Climate Change and impact on health in South-East Asia: Key concerns for urban settings

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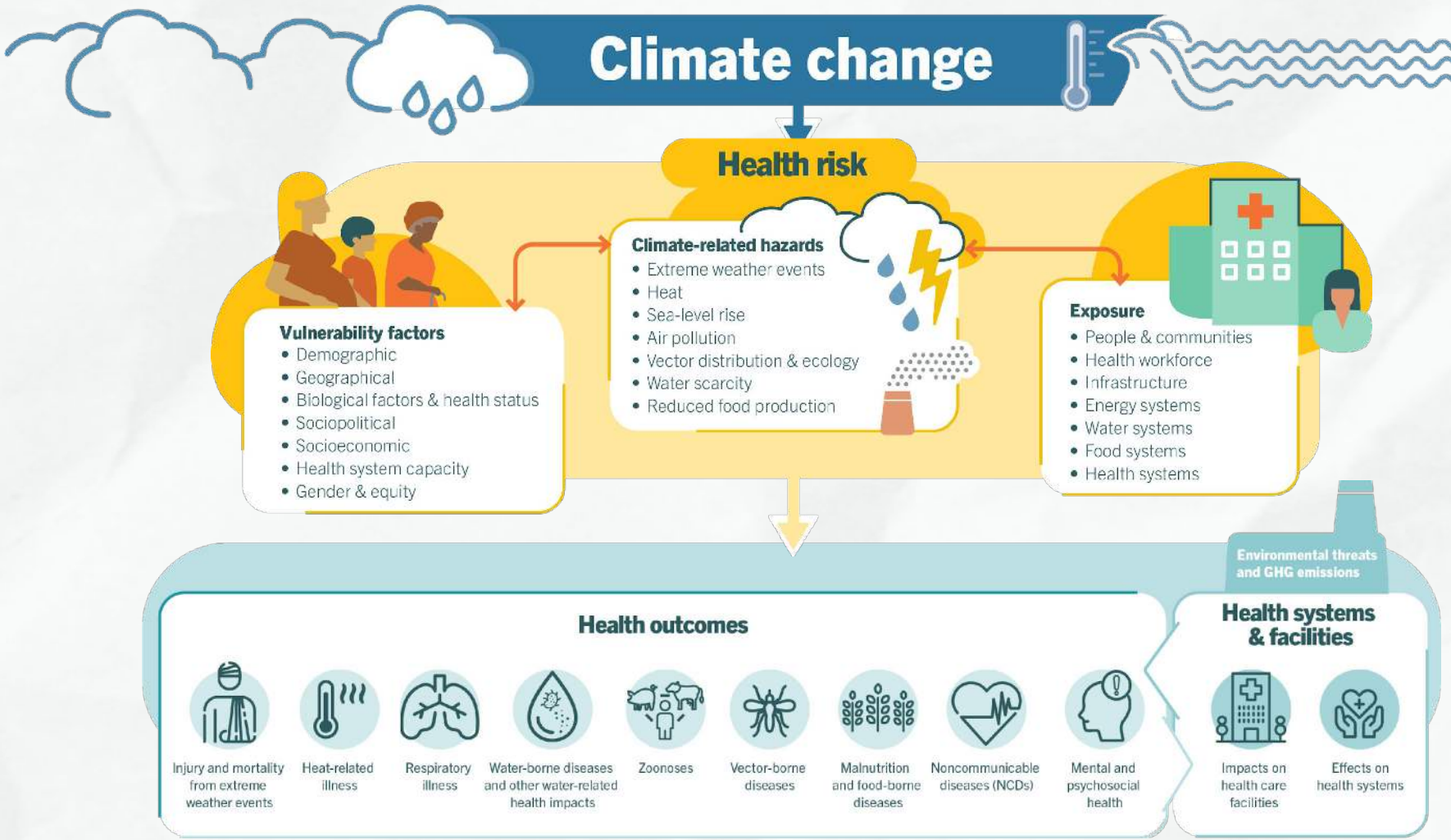
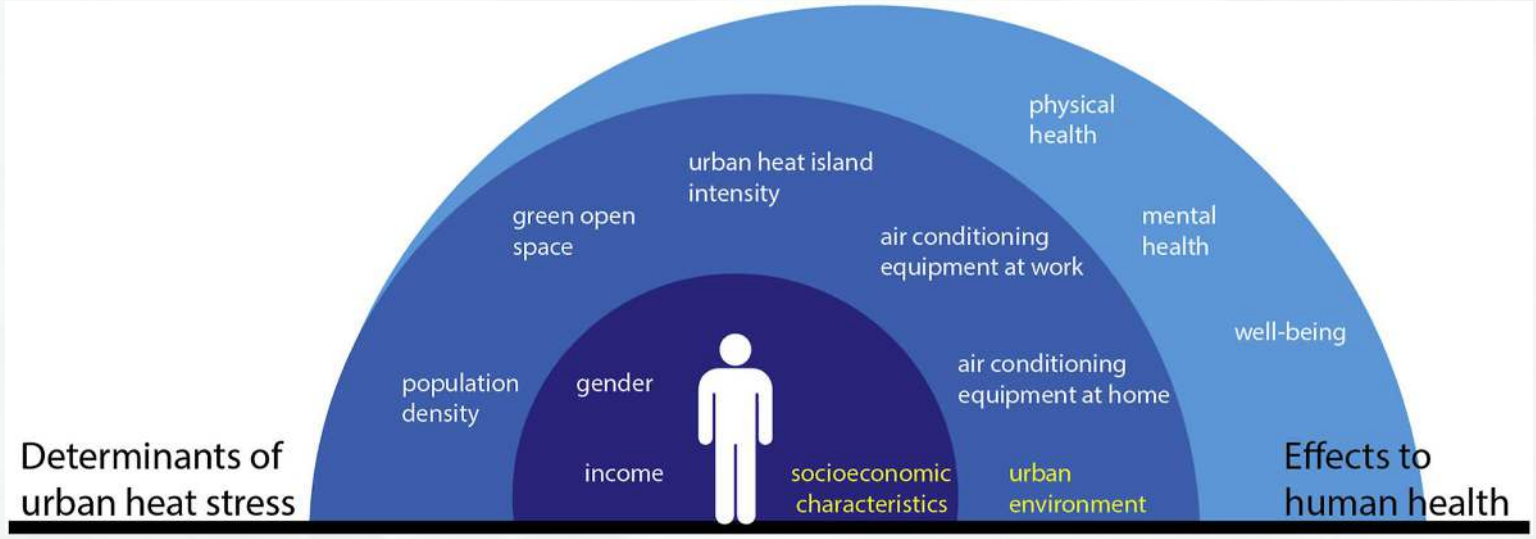
Context



