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Planetary Health

Interface Between Climate and Health

Moritz Fink

- › Climate change has repercussions on people's individual human health as well as on public health systems.
- › Climate change causes the spread of tropical diseases (malaria, dengue, Zika), which were originally a more regional phenomenon.
- › Zoonoses and pandemics are the most obvious symptom of human encroachment into nature and wildlife.
- › The interaction between climate and health is being addressed in various scientific articles, national strategies or even treaties under international law (e.g., Paris Climate Agreement).
- › The concept of planetary health emphasises interdependencies between humans, animals and the environment. People can only be healthy if the planet itself is in good health.
- › Improving human health is only possible when combined with ecological and social factors.

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“Climate change affects poverty, affects hunger, certainly affects health.”¹ (Natalia Kanem, United Nations Population Fund, 2021)

Impact of Climate Change on Human Health

There can be no doubt that climate change, conceived as a change to the environment essentially caused by humans, is the main challenge of our century. According to the World Health Organisation (WHO), together with increasing air pollution, it represents the greatest global health hazard with more than 250,000 additional climate change-induced deaths estimated to occur between 2030 and 2050.²

Needless to say that climate changes contribute in particular towards various alterations in the environment, which in turn have manifold direct and indirect repercussions on human health.³

These environmental changes include increasing temperatures, more extreme weather events, a rise in sea level and carbon dioxide content in the atmosphere. Furthermore, we should also note the progressive pollution of water and air, the degradation of soils as well as the change to ecosystems due to population growth and urbanisation processes. The currently emerging – partly irreversible – transformation of the ecosystem may in turn have an impact on disease vectors such as mosquitoes or flies, which play a role in spreading tropical “climate sensitive” diseases especially such as malaria and dengue fever, and are becoming increasingly widespread in the northern hemisphere.⁴

In general, it is important to distinguish between direct and indirect (subsequent) effects regarding climate-induced changes on health. While cardiovascular diseases and cancer, respiratory infections or even mental health constitute the former, the loss of food sovereignty, resettlement, migration as well as conflicts and wars are attributed to the indirect effects.⁵

This clearly implies that these changes could, both now and in the future, lead to a higher burden on national health systems. Diseases as a result of air pollution and general climate-induced changes will increasingly exhaust the future capacities of national health systems in view of rising incidences of illness and death, for example.⁶ And yet, health systems are still not geared towards the challenges posed by climate changes in many cases. There is a risk of an adjustment gap, which, for instance, can be seen in a lack of preparedness for tropical diseases. In this context, a reference is often made to a sought-after “climate resilience” of national health systems. Here it is matter of making the systems as resilient and responsive as possible with regard to climate-induced diseases (direct and indirect consequences).⁷

Previously, it has been ascertained that climate change has and may have effects both on people’s individual health and public health systems.⁸ And this is precisely what the **Geneva Health Forum** held between 3 and 5 May, and to which this edition of Monitor Sustainability is dedicated, also aimed to address. By bringing together several hundred scientists, experts from the public and private sector, international and non-governmental organisations as well as policy-makers every two years to discuss current challenges to global health, the Geneva Health Forum makes it possible to derive recommendations for action; for example, for improving animal-human-environment relationships. During these past days, the forum devoted itself to the search for appropriate strategies for mitigating the effects of climate change on human health, and takes place under the title “Covid-19 Pandemic and Environmental Emergency: Reinventing Global Health in Times of Global Changes.” The forum firmly identifies itself as a bridge between policy and practice, and partly aims to translate the most innovative findings from field research and science into concrete policy recommendations. The title already points towards lessons learnt from the pandemic, and thus made a valuable contribution to discussions currently taking place with regard to the global health governance. Given that it primarily constitutes a health policy congress, political declarations of intent, binding treaties or closer collaboration between states could not be expected. The focus was placed on addressing current trends in global health, which in particular included lessons learnt from the pandemic.

Of course, the peace and security policy dimensions of climate change remain obvious. The vast majority of domestic and interstate conflicts already contain elements of climate change due to resource scarcity, drought, or battles over distribution.⁹ The consequences of climate change could therefore further inflame and intensify conflicts, thus making peace-building more difficult. With that said, potential refugee movements and displacements ensuing from this also interrupt medical care and therefore provide a breeding ground for further infectious diseases. The often cited connection between climate and flight and the lack of health care based on this, was also under debate during the health forum.

Climate Change as an Increasingly Dominant Issue in Global Health

The ramifications of climate change on human health, but also on the health of animals and the environment, are already a growing, prominent issue in the field of global health; which is reflected accordingly in multilateral documents, but also increasingly in national strategies, scientific articles as well as in guidelines.

