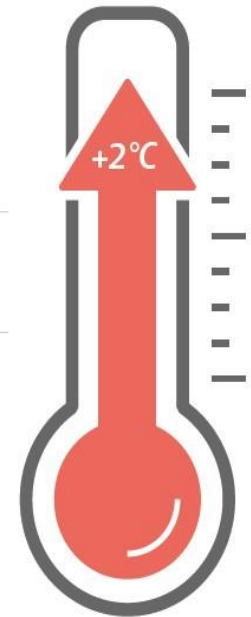
The health threats experienced to date are an early symptom of the dangers our future might hold. New projections reveal an intolerable future with rapidly growing hazards.

Global 10-year average temperatures reached 1.14°C above pre-industrial levels in 2013–22, with an internationally agreed target to limit the rise to 1.5°C. However, the world is currently on track to reach 2.7°C by the end of the 21st century:



If temperature rise reaches 2°C already by mid century:

-  Heat-related deaths are projected to **increase by 370%**
-  Heat-related labour loss is projected to **increase by 50%**
-  **524.9 million additional people** are projected to experience moderate-to-severe food insecurity
-  The transmission potential for dengue is projected to **increase by up to 37%**



In 2023, the world saw the highest global temperatures in over 100 000 years, and heat records were broken in all continents through 2022.