- **Rapid urbanization:** ~50% of South Asia's population in cities by 2050
- **Climate crisis is a health crisis – health systems must adapt and transform**
- **Urban climate risks:**
  - Extreme heat & heatwaves
  - Urban flooding & storm surges
  - Air pollution
  - Water scarcity & contamination
  - Vector & water-borne diseases
- Health systems overstretched; marginalized

Health impacts of heat

- Heat stress has been recognized as one of the consequences of climate change in urban areas.
- Urban areas are particularly at risk of heat stress.
- With increasing urbanization in cities, heat stress is expected to worsen.
- Enhanced urban temperature, humidity, radiation, winds, air pollution, urban heat island, and global warming exacerbate the heat stress effects and deprive the health and well-being of urban residents



Source: https://www.sciencedirect.com/science/article/abs/pii/S0013935120302917

Air pollution

Global Sources of Urban Amb

- Industry (inc. eletricity generation)
- Transport
- Other human origin
- Domestic fuel burning
- Natural Sources

- 37 of 40 most polluted cities globally are in South Asia
- Links to respiratory disease, stroke, heart disease
- Climate change worsens dust storms, wildfires, ozone levels
- South Asia disproportionately exposed to transport and domestic fuel burning

Water, Sanitation and Hygiene

- Urban areas home to millions of people living without access to basic services such as safely managed water and sanitation services.
- Water scarcity undermines hygiene and sanitation
- Contamination **increases diarrheal disease burden-Constant threat of a disease outbreak, such as cholera**, that can devastate poor communities
- The **poorest neighbourhoods (e.g. urban slums) most exposed to natural hazards** such as flooding, sea level rise, etc.
- **Rising dengue, chikungunya, malaria in urban hotspots- Flooding & poor waste management increase mosquito breeding**
- Lack of resilient water and sanitation systems and hygiene facilities means that the community's ability to stay healthy during environmental shocks is severely compromised.
- Healthcare facilities often lack resilient WASH systems