The following overview aims to provide the first indications of how climate and health are becoming established in the broad field of global health on the one hand, while also finding their way into the nation-state context in Germany, on the other.¹⁰

Climate and Health in the Global Context

The scientific community and international organisations in particular are increasingly committed to the interface between climate and health:

- › The connection between human health and climate change is already established in the preamble of the Paris Climate Agreement. This makes reference to the human right to health, which is formulated, inter alia, in Article 12 of the United Nations International Covenant on Economic, Social and Cultural Rights. It urges all contracting parties to take account of their respective commitments regarding this right when taking action against climate change.¹¹
- › The interactions existing between climate and environmental changes and human health, are also addressed in 2030 Agenda with its 17 Sustainable Development Goals (SDGs).
- › In 2019, the WHO ranked air pollution and the impact of climate change first place in a “ranking of the ten greatest global health hazards.”
- › In its 2019 report, the IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) warns that humans cannot survive without nature. Millions of animal and plant species – more than twelve per cent of all species – are said to be threatened with extinction, and in some cases within a few decades. According to the report, the dramatic disappearance of biodiversity represents an unprecedented threat to human health and food security. The protection of nature and the environment is therefore in humans’ best interest.¹²
- › In the WHO publication on the COP26 in 2021: “Special Report on Climate Change and Health: The Health Argument for Climate Action”, climate change is once again designated as the “greatest threat to mankind”, and calls on states to commit to more ambitious climate protection.
- › The fact that global warming represents both an increasing and serious threat to human well-being and the health of the entire planet, is contended in the second part of the Intergovernmental Panel on Climate Change’s (IPCC) progress report published in Geneva on 28 February 2022.
- › The World Health Day on 7 April 2022 took place under the motto “Our Planet, Our Health”.
- › Finally, the repercussions of climate change on human health are subject to an annual survey and analysis by 43 scientific institutions and UN organisations in the so-called Lancet Countdown on Health and Climate Change.

Several documents and guidelines provide a scientifically sound analysis of how climate change negatively affects human health. Yet there is evidently no lack of international declarations of intent to address the climate-health nexus and to consider the next steps. The only question though, is whether the right to health will actually be applied further, as for instance in the Paris Climate Agreement (amongst others), or whether states could ultimately bring themselves to agree on new comprehensive initiatives such as those to protect biodiversity. Owing to diverging ideological ideas and strategic goals (primarily China, Russia vs. Western states), many multilateral forums are currently experiencing a mutual blockade. This impedes effective reforms, (e.g., access to an outbreak site in case of infection events with pandemic potential enshrined in an international pandemic treaty). Until recently, the momentum for reform, above all in global health architecture and policy, seemed promising.

The Russian war of aggression against Ukraine has further fuelled existing geopolitical tensions and even affected traditionally depoliticised forums such as the *World Telecommunication Standardization Assembly* or the *European Organisation for Nuclear Research (CERN)*. The bodies of international organisations' ability to execute or generally further pursue the above-mentioned declarations is likely to become even more difficult in light of current international politics. The blockade mentality in international organisations may therefore continue to manifest itself.

Climate and Health in Germany

Traditionally, Germany firmly advocates multilateral initiatives and has proven to be a major supporter in global health over recent years. Accordingly, numerous activities pursued by the Federal Government and civil society include a myriad of links to interactions between climate and health.

- › Under the chapter "Addressing the Environment, Climate Change and Health Holistically", Germany has newly included hazards posed by climate change to health as a "strategic priority" in the Global Health Strategy revised in October 2020.
- › In its G7 Presidential Programme, Germany advocates for a "sustainable planet" to protect the environment and biodiversity. The nexus between climate change, biodiversity and global health issues within the meaning of the "One Health" approach, is to be further enlarged upon during the G7 Presidency.
- › On 3 March 2022, the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) announced the launch of the "Biodiversity for Health" initiative. The underlying goal is to bring together organisations from the environmental and health sectors, in order to support countries with implementing preventive measures against any future pandemics.
- › The German Advisory Council on Global Change (WBGU) has announced that it will publish a special report on "Climate Change and Health" before the end of the year.¹³
- › Furthermore, this interface between climate and health is a topic at the annual *World Health Summit* in Berlin.
- › Finally, the founding of new scientific institutions and think tanks that specifically deal with this topic indicates how climate change and health are closely interrelated.¹⁴

Germany has dedicated itself to the impact of climate change on health in several government documents and also within civil society and academia, where it also attempts to elevate national commitments to the international and global level. However, – as explained above – the willingness of other states to implement a) multilateral initiatives and b) ideally legally binding measures is imperative here, too. Germany's dedication to global health, particularly regarding the reappraisal of lessons learnt during the pandemic, is clearly visible and laudable, however this does not automatically mean that other states follow suit. Although, for example, a breakthrough has been achieved with the WHO financial reform in the WHO "Sustainable Finance" working group chaired by Björn Kümmer from the Federal Ministry of Health, which bears testimony to Germany's tenacity regarding this very important issue, there is still no evidence of a trend reversal towards more "multilateralism".

