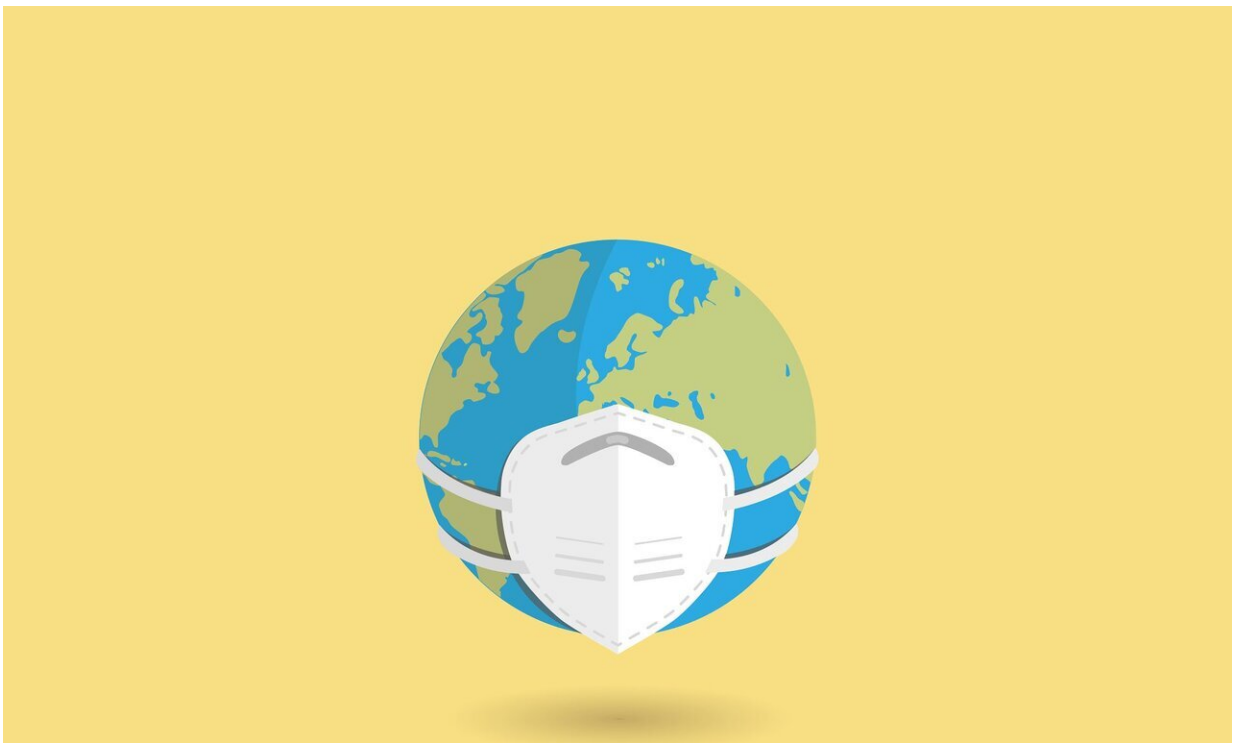# New report from Harvard and global experts shows investments in nature needed to stop the next pandemic

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As the world struggles to contain COVID-19, a group of leading, scientific experts from the U.S., Latin America, Africa and South Asia released a report today outlining the strong scientific foundations for

taking actions to stop the next pandemic by preventing the spillover of pathogens from animals to people. The report provides recommendations for research and actions to forestall new pandemics that have largely been absent from high-level discussions about prevention, including a novel call to integrate conservation actions with strengthening healthcare systems globally.

The report from the [International Scientific Task Force to Prevent Pandemics at the Source](#) makes the case that investments in outbreak control, such as diagnostic tests, drugs and vaccines, are critical but inadequate to address [pandemic](#) risk. These findings come as COVID-19 vaccinations availability in many low- and middle-income countries remains inadequate—and even in wealthier nations vaccine coverage is far from reaching levels needed to control the Delta variant.

"To manage COVID-19, we have already spent more than $6 trillion dollars on what may turn out to be the most expensive band aids ever bought, and no matter how much we spend on vaccines, they can never fully inoculate us from future pandemics," said Dr. Aaron Bernstein, interim director of the Center for Climate, Health, and the Global Environment at Harvard T.H. Chan School of Public Health and leader of the Scientific Task Force for Preventing Pandemics at the Source. "We must take actions that prevent pandemics from starting by stopping the [spillover](#) of diseases from animals to humans. When we do, we can also help stabilize the planet's climate and revitalize its biosphere, each of which is essential to our health and [economic welfare](#)."

Previous [research](#) by Dr. Bernstein and colleagues found that the costs of preventing the next pandemic—by reducing deforestation and regulating the [wildlife trade](#)—are as little as $22 billion a year, 2% of the economic and mortality costs of responding to COVID-19.

[The task force found that spillover of possible pandemic pathogens](#)

occurs from livestock operations; wildlife hunting and trade; land use change—and the destruction of tropical forests in particular; expansion of agricultural lands, especially near human settlements; and rapid, unplanned urbanization. Climate change is also shrinking habitats and pushing animals on land and sea to move to new places, creating opportunities for pathogens to enter new hosts.

Agriculture is associated with greater than 50% of zoonotic infectious diseases that have emerged in humans since 1940. With human population growing, and food insecurity on the rise because of the pandemic, investments in sustainable agriculture and in the prevention of crop and food waste are critical to reduce biodiversity losses, conserve water resources, and prevent further land use change while promoting food security and economic welfare.

A key recommendation from the task force calls for leveraging investments in healthcare system strengthening and One Health to jointly advance conservation, animal and human health, and spillover prevention. A successful example of this integrated model comes from Borneo where a decade of work resulted in ~70% reduction in deforestation and provided health care access to more than 28,400 patients and substantial decreases in diseases like malaria, tuberculosis and common diseases of childhood.

Additional recommendations for investments and research include:

Investment priorities:

- Conserve tropical forests, especially in relatively intact forests as well as those that have been fragmented.
- Improve biosecurity for livestock and farmed wild animals, especially when animal husbandry occurs near large or rapidly expanding human populations.

- Establish an intergovernmental partnership to address spillover risk from wild animals to livestock and people from aligned organizations such as FAO, WHO, OIE, UNEP, and Wildlife Enforcement Networks.
- In low- and middle-income countries, leverage investments to strengthen healthcare systems and One Health platforms to jointly advance conservation, animal and human health, and spillover prevention.

Research priorities:

- Establish which interventions, including those focused on forest conservation, wildlife hunting and trade, and biosecurity around farms, are most effective at spillover prevention.
- Assess the economic, ecological, long term viability and social welfare impacts of interventions aimed at reducing spillover. Include cost-benefit analysis that considers the full scope of benefits that can come from spillover prevention in economic analyses.
- Refine our understanding of where pandemics are likely to emerge, including assessments of pandemic drivers like governance, travel, and population density.
- Continue viral discovery in wildlife to ascertain the breadth of potential pathogens and improve genotype-phenotype associations that can enable spillover risk and virulence assessments.

The task force was convened by Harvard Chan C-CHANGE and the Harvard Global Health Institute (HGHI). The findings laid out in their inaugural report will be translated into international policy recommendations to inform the G20 summit in October and the 26th United Nations Climate Change Conference (COP26) in November.