# Climate and Health Equity

- Article 3 of the United Nations Framework Convention on Climate Change (UNFCCC) states that “The Parties should protect the climate system for the benefit of the present and future generations of humankind, **based on equity and in accordance with their common but different responsibilities in respect to capacities**”



# Climate Change and Health Equity

- Climate change is a truly global phenomenon. Once emitted, greenhouse gas emissions can have climate effects anywhere, regardless of their source.
- Emissions of the most prominent greenhouse gas, carbon dioxide, typically persist in the atmosphere for a long time, contributing to negative climate impacts for centuries, or even millennia.



# Climate change impacts on health equity



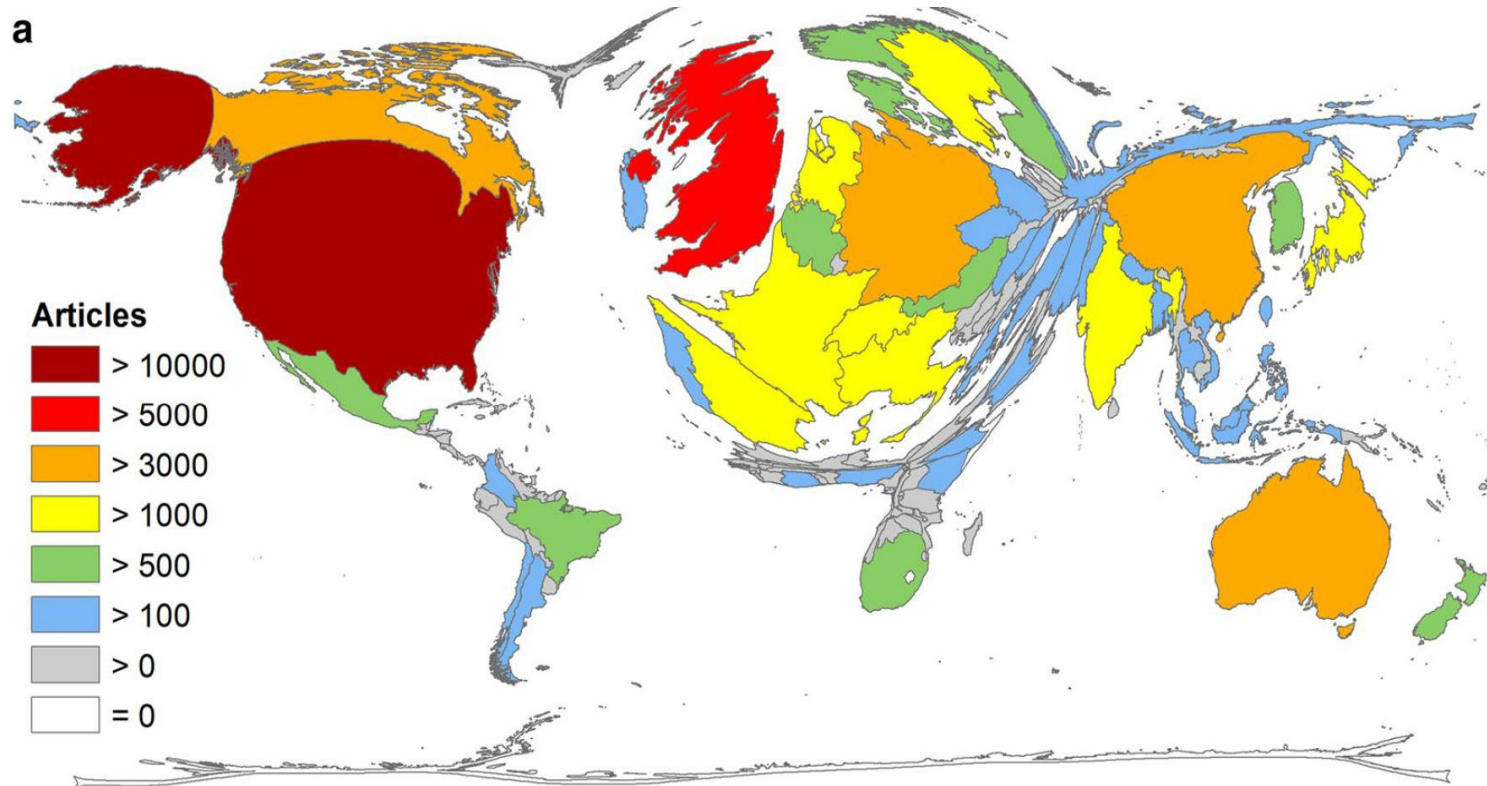
Cumulative emissions of greenhouse gases, to 2002