Case Study
Bangladesh – Flood-Resilient Primary Healthcare

- Dhaka & coastal cities face annual flooding that disrupts access to healthcare.
- Pilot projects introduced elevated health facilities, mobile boat clinics, and solar-powered water pumps.
- Health workers trained in emergency response; stockpiling of essential medicines during flood season.
- Lesson: Infrastructure design + community health worker networks strengthen system resilience.

Four fundamental requirements for providing safe and quality care in the context of climate change.

- Health workforce
- Water, sanitation, hygiene and health care waste management
- Energy: sustainable energy services.
- Infrastructure, technologies and products

Case Study
India – Heat Action Plans Ahmedabad (2013)

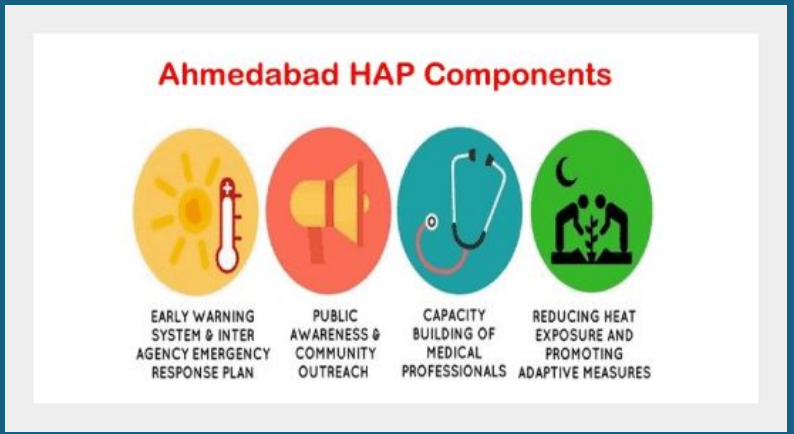
- First city-level Heat Action Plan (HAP) in South Asia, developed after a deadly 2010 heatwave (1,300+ deaths).
- **Key features:** early warning systems, public alerts, training healthcare staff, cooling spaces, outreach to vulnerable groups (construction workers, elderly, slum residents).
- **Impact:** Reduced heat-related mortality significantly; replicated in Delhi, Nagpur, and other Indian cities.
- **Lesson:** Local adaptation + strong city leadership + public communication = saves lives.

Case Study **Ahmedabad Heat Action Plan, 2014**

WHITE	No Alert	< 41°C
YELLOW ALERT	Hot Day Advisory	41°C – 43.4°C
ORANGE ALERT	Heat Alert Day	43.5°C – 45°C
RED ALERT	Extreme Heat Alert Day	> 45°C

Figure 3: Heat alert levels set for Ahmedabad

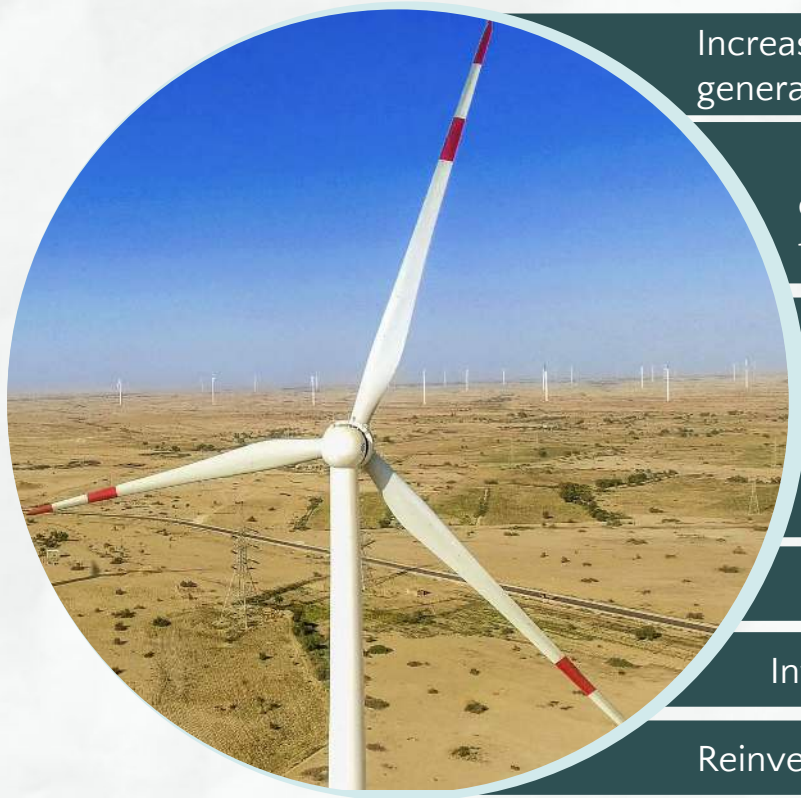
The Ahmedabad Heat Action Plan established different heat alert levels corresponding to identified heat-health thresholds (Figure 3). The plan also created a communication plan among government departments to communicate internally and to alert the public when a heat alert was declared (Figure 4).



