

Consequences of climate change and disrupted natural systems on health

Complexity and interconnectedness

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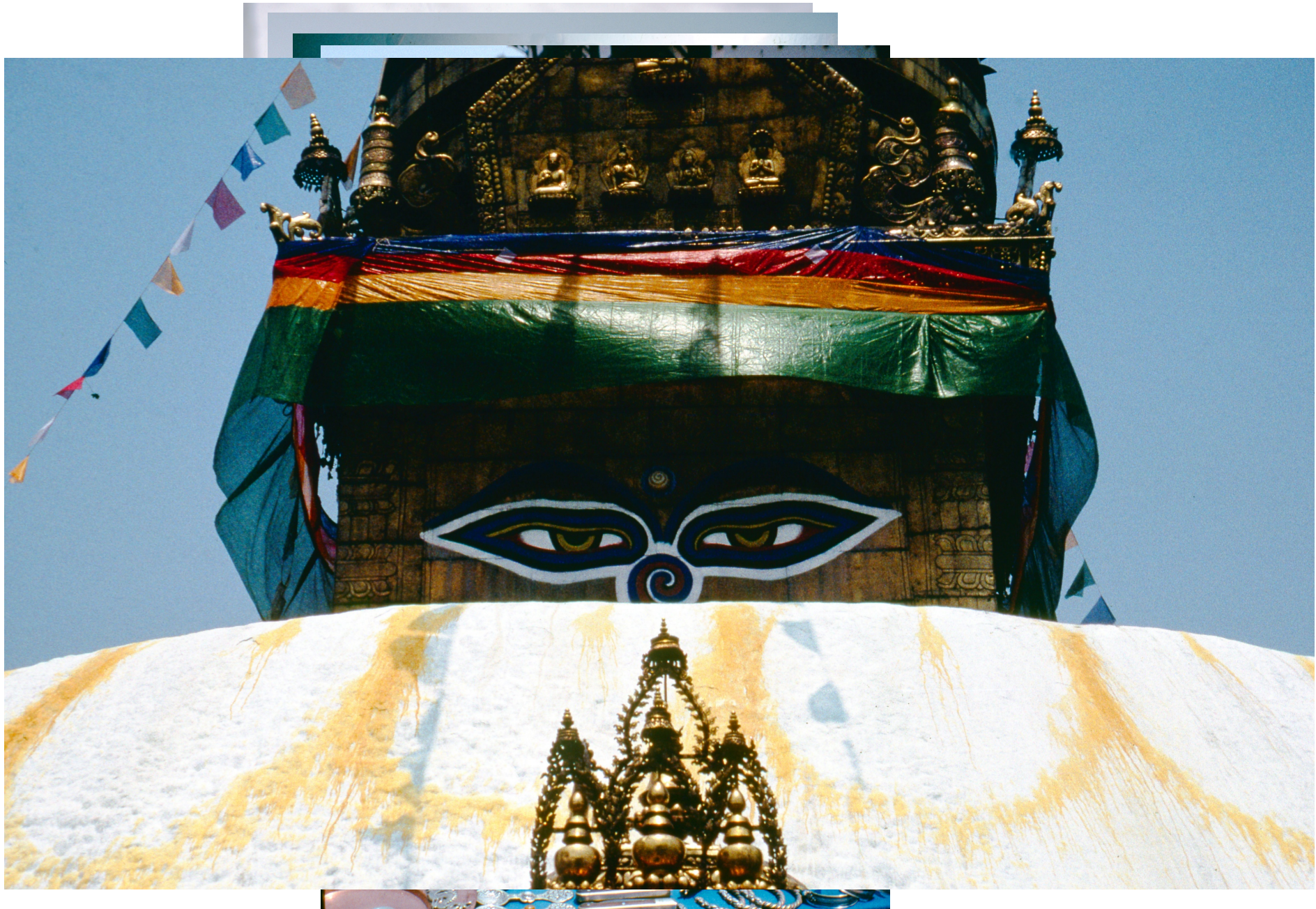
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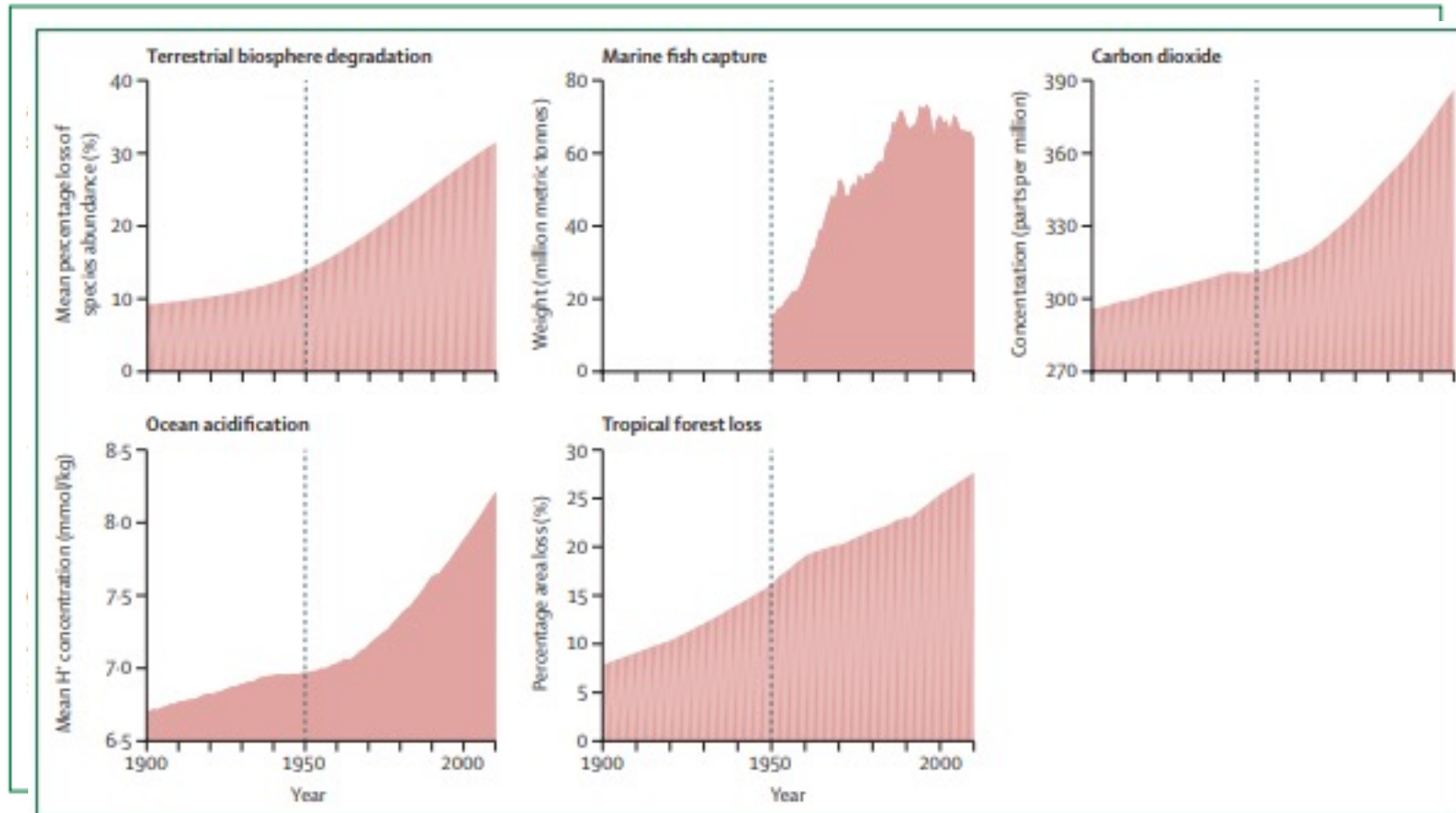
Agenda

1. The health of humans, animals and the planet at present
2. Reflections on the causes behind the current Global Health challenges
3. The triple planetary health crisis
4. Climate change and potential consequences for human health



Human exploitation of natural resources has undisputately lead to tremendous advancements in wealth, increased life expectancy, reduced child mortality and improved global health over the last 150 years. Paradoxically, the use of these resources has become the biggest threat humanity is facing.