WHO estimates of *per capita* mortality from climate change, 2000



# Publications on climate change by countries

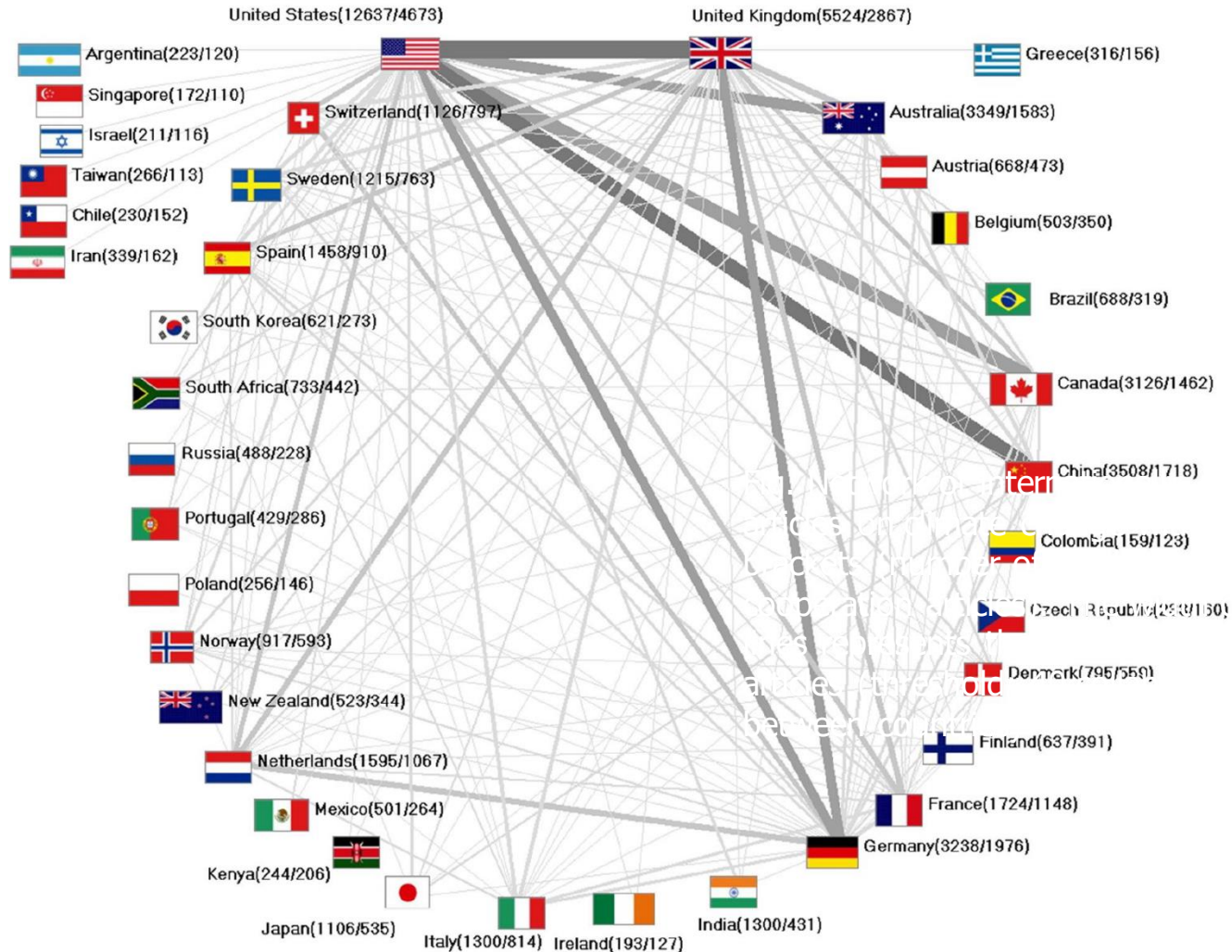


**Fig. 4** The most publishing countries.: Density equalizing map projection of the number of articles. [1998-2018]

Source: Klingelhöfer *et al. Environ Sci Eur* (2020) 32:137



# International Collaborative Publications on Climate Change



Source: Klingelhöfer *et al. Environ Sci Eur* (2020) 32:137





# Climate change, health and ethics

- There is a lack of understanding of the importance of ethics in policy-responses to health and climate change.
- The interaction between health, climate change and ethics is technically and theoretically complex and work in this area is fragmentary, unfocussed, and underdeveloped.
- Research and reflection on climate and health is fragmented and plagued by disciplinary silos and exponentially increasing literature means that the field cannot be synthesised using conventional methods.



# Climate change, health and ethics

- Low-HDI (Human Development Index) countries are under-represented in research and publication both in the health-impacts of climate change, and normative reflection on health and climate change policy.
- Aspects of justice relevant to climate change include:
  - ✓ Inequalities in who has contributed to climate change;
  - ✓ Inequalities in who is most *harmed by climate change*;  
*and*
  - ✓ Opportunities to rectify injustice while addressing climate change.



# Gaps in climate change, health and ethics

- **insufficient general understanding** of the importance of ethics in policy-responses to climate change
- **a lack of specific action-guiding ethical reflection** for health practitioners active in climate change policy
- **an under-representation of mental health and general wellbeing** in the health impacts of climate change
- **a lack of literature from low HDI countries** and an over-representation of high HDI countries
- **a paucity of ethical commentary and reflection on a range of key topics in environmental health literature**, including population, pollution, transport, energy, food and water use
- **a shortage of discussion of inter-disciplinary ethics** in climate change
- **a lack of theoretical coherence** across the domains of ethics.