Case Study

Pakistan – Strong national climate commitments can result in significant health gains

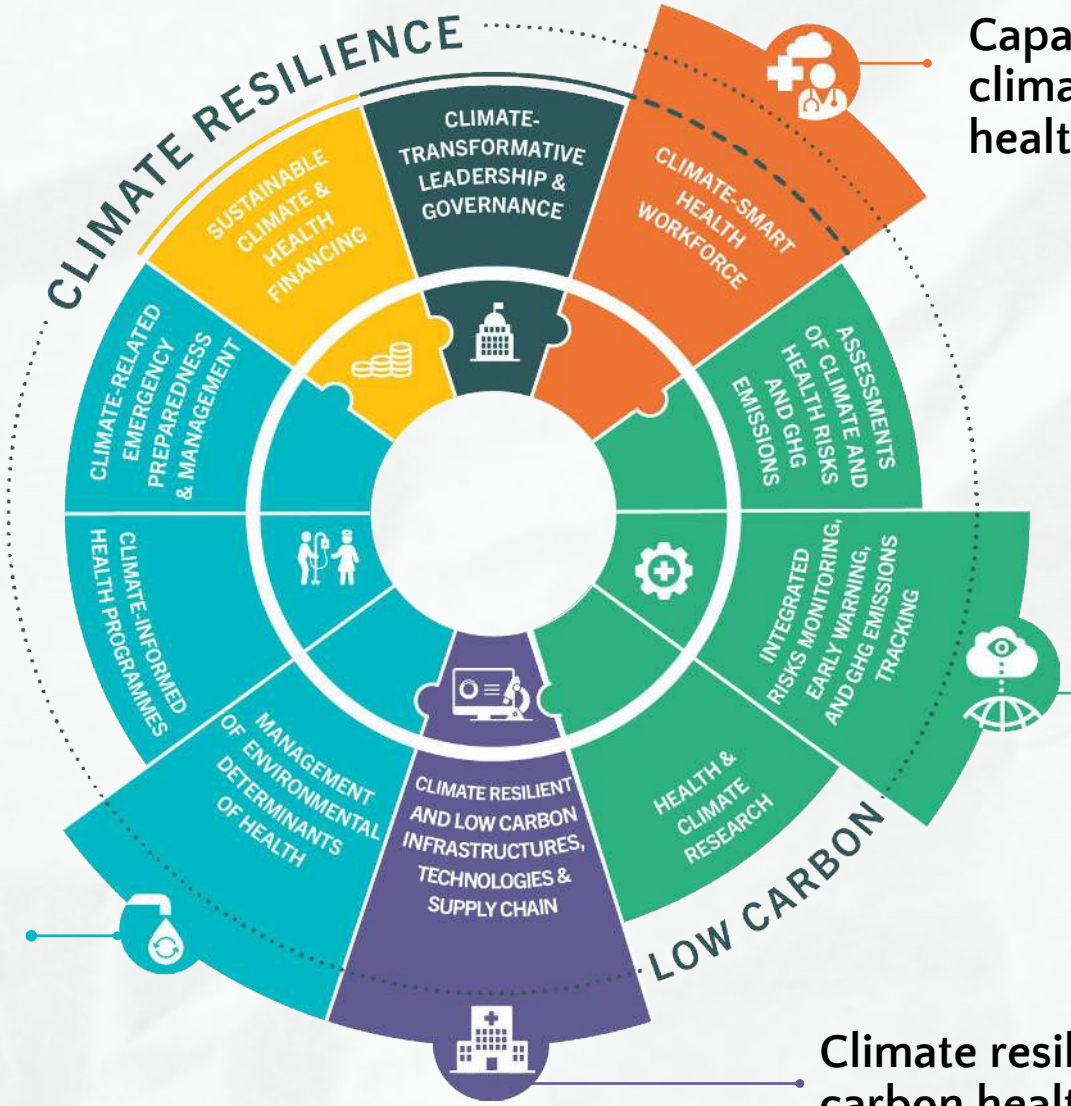
Using tools from WHO, models show that by implementing **targeted energy policy interventions**, the Government of Pakistan could achieve **GHG emissions reductions of 27.5% by 2030** (eliminating up to 568Mt of GHGs cumulatively), while preventing more than 65,000 deaths annually from ambient air pollution in 2030.



