

# Epidemic zoonoses and climate change: High time to tackle root causes and build adaptive capacities

Issue 2020/03 • May 2020

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## Introduction

As COVID-19 shows, lack of society-wide preparedness for disruptive global events comes at a high cost. Societal vulnerability to epidemic zoonoses – diseases transmitted from animals to humans that can turn into pandemics – has been known for centuries. Yet, the world stood surprisingly unprepared when disaster struck in early 2020 and COVID-19 brought entire countries to a standstill and caused unfathomable death tolls. Similarly, whenever an extreme weather event occurs, such as the drought and unprecedented heat waves in Western Europe during the summer of 2019, we are confronted with the reality of climate change and the danger of ignoring it. The vulnerability of society to these issues is set to increase as the impacts of climate change will become more visible and the occurrence of epidemic zoonoses is likely to become more frequent. As both epidemic zoonoses, such as COVID-19, and climate change radically impact our way of life and constitute some of the greatest challenges to humanity and our planet Earth, we need to implement a long-term preventive approach that radically tackles the root causes of the problems. Unfortunately, the currently dominant approach is a lot more reactive and short-term-focused (i.e. managing crises in the moment) than preventive, proactive and long-term-focused (i.e. tackling root causes and making crisis preparations ahead of time). All too often, governments react to crises resulting from the problem only when these present themselves, trying to minimise the damage.

In this policy brief, we argue that both epidemic zoonoses – diseases transmitted from animals to humans that can turn into pandemics such as COVID-19 – and climate change require a long-term preventive approach that tackles their root causes. This should reduce the number of future pandemics and extreme weather events and other related crises and prevent us from crossing dangerous tipping points. All levels of society (local, national, international) should be engaged in the approach and collaborate in an equitable fashion. As the negative effects of climate change are manifesting themselves more and more strongly and zoonotic epidemics can most likely not fully be eradicated, considerably more resources must also be spent on resilience building to seriously prepare societies, and vulnerable groups in particular, for future crises ahead of time. Changes in decision-making procedures and economic mechanisms can help overcome the bias towards the short-term present in modern political systems (“myopia”).

When taking a closer look at the two challenges, we find that epidemic zoonoses and climate change have quite a lot in common in terms of problem characteristics and root causes. The approach that these challenges require should take these commonalities into account: it must address the

complexity of the problem at all levels and facilitate collaboration on a global scale in formulating a long-term preventive approach focused on root causes. In addition, considerable resources need to be made available for the capacity building of local citizens, especially the vulnerable ones, to enhance their involvement and engagement in both mitigation and adaptation in order to formulate a truly effective, equitable approach. Changes in decision-making procedures and economic mechanisms can help overcome myopia - the bias towards the short-term present in democratic systems.

## **Shared problem characteristics and root causes**

Epidemic zoonoses, which can turn into pandemics as COVID-19 did, and climate change share several characteristics. They are complex, global problems with similar root causes, and for the untrained eye they may seem insignificant at first. But without appropriate and timely interventions, both zoonotic epidemics and climate change reach a point after which their exponentially growing loss and damage becomes almost unstoppable, with fatal consequences for humanity and our planet Earth.

Firstly, the root causes of the two problems are not dissimilar. As discussed in recent UN Environment reports, some of the human activities that increase epidemic zoonosis emergence, namely deforestation, intensified agriculture and livestock production, accelerate climate change as well. In addition, climate change in itself can trigger epidemic zoonosis emergence through for instance the melting of the permafrost (UNEP, 2016). That makes tackling climate change a prerequisite for tackling epidemic zoonoses in a preventive manner and tightly binds the two together.

Furthermore, both epidemic zoonoses and climate change are complex problems that require urgent action. Their effects are so severe that these lead to turbulence or “interactions of events or demands that are highly variable, inconsistent, unexpected or unpredictable” (Ansell, Trondal and Øgård, 2017, p.2). Such turbulence develops into a crisis when urgent responses are required and the existing socio-economic systems are threatened. Furthermore, the Earth system as well as national health care systems have limited capacity, which means that urgent action – the more preventive, the better – is essential to avoid overload (or dangerous ‘tipping points’ in the case of climate change) and maintain the ability to cope with the effects of both problems.