# Ethical Crisis of Climate Change

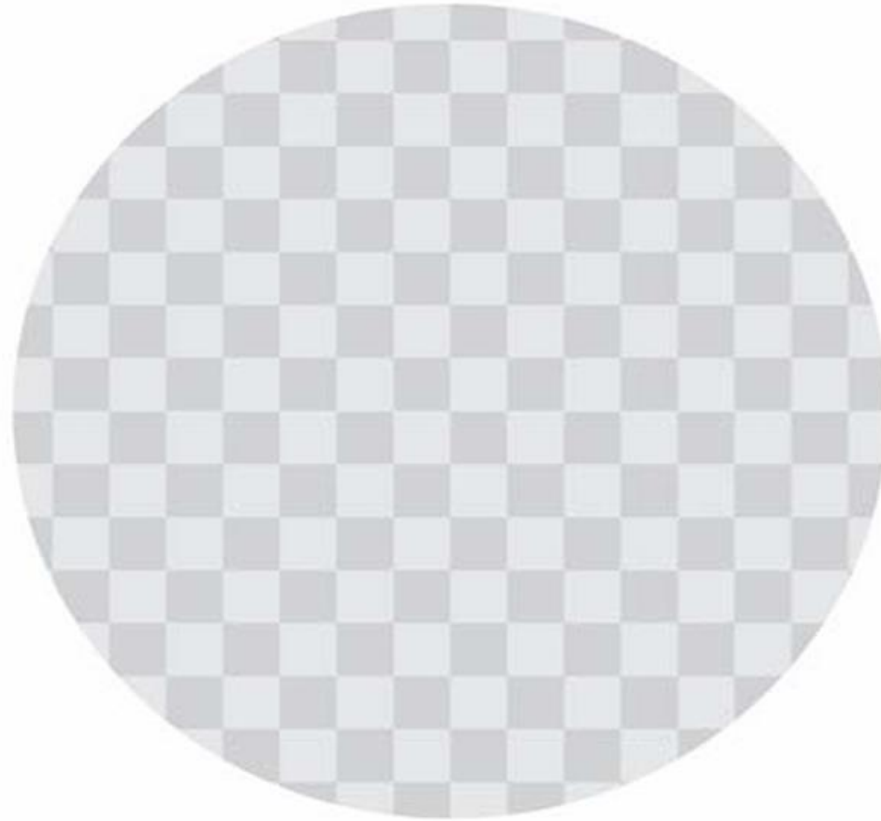
- Climate undermines the foundation of our fundamental rights, deepens inequalities, and creates new forms of injustice.
- Threaten plants and animals around the world



**Is this right or just, particularly if those who are most harmed are least responsible for the problem?**



# Call to Action



**no plan, no planet**





# Call to Action

## Building a Climate Resilient Health System



# Call to Action

- Interventions to address climate change and health inequities range from upstream structural, policies, and systems changes to downstream treatment, rehabilitation, and disaster recovery efforts.
- Interventions along the entire spectrum are needed to protect and promote health in the era of climate change.
- However, upstream solutions have the greatest benefits, providing primary prevention and promoting healthy, equitable, sustainable, and resilient communities.



# Health Sector Response to Climate Change in Nepal



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# Health Sector Initiative

- First National Workshop on Climate Change and Human Health: Potential Impact, Vulnerability and Adaptation in Nepal (19-21 Dec., 2007) organized by NHRC in collaboration with MOHP with the support of WHO



Climate change and health:  
research challenges  
for vulnerable populations

The Global Forum for Health Research and *The Lancet*  
are delighted to honour



## Meghnath Dhimal

whose essay was selected for publication in this year's anthology on  
Climate change and health: research challenges for vulnerable populations

With our congratulations

A handwritten signature in blue ink that reads "Stephen A. Matlin". The signature is fluid and cursive.

**Stephen Matlin**  
Executive Director  
Global Forum for Health Research

A handwritten signature in blue ink that reads "Richard Horton". The signature is very stylized and cursive.

**Richard Horton**  
Editor-in-Chief  
*The Lancet*

*congratulations!*

Bamako, Mali, November 2008

Certificate



# Research Challenges on climate change and vulnerable populations

- Lack of public awareness
- Lack of trained human resources
- No political priority and focus on national policy
- Low financial capacity
- Lack of research methodology
- Lack of coordination

(Dhimal 2008)



# Recent IPCC Report 2022

## Climate Change 2022: Impacts, Adaptation and Vulnerability

### Working Group II Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change

# 2

## Terrestrial and Freshwater Ecosystems and Their Services

### Cross-Chapter Box ILLNESS | Infectious Diseases, Biodiversity and Climate: Serious Risks Posed by Vector- and Water-Borne Diseases