- Increase renewable energy generation by up to 75%
- Increase energy efficiency with combined sectoral targets to achieve a total of 3% annual improvement
- The transition from biomass to electricity in 30% of households
- Increase the share of electric vehicles up to 100% of all new vehicles by 2040
- Fully phase out fossil fuel subsidies
- Introduce a 10% fossil fuel tax
- Reinvest in health

Source: https://www.who.int/publications/i/item/9789240036369

WHO Operational Framework guides climate-resilient, low-carbon health systems



Capacity building for climate change and health

Climate-informed health surveillance and early warning system

Climate resilient water and sanitation safety plans

Climate resilient and low carbon health care facilities

Health systems

deliver quality care and protect the health and wellbeing of present and future generations

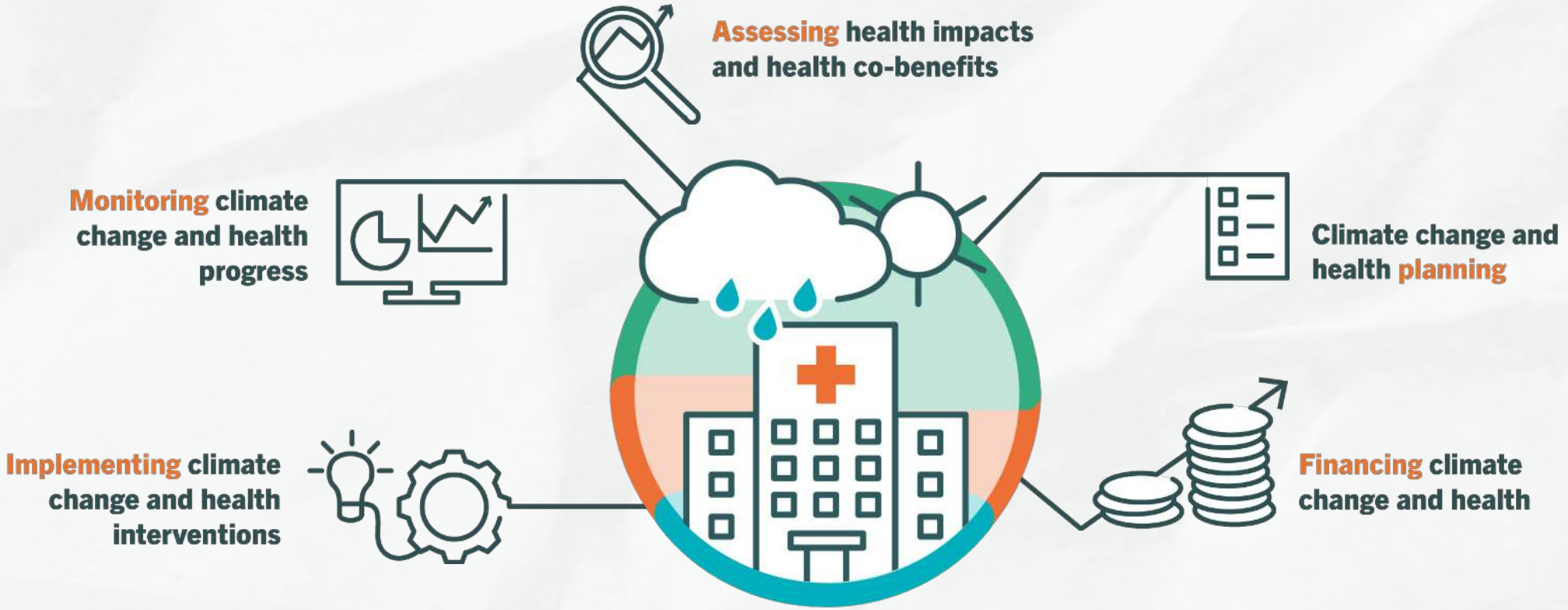
Climate Resilient

...health systems are those capable of **anticipating**, **responding** to, **coping** with, **recovering** from, and **adapting** to climate-related shocks and stress, to bring about sustained improvements in population health, despite an unstable climate...

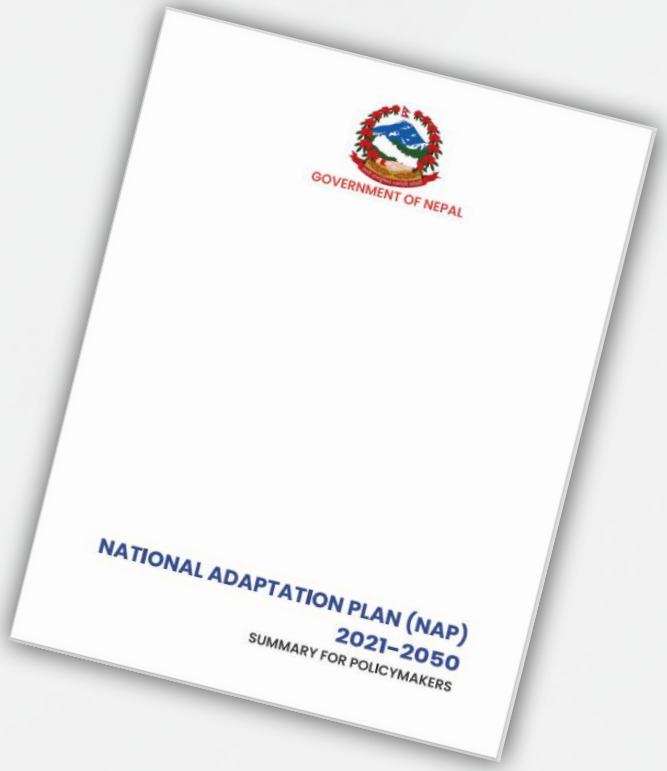
Low Carbon

...health systems are those capable of implementing transformative strategies towards **reducing GHG emissions** in their operations, **reducing** short- and long-term **negative impacts** on the local and global **environment**...

Building climate resilient and low carbon health systems



Health National Adaptation Plans