Measures of consumption and human impact



S.S Myers, the Lancet, 2017

How did we end up in this
situation?

Human separation from Nature

- **Cartesianism** - Renè Descartes



Reductionism

“....implies that understanding every part of a phenomenon individually will lead to an understanding of the whole phenomenon when all parts are connected.”

The whole is greater than the sum of its parts

Human separation from Nature

- **Cartesianism**
- Urbanization
- Alienation from food sources
- Colonial mindset
- Progress = financial capital gain
- Idea of ownership of natural resources
- Viewing nature as an adversary



“In the vision for a healthy future, it is important to create the conditions that enable the overcoming of the dissonance between 'being in nature' (i.e., nature that surrounds us) and 'being of nature' (i.e., nature that embodies us).”

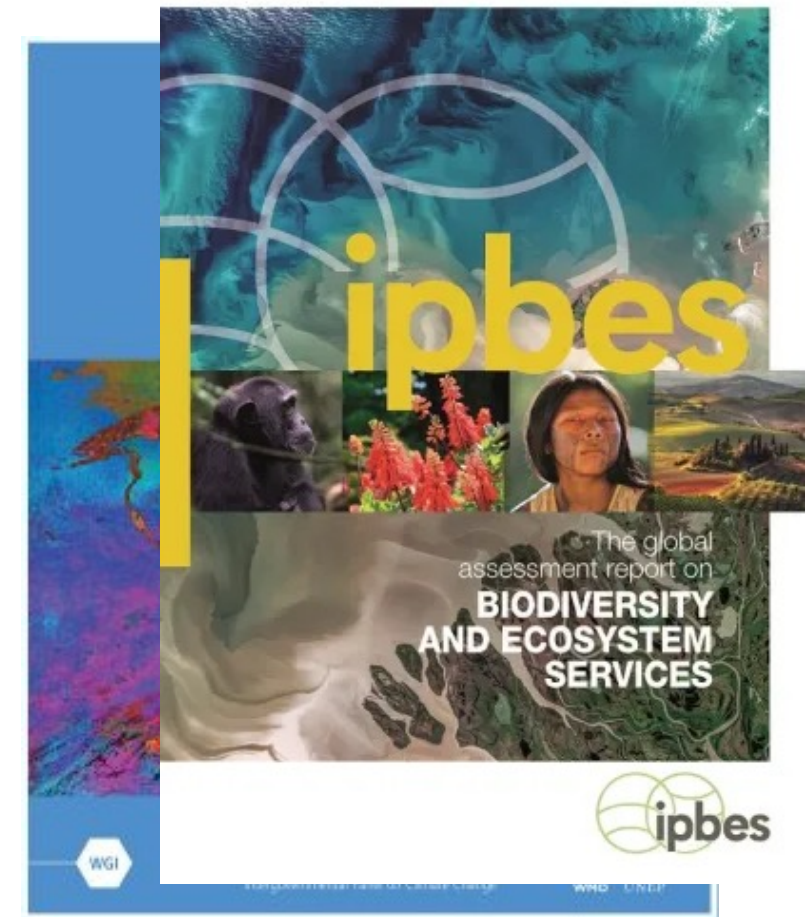
— [Redvers et al. 2020](#)