The complexity is further intensified by the global nature of epidemic zoonoses and climate change. These are problems that cannot be stopped by national borders, both in terms of their causes and in terms of the solutions necessary. While governments react mostly on their own when a pandemic or extreme weather event reaches their country, to prevent future crises countries need to cooperate and everyone must be on board. Action on all levels from the local to the global is necessary, and coordination at all levels on monitoring of data and design of an optimal approach to face the challenges is crucial. Besides, the effect of individual action may seem small, but successfully implemented change will only be possible through engagement and efforts from each individual.

However, strong action is hindered by the delay between the actions taken or not taken and their impacts. In the case of climate change, it can easily take a couple of years for the effects of greenhouse gas emission reductions or increases to become visible in the form of changes in global temperature and climate. In the case of epidemic zoonoses, this time gap is somewhat smaller: the virus develops in wild animals that are, for example, in some countries

sold at markets where they can get exposed to other animals and humans and cause novel infections, which can turn into a pandemic within only a few months. These delays reduce the visibility of both climate change and epidemic zoonoses in people's daily lives, which can give the false impression that taking action is unnecessary. Regarding climate change, this is often referred to as the "Giddens Paradox": the idea that as long as its impacts are not directly visible, the problem remains too abstract to warrant preventive long-term action (Giddens, 2011). However, we need to realise that the window for preventive action closes more rapidly than we think. By the time the effects become visible, we can only react and try to minimise the damage, as both the COVID-19 pandemic and past extreme weather events have already shown.

Hence, policy measures must be designed to sideline the "Giddens Paradox". Both climate change and epidemic zoonoses require much more of a long-term, preventive approach with a focus on tackling root causes and engaging all levels of society to lower the number of future pandemics and extreme weather events and other related crises, before we cross dangerous limits.

## **The way forward: a long-term, preventive approach at all levels**

### ***Tackling the root causes***

First and foremost, the root causes of the problems must be addressed. This comes down to putting a halt to deforestation and intensified agriculture and livestock production, to both reduce greenhouse gas emissions and make it harder for viruses in wild animals to move to livestock and humans and turn into pandemics. The limits of the planet have to be respected and put centre stage, together with social standards such as access to healthcare and safe

drinking water for all. We need to rethink our current lifestyle and the way in which we organise society to make sure everyone contributes and benefits and negative externalities are not disproportionately left on the weakest shoulders. Only by altering our 'business as usual' and changing our behaviour can we decrease the impacts of future pandemics and climate change's negative consequences and make sure that no one is left behind in times of crisis.

However, such radical change is difficult, partly because of the 'status quo bias' – the preference of humankind for things to stay the way they are to reduce uncertainty and possible negative outcomes in our daily lives. As the 'status quo bias' frequently influences our decision-making, policy initiatives that diverge from the reference point are often faced with large opposition. The kind of reforms necessary will therefore require political courage (Weber, 2015).

### ***Action by the people, for the people***

Inclusion of civil society, private sector and individual citizens in the formulation of policies can help ensure everyone's needs are heard and can increase the acceptance of eventual policies. Because they enhance trust in government action and increase solidarity between civilians, more deliberative forms of democracy can lead to societal change and an increased long-term focus (Cengiz, 2018). In the last decade and especially since 2019, some forms of deliberative democracy such as mini-publics and civil assemblies have become increasingly common across Europe. Interestingly enough, around half of the mini-publics are organised on the topic of climate change (Chwalisz, 2019). However, they remain a novel approach and are often organised on an ad-hoc basis instead of becoming part of the structure of policymaking.

Additionally, people need to realise the importance of individual action on top of structural change, which is not an easy task and something that will require significant awareness raising efforts. People need to feel that their actions matter and that their efforts are not just a drop in the ocean. Therefore, the solutions they can apply have to be communicated to them in ways that are easy to understand, they have to be easy to implement, and they have to be linked to people's personal goals.

