

# Ecosystem degradation could raise risk of pandemics

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Environmental destruction may make pandemics more likely and less manageable, new research suggests.

The study, by the University of the West of England and the Greenpeace Research Laboratories at the University of Exeter, presents the hypothesis that [disease risks](#) are "ultimately interlinked" with biodiversity and natural processes such as the [water cycle](#).

Using a framework designed to analyse and communicate [complex relationships](#) between society and the environment, the study concludes that maintaining intact and fully functioning ecosystems and their associated environmental and [health benefits](#) is key to preventing the emergence of new pandemics.

The loss of these benefits through ecosystem degradation—including deforestation, land use change and agricultural intensification—further compounds the problem by undermining water and

other resources essential for reducing [disease transmission](#) and mitigating the impact of emerging [infectious diseases](#).

Lead author Dr. Mark Everard, of the University of the West of England (UWE Bristol), said: "Ecosystems naturally restrain the transfer of diseases from animals to humans, but this service declines as ecosystems become degraded.

"At the same time, ecosystem degradation undermines water security, limiting availability of adequate water for good hand hygiene, sanitation and disease treatment.

"Disease risk cannot be dissociated from ecosystem conservation and natural resource security."

Dr. David Santillo, of the Greenpeace Research Laboratories at Exeter, added: "The speed and scale with which radical actions have been taken in so many countries to limit the health and financial risks from COVID-19 demonstrate that radical systemic change would also be possible in order to deal with other global existential threats, such as the climate emergency and collapse of biodiversity, provided the political will is there to do so."

The researchers say the lesson from the COVID-19 pandemic is that societies globally need to "build back better", including protecting and restoring damaged ecosystems (in line with the goals of the 2021-2030 UN Decade on Ecosystem Restoration) keeping the many values of nature and human rights at the very forefront of environmental and economic policy-making.

The paper, published in the journal *Environmental Science and Policy*, is entitled: "The role of ecosystems in mitigation and management of COVID-19 and other zoonoses."

**More information:** Mark Everard et al, The role of

ecosystems in mitigation and management of  
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