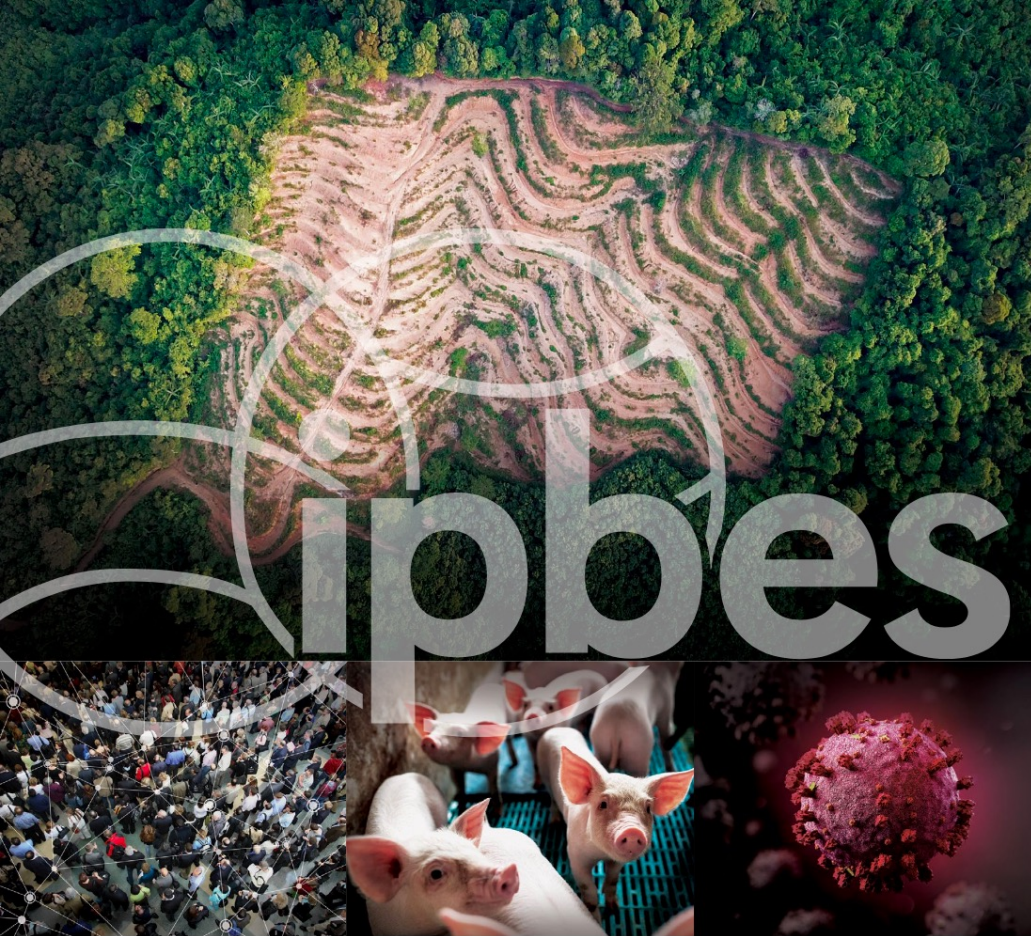
Why, or how, is climate change a threat to human health?

Climate change, pollution and the biodiversity crisis

- «The triple planetary health crisis»
- Inseparable
 - Climate change threatens wildlife habitats directly
 - Altered geophysics -> migration to new habitats
 - Natural systems function as a buffer to the effects of GHGs

But most importantly: the main cause is the same – **overexploitation of natural resources**