In this regard, intergenerational engagement is required. To stop the spread of COVID-19, young people make significant sacrifices in terms of social distancing to protect the more vulnerable risk groups, including in particular the elderly. To mitigate climate change, it is the older and current generations that need to change their current way of life, so as to reduce their carbon footprint in order to preserve the future of their children and grandchildren. Only when all generations are willing to make significant efforts for others, can we make sure that no one is disproportionately affected.

### ***Adaptation cannot be forgotten***

As the negative effects of climate change are manifesting themselves more and more strongly and zoonotic epidemics can most likely not fully be eradicated, considerably more resources must be spent on resilience building in order to seriously prepare societies for future crises ahead of time. In particular, strategies have to be put in place at the local, national and international level to better protect vulnerable groups in times of crisis. Policymakers working in the fields of climate change and economic zoonoses at various levels should deepen their knowledge about how to carry out risk analysis and design strategies for risk reduction by interacting with experts working in the field of disaster risk reduction. When putting together such strategies, it has to be kept in mind that one approach does not fit

all: measures to increase resilience and reduce risk should be adapted to the local context and include local knowledge. However, once a crisis is over and the sense of urgency is gone, a lack of political will often stands in the way of serious resilience building.

### ***Equity between countries and generations***

Neither viruses nor climatic changes respect borders. An epidemic outbreak or high levels of greenhouse gas emissions in one region will affect the whole world. However, some are more vulnerable than others. While it is often claimed that we are all in the same boat, developing countries and countries with weaker institutional systems are disproportionately affected by the two challenges, not the least because they have less capacity to respond and adapt. The large gaps between the infrastructures and other types of capacities of the most and least developed countries around the world require countries to help and support each other, both in mitigation and adaptation. Only a few years ago, the West African Ebola virus epidemic demonstrated the enormous damage epidemic zoonoses can do to societies where the health system is not equipped to deal with it. In the case of climate action, where the countries responsible for climate change are usually not the ones who are the most vulnerable to it (e.g. Small Island Developing States and least developed countries), international solidarity and equity can certainly not be disregarded. In general, the underprivileged and vulnerable groups in every country have more to fear from climate change and epidemic zoonoses than the privileged and the strong.

Organisations already in place such as United Nations institutions, the G20, the European Union (EU), the World Bank, etc. offer venues for international cooperation. Just Transition initiatives have been set up to make sure vulnerable frontline communities are supported in the shift from an extractive to a regenerative economy, and international equity has been part of the

international climate framework from the start. However, the ongoing COVID-19 crisis indicates that governments tend to take unilateral, national(ist) measures rather than internationally coordinated actions, even in deeply integrated regions such as the EU. Furthermore, trust in multilateralism and international organisations has been decreasing, showcased by the suspension of US contributions to the WHO. Many developed countries have an individualist market-based orientation that does not leave much room for international solidarity (Jordan, 2020), and development aid is not prioritised at the moment because of the domestic economic crises. A paradigm shift is necessary in which cooperation and communal well-being is valued over competition and individual success.

### ***Overcoming myopia in policy and politics***

The aforementioned measures cannot successfully be implemented as long as ‘democratic myopia’ – the inherent short-termism of democratic decision-making processes – is not overcome. Many of the shared characteristics of the two challenges, especially the temporal delay, give few incentives to policymakers to take long-term action. The benefits of policies are usually not immediately visible while they often have high instant costs. In order not to put their re-election on the line, political leaders tend to opt out from taking strong preventive action. Previous studies (e.g. Healy and Malhotra, 2009) have shown that voters are more inclined to reward relief efforts when a crisis hits than to reward preventive disaster risk reduction. The high complexity and uncertainty present in the context of climate change and epidemic zoonoses further complicate long-term policymaking.