Rather, it can be assumed that Germany's endeavours regarding climate and health will continue to be pursued consistently and, at the global level, it is more likely to result in a "club of the willing"; this would recognise the nexus between climate and health for what it is: namely, a key role in future pandemic prevention. It is under this guiding principle that various sessions had taken place during the three-day Geneva Health Forum, which together aimed to contribute towards an improved pandemic prevention strategy. Because, especially now, it is necessary and crucial in terms of a responsible health policy to draw the right lessons from the pandemic, to jointly address climate and health protection and therefore strive towards a transformation to a sustainable, strengthened health system. For this reason, too, the timing and also the topic of the Geneva Health Forum seemed almost fitting for providing a (depoliticised) platform for debate.

Findings from the Pandemic – Emergence of Zoonoses

The most evident interdependencies between humans, animals and nature became clear during the pandemic. The outbreak of the Sars-Cov-2 virus was most likely to have been caused by human encroachment on wildlife. It should be clear that in our strongly interconnected world, in view of the close proximity between humans and animals and an advancing climate change, further pandemics are likely to occur in future. Here, the question is not whether, but when the next global health emergency will loom.

The spread of pathogens of animal origin to the human population (so-called zoonoses) is mainly caused by deforestation of tropical forests, which is closely linked to the intensification of animal husbandry and agriculture.¹⁵ Likewise, the trade in wild animals is a gateway for zoonoses, as is a basic lack of resources for detecting viruses before a public health emergency arises.¹⁶ The thematically appropriate documentary "Making Pandemics" by the French producer Marie Monique Robin, elaborates this in a particularly illustrative way. While the current pandemic is only just being managed or addressed, human actions are already paving the way for the next pandemic. This is the conclusion of the film, the preview of which was shown at the Geneva Health Forum.

The climate crisis, the pandemic and species extinction are thus closely interlinked, which is why a joint approach is needed. According to the German Advisory Council on Global Change (WBGU), the interdependence between humans and nature is glaringly obvious in the areas of food, urban and rural development, mobility as well as goods production and distribution in particular, all of which are especially affected by climate change.¹⁷

Planetary Health as a Solution – Climate Protection Is Tantamount to Health Protection

How can therefore environmental and climate protection play a role in preventing pandemics and achieving the health-related goals of 2030 Agenda?

Here a promising approach is the concept of "planetary health", which emphasises interdependencies between the Earth's ecosystem and human health. According to the definition of the *Rockefeller Foundation-Lancet Commission on Planetary Health*, "planetary health" describes "the state of health of human civilisation and the surrounding environment on which it depends"¹⁸ To put it differently: humans are one and indivisible with nature. According to this understanding, people can only be healthy if the planet itself is in good health.¹⁹

This insight can already be found in a similar form in other concepts such as "One Health", which pursue a related holistic approach "so as to address potential or existing health risks arising at the interface between animal and human ecosystems".²⁰ Nonetheless, "planetary health" stands for

the explicit consideration of climate and environmental protection while consistently addressing climate change as the greatest global health hazard. Admittedly, the distinction between both approaches is difficult to establish, but the acceptance of planetary health can notably be determined by the fact that climate change requires new concepts. The understanding of “patient earth” and the protection of biodiversity are thus more directly taken into account. In an interview of the weekly newspaper DIE ZEIT, the Berlin virologist Christian Drosten therefore quite rightly indicates “the very broad notion of “One Health” and “Planetary Health” with regard to possible pandemic prevention strategies, and adds “the better shape our environment is in, then the better we are doing.”²¹ These considerations give rise to the fact that climate protection equates to the protection of health.

This finding seems trivial at first, yet everything we need for climate protection also leads to positive effects in the health sector. The authors of the IPCC report also write: “Benefits for health and well-being” would arise “from widespread, fair access to affordable renewable energy”, from “active transportation (such as walking and cycling)” as well as with respect to “nature-based solutions such as green and blue urban infrastructure”. In other words: more commitment to green spaces (parks, gardens, green façades) and the protection of streams, lakes and rivers, in order to model an underlying networked (urban) ecosystem. What is more, they stated that mention should also be made of the “transition to a low-carbon economy geared towards well-being and equity in harmony with the Sustainable Development Goals”. Finally, the health effects of a “plant-rich diet” are also cited, which would entail a reduction of greenhouse gas emissions from animal husbandry.²²

The above-cited measures are inherently built on the willingness of citizens, who need to be particularly addressed here. In order to achieve the targets outlined by the IPCC, lifestyles need to be adjusted to some extent (air pollution, food, travel habits), which can only be accomplished through corresponding, accompanying political measures. Here, a linkage with health topics may help to promote social understanding for more climate and environmental protection, for example.²³

Both the IPCC report and the Federal Government’s Global Health Strategy emphasise the need for interdisciplinary or rather “cross-sectoral and system-wide efforts”, as decisive climate and environmental protection mitigates health risks, too.²⁴ The recommended depiction of various determinants of health (e.g., work, food, social security, development, environment, research etc.), should ideally comply with the “Health in all Policies” approach envisaged by the World Health Organisation.