IPBES WORKSHOP ON BIODIVERSITY AND PANDEMICS

EXECUTIVE SUMMARY

Intergovernmental Platform on
Biodiversity and Ecosystem Services

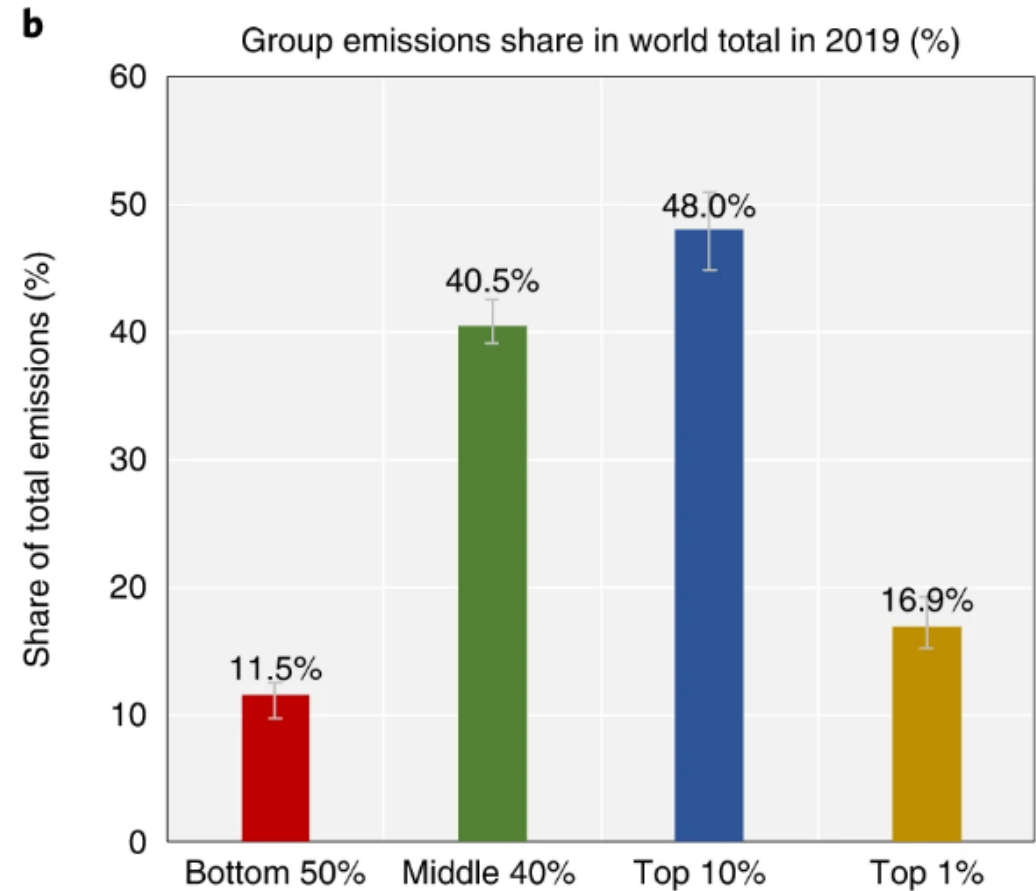


Key messages include...

- ▶ Pandemics emerge from the microbial diversity found in nature
- ▶ Human ecological disruption and unsustainable consumption drive pandemic risk
- ▶ Land-use change, agricultural expansion and urbanization cause more than 30% of emerging disease events