Authors: Marie-Fanny Racault (UK/France, Chapter 3), Stavana E. Strutz (USA, Chapter 2), Camille Parmesan (France/UK/USA, Chapter 2), Rita Adrian (Germany, Chapter 2), Guéladio Cissé (Mauritania/Switzerland/France, Chapter 7), Sarah Cooley (USA, Chapter 3), **Meghnath Dhimal (Nepal)**, Luis E. Escobar (Guatemala/USA), Adugna Gameda (Ethiopia, Chapter 9), Nathalie Jeanne Marie Hilmi (Monaco/France, Chapter 18), Salvador E. Lluch-Cota (Mexico, Chapter 5), Erin Mordecai (USA), Gretta Pecl (Australia, Chapter 11), A. Townsend Peterson (USA), Joacim Rocklöv (Germany/Sweden), Marina Romanello (UK/Argentina/Italy), David Schoeman (Australia, Chapter 3), Jan C. Semenza (Italy, Chapter 7), Maria Cristina Tirado (USA/Spain, Chapter 7), Gautam Hirak Talukdar (India, Chapter 2), Yongyut Trisurat (Thailand, Chapter 2)

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# Contributed to Ten new insights in climate science 2022

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Accepted manuscript

## Ten new insights in climate science 2022

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Maria A. Martin , Emmanuel A. Boakye, Emily Boyd , Wendy Broadgate, Mercedes Bustamante, Josep G. Canadell, Edward R. Carr, Eric K. Chu, Helen Cleugh, Szilvia Csevar, Marwa Daoudy, Ariane de Bremond, **Meghnath Dhimal**, Kristie L. Ebi , Clea Edwards , Sabine Fuss , Martin P. Girardin, Bruce Glavovic, Sophie Hebden, Marina Hirota, Huang-Hsiung Hsu, Saleemul Huq, Karin Ingold, Ola M. Johannessen, Yasuko Kameyama, Nilushi Kumarasinghe, Gaby S. Langendijk, TabeaKatharina Lissner, Shuaib Lwasa, Catherine Machalaba, Aaron Maltais, Manu V. Mathai, Cheikh Mbow, Karen McNamara, Aditi Mukherji, Virginia Murray, Jaroslav Mysiak, Chukwumerije Okereke, Daniel Ospina, Friederike Otto, Anjal Prakash, Juan M. Pulhin, Emmanuel Raju, Aaron Redman, Kanta K. Rigaud, Johan Rockström, Joyashree Roy, E. Lisa F. Schipper , Peter Schlosser, Karsten A. Schulz, Kim Schumacher, Luana Schwarz, Murray Scown , Barbora Šedová, Tasneem A. Siddiqui, Chandni Singh, Giles B. Sioen, Detlef Stammer, Norman Julius Steinert, Sunhee Suk, Rowan Sutton, Lisa Thalheimer , Maarten van Aalst, Kees van der Geest and Zhirong Jerry Zhao

10 | NEW INSIGHTS IN  
CLIMATE SCIENCE

2022

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World Climate Research Programme