Summary

Our health is thus one and indivisible with the health of the environment. However, the ongoing deadlock in the bodies of international organisations is already diminishing hopes of realising binding treaties to connect both approaches more effectively. There is therefore a danger that geopolitical tensions will not only thwart international declarations of intent to wage a more intense fight against climate change and the simultaneous improvement of human health, but that these will specifically impact the drafting of a pandemic treaty in which approaches such as “planetary health” or “One Health” could be taken into account.

It is against this background that the Geneva Health Forum provided a promising platform for debating the immense challenges associated with the interrelationship between humans, animals and the environment. The title of the forum “Covid-19 Pandemic and Environmental Emergency: Reinventing Global Health in times of Global Changes”, as well as some accompanying thematic

blocks point towards an in-depth analysis of “planetary health”. For that reason, day II of the Health Forum also discussed what could be included in the pandemic treaty.

The Health Forum rightly addressed the complexity of health risks by perceiving biodiversity, climate protection and health as one. It is thus imperative that the solutions outlined regarding “One Health” or “planetary health” be understood as guides for policy-makers to create appropriate framework conditions in the form of multilateral initiatives. After all, as already mentioned, global efforts are needed given that climate change and pandemics are global problems themselves too. As in the past, the Health Forum explicitly does not see itself as a political platform for negotiating agreements, but rather as a bridge between cutting-edge research, the Geneva institutions related to global health, and politics. As a result, the event was firmly focused on global health and hence dedicated itself to professional or substantive debates as part of pandemic prevention, preparation and response.

This small window of opportunity for drawing the right conclusions from the pandemic should be exploited at all costs. To this end, the Geneva Forum afforded a welcome respite from ideological conflicts of interest, and gives priority to current research and lessons learnt from the pandemic: that notably includes climate and health protection.

¹ Natalia Kanem, Executive Director, United Nations Population Fund (UNFPA), World Health Summit 2021

² WHO 2019: Ten Threats to Global Health

³ RKI: The Impact of Climate Change and EU Parliament: Report on the Effects of Climate Change on Vulnerable Population Groups in Developing Countries

⁴ RKI: Climate Change and Health: A Progress Report and Federal Government’s Global Health Strategy

⁵ Federal Government’s Global Health Strategy and Federal Health Gazette: Health Challenges of Climate Change

⁶ Regardless of this, global life expectancy has risen, poverty has been significantly reduced and human health has improved. This is partly due to the constant availability of energy, food and the resource-intensive lifestyle underlying this. The long-term negative impact is only gradually becoming apparent and is therefore delayed. That is why sustainable action is so important.

⁷ IPCC: Sixth Assessment Report: Climate Change 2022: Impacts, Adaptation and Vulnerability

⁸ Konrad-Adenauer-Stiftung: Climate Change and Public Health

⁹ ICRC: Climate Change and Conflict and WHO: Global Evidence Review on Health and Migration

¹⁰ The mutual interactions between climate, environment and health can be found in several national, international as well as scientific documents. Therefore, no claim to completeness can be made.

¹¹ BMZ (Federal Ministry of Economic Cooperation and Development): Health – a Human Right

¹² IPBES: Global Assessment Report on Biodiversity and Ecosystem Services

¹³ WBGU: Planetary Health

¹⁴ These include the appointment of the first Professorship for Climate Change and Health in 2019 at the Charité – Universitätsmedizin as well as the founding of the think tank “Deutsche Allianz für den Klimawandel” (German Alliance for Climate Change).

¹⁵ El Pais: Preventing spillover of viruses from animals to humans would only cost 5% of the losses they cause, claims report

¹⁶ The newly created WHO Hub for Pandemic and Epidemic Intelligence in Berlin will address this deficit.

¹⁷ WBGU: Fact Sheet Planetary Health

¹⁸ Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation-Lancet Commission on planetary health - ScienceDirect

¹⁹ Trade journal: people can only be healthy if the planet is in good health | guest article |

²⁰ One Health Global Network, 2012

²¹ Zeit-Interview: "I hope that schools won't close again"

²² IPCC: Sixth Assessment Report: Climate Change 2022: Impacts, Adaptation and Vulnerability and Tagesspiegel Politikmonitoring Gesundheit & Pflege, 07/03/2022

²³ *ibid.*

²⁴ Federal Government's Global Health Strategy

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