The National Adaptation Plan (NAP) is a process established as part of the UNFCCC/Paris Agreement agenda.

It aims to reduce vulnerability to the impacts of climate change and integrate adaptation into policies and programmes through development strategies, plans and budgets.

https://unfccc.int/documents/307952

Health National Adaptation Plan (HNAP) is the health component of the National Adaptation Plan (NAP) process

https://www4.unfccc.int/sites/NAPC/Documents/Parties/Nepal%20HNAP.pdf

Global/Regional Frameworks and Commitments

Malé Declaration and Regional Framework for Action in building health systems resilience to climate change

World Health Organization South-East Asia

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,

Recognizing the increasing body of evidence on the direct and indirect adverse impacts of climate change on human health and health systems, which pose a serious burden to sustainable socioeconomic development,

Concerned that extreme weather events, which are increasing in frequency and intensity in the Region, can overwhelm the already overstretched health sector's capacity to respond and pose health threats to the vulnerable populations in the Region,

Reaffirming the commitment made to World Health Assembly resolution WHA61.19, and Regional Committee resolution SEA/RC62/R2 on climate change and health; the Parliamentarians' call for action on protecting human health from climate change in the South-East Asia Region[1], and the Dhaka Declaration on South-East Asia Regional Health Concerns for Climate Change Negotiations[2],