Not only myopia in decision-making, but also economic myopia needs to be tackled. Investors often focus on short-term results rather than building long-term sustainability. The economic crisis

following the global lockdown measures due to the COVID-19 pandemic changes the short-term political and economic priorities, which risks pushing climate action off the agenda. Economic mechanisms that are more in line with sustainability targets must be put in place, to ensure that carbon lock-ins and other negative short-sighted measures are prevented.

Changing the institutional set-up of our decision-making procedures can offer a more lasting solution for myopia. With the introduction of its Climate Change Act in 2008, the United Kingdom has explicitly embedded long-termism in its decision-making procedures. To reach net zero emissions in 2050, the government needs to set carbon budgets to reach the objective at least 12 years in advance (UK Committee on Climate Change, 2020). In addition, more deliberative forms of democracy can enhance trust in policymakers, which can facilitate long-term decision making.

### **Conclusion**

As demonstrated above, climate change and epidemic zoonoses such as COVID-19 share several characteristics that necessitate a long-term preventive approach. This approach must first and foremost focus on mitigation to tackle the root causes and prevent future losses as much as possible. Moreover, the systemic nature of the two challenges makes it essential to protect the vulnerable and underprivileged.

While mitigation action must be the main priority, adaptation also needs to be a part of the approach, to increase the resilience of society ahead of new crises to come. As some future crises are inevitable, we have to make sure that their impacts are minimised, should they occur. Taking such preventive action means changing our way of life, how we develop our economic systems and how we engage in policymaking, both domestically and internationally.

This is easier said than done. However, the COVID-19 crisis has taught us that significant behavioural and societal changes required to “flatten the curve” can be successfully implemented within a short timeframe as long as a majority of the population and its decision makers understand that the alternative – business as usual – will bring about

even more severe consequences in terms of the loss of human lives. This should convince governments to also implement the required preventive actions in time, and the wider population to act accordingly, before our Earth system has crossed dangerous tipping points of no return that will force us to fight a running battle we can no longer win.

## References

- Ansell, C.K., Trondal, J. and Øgård, M. (eds.) (2017) *Governance in Turbulent Times*, Oxford: Oxford University Press.
- Cengiz, F. (2018) 'We need to talk (more) about deliberative democracy in the EU', EUROPP blog post, London School of Economics, 19 June 2018. Available at: <https://blogs.lse.ac.uk/europpblog/2018/06/19/we-need-to-talk-more-about-deliberative-democracy-in-the-eu/> (Accessed 11 May 2020).
- Chwalisz, C. (2019) 'A New Wave of Deliberative Democracy', Carnegie Europe, 26 November 2019. Available at: <https://carnegieeurope.eu/2019/11/26/new-wave-of-deliberative-democracy-pub-80422> (Accessed 11 May 2020).
- Giddens, A. (2011) *The Politics of Climate Change*, 2nd edition, Hoboken, New Jersey: Wiley.
- Healy, A. and Malhotra, N. (2009) 'Myopic voters and Natural Disaster Policy', *American Political Science Review*, 103(3), pp. 387-406.
- Jordan, B. (2020) 'Individualism and Solidarity', in Jordan, B. *Automation and Human Solidarity*. Palgrave Pivot, Cham.
- UK Committee on Climate Change (2020) 'UK regulations: the Climate Change Act', London: Committee on Climate Change. Available at: <https://www.theccc.org.uk/what-is-climate-change/the-legal-landscape/the-climate-change-act/> (Accessed on 11 May 2020).
- UNEP (2016) *UNEP Frontiers 2016 Report. Emerging Issues of Environmental Concern*, Nairobi, Kenya: United Nations Environment Programme. Available at: <https://wedocs.unep.org/handle/20.500.11822/7664> (Accessed on 28 April 2020).
- Weber, E.U. (2015) 'Climate Change Demands Behavioural Change: What Are the Challenges?', *Social Research*, 82(3), pp. 561-580.

## Acknowledgements

The authors want to thank their colleagues at the Research Centre on Environment, Economy and Energy, Institute for European Studies, Vrije Universiteit Brussel, for the useful brainstorming and discussions on the topic of this policy brief.

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