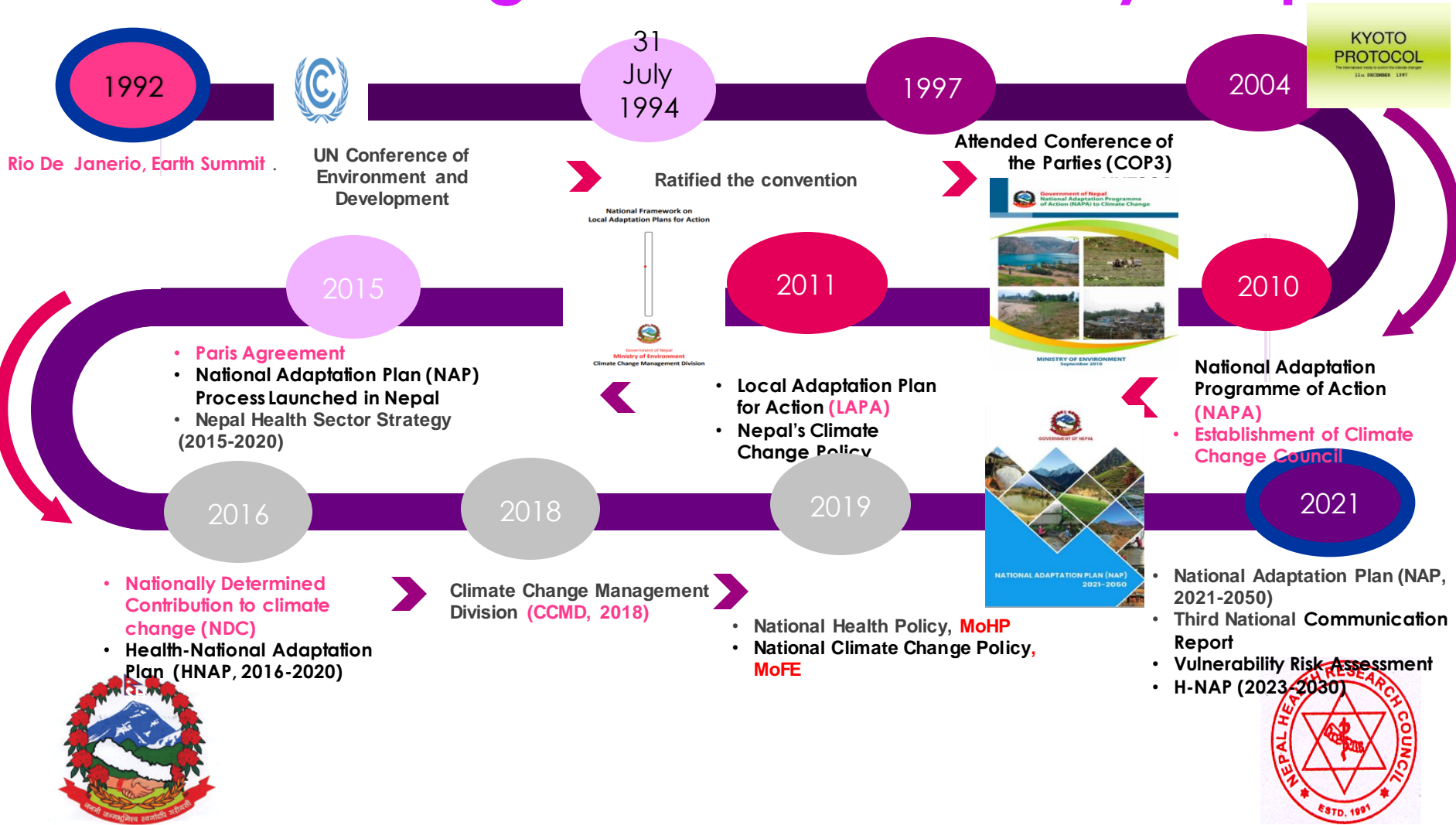


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# Climate change and Health Policy, Nepal





# High level political commitment to address impacts of climate change



In 2009 the Maldivian government held the first underwater cabinet meeting to attract international attention to the dangers of global warming



Government of Nepal



Nepal's cabinet meeting at the base of Mount Everest as a solidarity response to impacts of climate change .



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# Policy Response on Climate Change and Health in Nepal

- National Adaption of Programme of Action to Climate Change (NAPA) 2010
- Climate Change Policy 2011 and revised 2019
- Nepal Health Sector Implementation Plan II (2010-2015)
- National Health Policy 2014 and revised 2019
- National Population Policy 2014
- National Health Strategy 2015-2020
- National Health Sector Strategy Implementation Plan (2016-2021)
- Health National Adaptation Plan (H-NAP) (2017-2021) and H-NAP (2024-2030)

## Perspective

### Health-sector responses to address the impacts of climate change in Nepal

*Meghnath Dhimal<sup>1,2</sup>, Mandira Lamichhane Dhimal<sup>2,3</sup>, Raja Ram Pote-Shrestha<sup>4</sup>, David A Groneberg<sup>2</sup>, Ulrich Kuch<sup>2</sup>*

<sup>1</sup>Nepal Health Research Council, Kathmandu, Nepal, <sup>2</sup>Institute of Occupational, Social and Environmental Medicine, Goethe University, Frankfurt am Main, Germany, <sup>3</sup>Faculty of Social Sciences, Goethe University, Frankfurt am Main, Germany, <sup>4</sup>World Health Organization Country Office for Nepal, Kathmandu, Nepal