Recalling the reference to the right to health in the 2015 Paris Agreement on Climate Change[3], the Sustainable Development Goal 13 that calls for urgent action to combat climate change and its impacts, and the Sendai Framework for Disaster Risk Reduction 2015–2030[4],

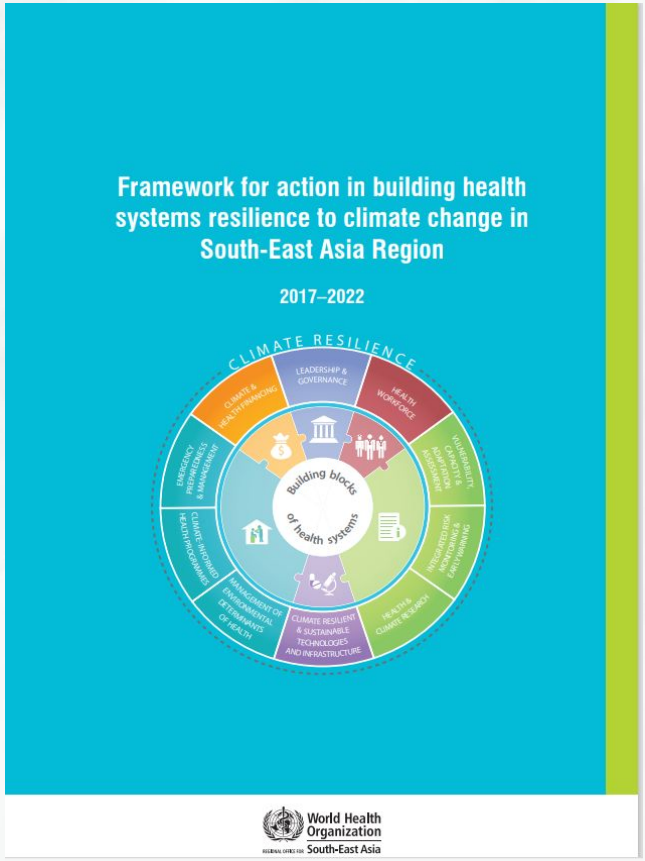
Acknowledging the efforts being made by Member States in the WHO South-East Asia Region and development partners to address the challenges posed by climate change,

Recognizing the need to strengthen the capacity and efficiency of health systems to be responsive, reduce vulnerabilities and increase resilience to climate change and extreme weather events,

Noting the WHO Operational Framework on building health systems resilience to climate change[5],

1. Endorse the Framework for Action on Building Health Systems Resilience to Climate Change in WHO South-East Asia Region 2017–2022, as annexed to this Declaration, as the operational reference in implementing this Malé Declaration;

1 http://www.searo.who.int/entity/climate_change/documents/sea_eh_571/en/
2 http://www.searo.who.int/entity/climate_change/documents/sea_eh_572/en/
3 http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf
4 http://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf
5 http://www.who.int/globalchange/publications/building-climate-resilient-health-systems/en/



Global/Regional Frameworks and Commitments

COP26 Health Commitment

COMMITMENT AREA 1

Climate resilient health systems

- conduct climate change and health **vulnerability and adaptation assessments** (V&A)
- develop a **Health National Adaptation Plan** (HNAP)
- facilitate access to **climate change funding for health**

COMMITMENT AREA 2

Sustainable low carbon health systems

- set a target date by which to achieve **health system net zero emissions** (high ambition/high emitters)
- deliver a **baseline assessment of GHG emissions** of the health system
- develop an **action plan** to develop sustainable low carbon health system

90+ Countries/Areas committed at Minister of Health level to advance action on climate resilient and low carbon health systems – 8 in the WHO South East Asia Region

Conclusion: Key Takeaways

- Climate change is already a health emergency in South Asia's cities– The way we plan, design, and govern our cities will decide our collective health future.
- Investing in resilient, low-carbon urban health systems not only protects lives but also delivers health co-benefits

Urgent Priorities for Urban Action

- **Scale up Heat Action Plans** – integrate into city disaster management, protect outdoor workers & vulnerable groups.
- **Climate-Resilient Health Systems** – flood-proof, energy-secure, build low-carbon health facilities.
- **Urban WASH & Waste Systems** – resilient infrastructure, safe water, sanitation, drainage.
- **Surveillance & Early Warning** – city-level data systems for vector-borne diseases, heat, floods.
- **Community Awareness** – engage schools, housing societies, informal settlements.
- **Dedicated Financing** – earmarked urban health budgets & climate funds for resilience.
- **Multi-Sectoral Collaboration** – urban planners, health departments, utilities work together.

