Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Planetary health research digest

Green growth or degrowth?

Existing plans to mitigate climate change largely rely on the green growth approach, in which reductions to CO_2 emissions are achieved mainly through market incentives and technological improvements to productivity. The ability of market systems to deliver on these goals while fostering a more fair society has, however, been called into question.

Simone D'Alessandro (University of Pisa, Italy) and co-authors created a simulation model for France from 2014–50 to investigate the effects of different approaches to the low-carbon transition on CO_2 emissions, income inequality, unemployment, and the public deficit. All policies resulted in reductions in CO_2 emissions, but with widely varying social and economic effects. Under the business-as-usual and green growth scenarios, unemployment and income inequality increased up to 2050, whereas under the more radical approaches—policies to enhance social equity or the same policies plus economic degrowth—both values fell, at the expense of a rising public deficit. Although there are no clear win-win scenarios, the authors point out, their simulations suggest that more radical social policies could be feasible without catastrophic social or economic consequences.

Climate conflicts

Although the threat of climate-related disasters precipitating armed conflict is a commonly discussed risk of future climate change, the evidence for this association is mixed. To investigate whether, when, and how these disasters might be related to armed conflict, Tobias Ide (University of Melbourne, Australia) and co-authors applied a combination of event coincidence analysis, qualitative comparative analysis, and case studies to databases of armed conflicts and climate-related disasters covering 1980–2016.

In countries with large populations, political exclusion of ethnic groups, and a low human development score, the association between disasters and conflicts was significant, particularly for hydrological disasters. Nearly a third of conflicts in such countries occurred within 7 days of a disaster. In their analyses of mechanisms behind the associations, the authors conclude that these associations seem to be driven by increased opportunities (eg, weakened government infrastructure), rather than aggravated grievances.

Fisheries' futures

Ocean warming, acidification, and sea level rise due to climate change are expected to have major impacts on the world's maritime ecosystems. As such, these effects will have serious consequences for maritime fisheries and the people who depend on them.

Given that conflicts over fisheries are some of the most common causes of militarised disputes between countries, Elizabeth Mendenhall (University of Rhode Island) and co-authors conducted a review of the effects climate change is likely to have on fisheries and how these might result in transnational conflicts. They find that changes to fish stocks, rising sea levels affecting territorial claims based on small islands and shorelines, stresses on coastal infrastructure, and migration into or out of fishing areas are likely to be the main sources of conflict. Potential solutions will have to be at the governance level, such as clarification of legal boundaries on fisheries and multilateral commitments to monitoring, as well as anticipation of future changes. With fisheries already being affected by climate change, these solutions will need to be implemented sooner rather than later.

Social mixing and COVID-19

The COVID-19 outbreak emerged in Wuhan, China, in December, 2019, and by late January, 2020, the local and national government had enacted a wide range of policies to reduce social mixing in the city, including school and workplace closures, as well as travel restrictions. These interventions have been attributed with reducing transmission intensity, but the scale of their effects on the outbreak trajectory in Wuhan has not been quantified.

Kiesha Prem and co-authors used social mixing and disease transmission modelling to investigate the effects of these interventions within Wuhan. Compared with the baseline scenario, the intense social control measures substantially delayed the peak in new cases and reduced its height. Of the policies tested, the later phase-out scenario, with gradual returns to work starting in early April, had the greatest effect, reducing the median number of new infections by 92% by mid-2020 and 24% by the end of the year. Importantly, the models highlight the need for any measures aiming to reduce social mixing during the COVID-19 pandemic to be lifted gradually to avoid the rapid emergence of a second peak in new cases.

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