# Health National Adaption Plan (H-NAP) development in Nepal (2017-2021)



Unofficial Translation

Health National Adaptation Plan (H-NAP)  
Climate Change Health Adaptation  
Strategies and Action Plans of Nepal  
(2017-2021)



Government of Nepal  
Ministry of Health and Population  
Ramshahpath, Kathmandu



# Inter-country collaboration for scale up of good practices (H-NAP) in Kathmandu, Nepal



# Male Declaration on building climate resilient health systems

**70th SEAR Regional Committee Meeting held in Male, Maldives, 07.09.2017:**

**All SEAR Member countries engage in building health systems that are resilient to climate change**





# Regional commitment

## Framework for action in building health systems resilience to climate change in South-East Asia Region

2017–2022



## Malé Declaration

### Building health systems resilience to climate change

We, the Health Ministers of Member States of the WHO South-East Asia Region, participating in the Seventieth session of the WHO Regional Committee for South-East Asia in Malé, Maldives,



Government of Nepal

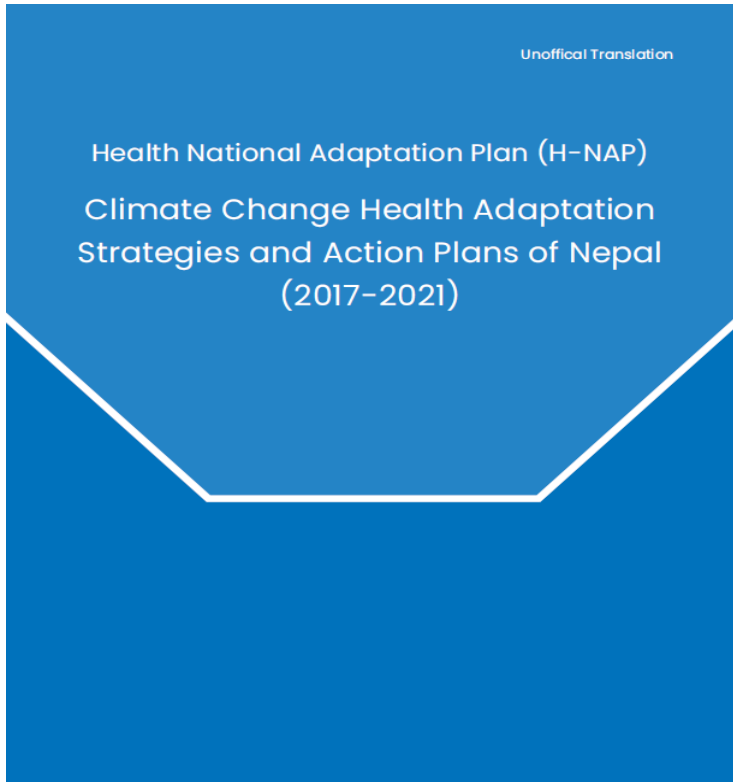


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# Effort to address health risks of climate change in Nepal

- Updating H-NAP (2023-2030) as per findings of V&A assessment



Government of Nepal  
Ministry of Health and Population  
Ramshahpath, Kathmandu



Government of Nepal



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# COP28 in Dubai

- First health day in COP celebrated on 3 December 2023
- More than 50 Health Minister and 2.4% of total delegates were from health professionals
- 141 countries including Nepal endorsed climate and health declaration
- 1 billion USD commitment for climate and health projects
- Participation of high level delegation from Nepal including PM and Minister for Health and Population



# Lessons learnt on climate and health

- National capacity building is a key for adaptation
- Both climate change mitigation and adaptation should be of priority of all countries
- Developing climate resilient health systems
- Developing collaboration, networking and partnership is key for addressing global health issues such as climate change and health
- Production of health workforce to address health risks of climate change breaking disciplinary silos
- Maintaining planetary health is essential for human and societal health and a precondition for climate-resilient development adopting principles of equity and ethics



# Thank you for your attention