Wide range of technical guidance available

World Health Organization

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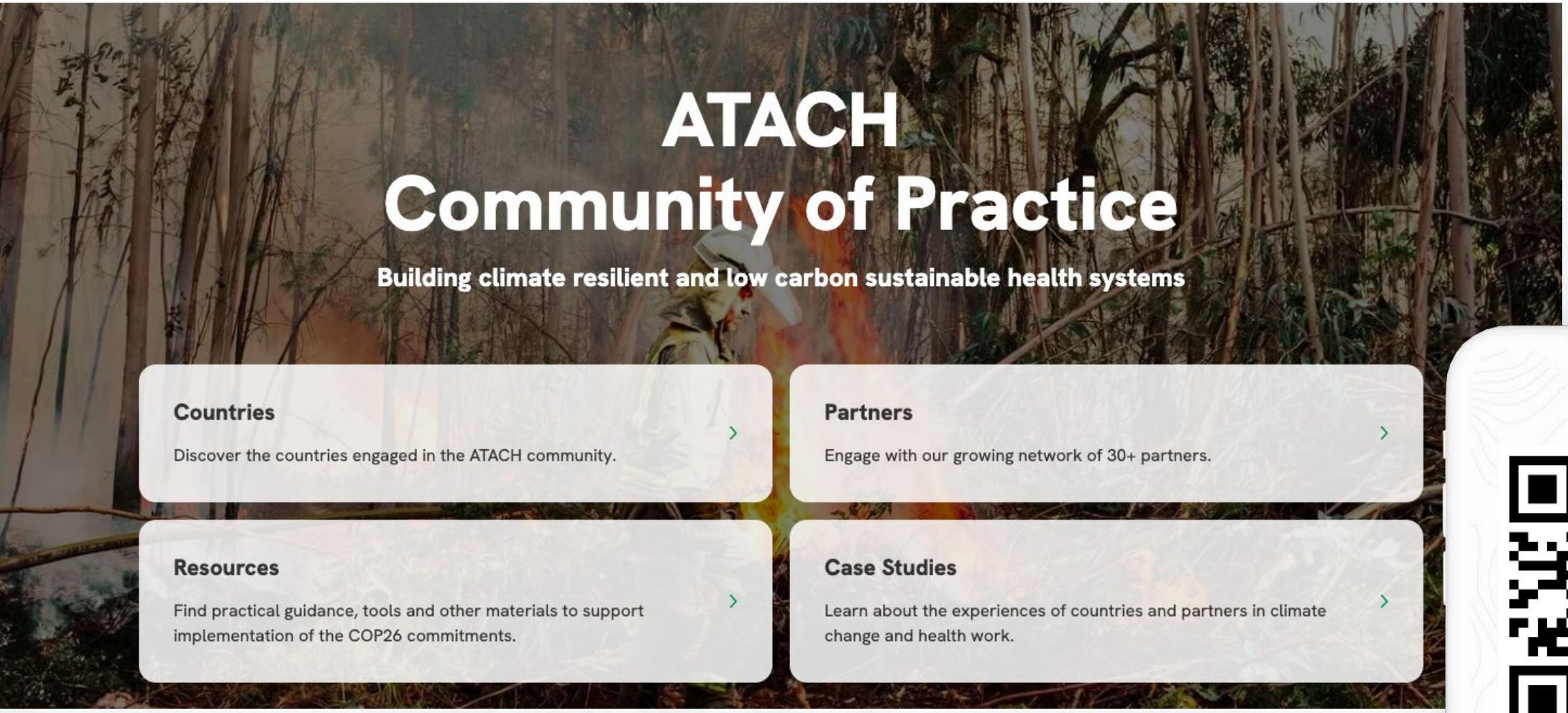
World Health Organization



World Health Organization

THANK YOU!

https://www.who.int/health-topics/climate-change

https://www.who.int/initiatives/alliance-for-transformative-action-on-climate-and-health

/https://www.atachcommunity.com

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