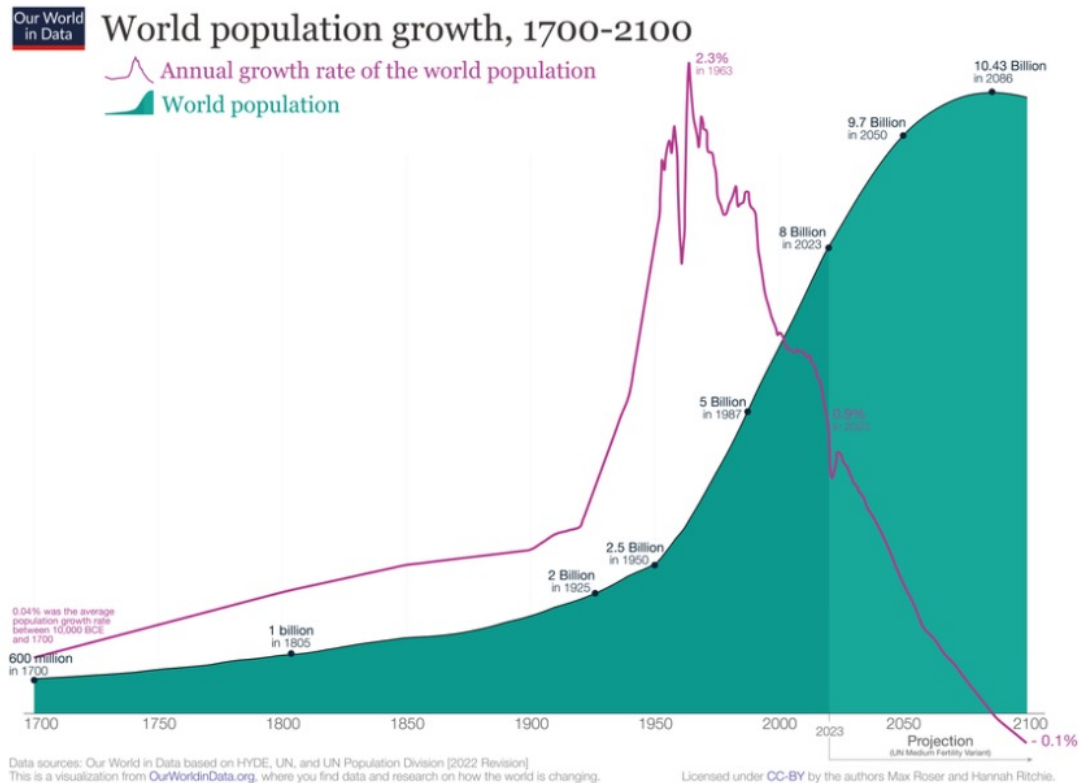
Overconsumption and inequality

- The average person in high-income countries emits more than 30 times as much as those in low-income countries
- Inequalities in emissions within countries can be just as large as differences between them



Chanel, *Nature Sustainability* 5, 2022

Global population versus consumption



$$I = PAT$$

I = impact

P = population

A = affluence (wealth)

T = technology

<https://ourworldindata.org/>

Why, or how, is climate change
and disrupted natural systems
threats to human health?

Climate Change: Defined as long-term shifts in temperatures and weather patterns due to human activities of producing heat trapping greenhouse gases

Societal vulnerability

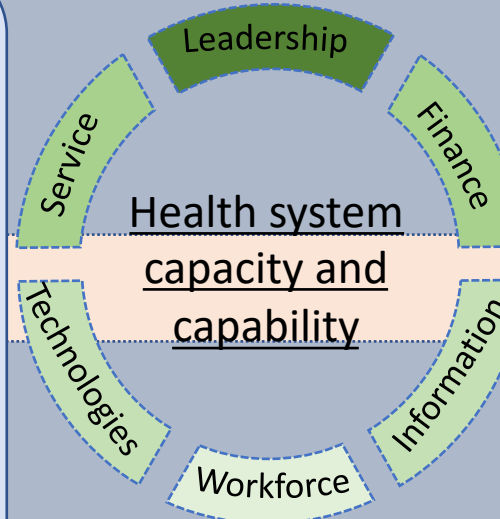
Exposure pathways

- Extreme weather
- Heat stress
- Air quality
- Water quality and quantity
- Food security and safety
- Vector distribution and ecology

Existing vulnerability

- Geographic factors
- Demographic factors
- Socioeconomic
- Biological and existing health conditions

Health system capacity and capability



Health Threats

Health Outcomes

- Physical injury
- Increased mortality
- Heat related illness
- Respiratory illness
- Water-borne diseases
- Toxification (i.e., algae)
- Emerging infectious diseases
- Vector borne diseases
- Malnutrition
- NCDs
- Mental health

Health system Outcomes

- Physical impact on infrastructure (i.e., building damage, roads)
- Impact on healthcare system components (i.e. Healthcare workforce)

Biodiversity loss: Defined as the reduction of any aspect of biological diversity (i.e., diversity at the genetic, species and ecosystem levels is lost in a particular area through death (including extinction), destruction or manual removal.

Thank you!

