## Nature



he began by making a slow and deep whooping sound, the repeated noise gradually becoming faster and higher pitched, culminating in a stirring crescendo of yelping cries.

It is not often a conference keynote speaker opens their address in fluent chimpanzee. But this was the celebrated primatologist Jane Goodall, famed for her decades-long study of the social interactions of wild chimpanzees in Tanzania and founder of the conservation institute which bears her name.

"That simply means this is me this is Jane," she said, translating her unique introduction.

I was fortunate enough to be invited to join the audience of an online international conference which brought together leading experts in conservation, public health and veterinary science to discuss the Covid-19 pandemic and links with wildlife trade and consumption.

And scientist and environmentalist Dr Goodall DBE painted a stark picture of the possible reasons for the coronavirus outbreak which has swept the globe over the last year killing more than 2.5 million people.

"We brought it on ourselves. We are paying the price for not listening to those scientists studying zoonotic diseases who have been predicting a pandemic like this for a very long time," she said, adding: "There wi be more pandemics if we don't

During her long career Dr Goodall, a UN Messenger of Peace has witnessed first-hand the devastating consequences of unsustainable exploitation of wild nature and the destruction of habitats, and she argued that the threat of zoonotic diseases - those passed from animals to humans was directly linked to the way we treat species, both wild and

domesticated "We have absolutely disrespecte the natural world. It is the destruction of environments, pushing animal species closer together, pushing them closer to human habitation, that has led to ways that zoonotic diseases can arise," she told the online audience of nearly 3,000 people.

Dr Goodall described visiting a wildlife market and a livestock factory farm in the past, saying "once is enough", and reflected on the unhygienic scenes she observed which provided ideal conditions for viruses to "spill over" from animals to humans. "We make it easy for them," she said.

"Everything on this planet is interrelated and we ignore that at our peril," she warned.

Alleviating poverty, improving education about conservation and greater policing of wildlife trafficking were part of the solution, she believed, saying there was a "window of time" to change our relationship with the natural world and make a difference, but cautioning that a "business as usual" approach would "ultimately lead to total ecosystem collapse".

"As we lose biodiversity, as we drive species to extinction in more and more places we are tearing holes in the web of life," she said.

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## DR JANE GOODALL

The conference, entitled Emerging Disease, Wildlife Trade and Consumption: The Need for Robust Global Governance - Exploring Ways to Prevent Future Pandemics, was hosted by Cornell University's College of Veterinary Medicine in the United States, the Cornell Atkinson Center for Sustainability

and the World Wildlife Fund (WWF). The assembled panel of experts argued that future pandemics could be averted if there was a concerted global effort to eliminate unnecessary trade and consumption of wildlife and promote a so-called 'One Health' approach, recognising that the health of people, animals and our shared environment are

inextricably linked. While the Covid-19 virus is believed to have originated in an infected bat, passing either directly to humans or indirectly through an intermediary host, the conference debate, moderated by Pulitzer

Prize-winning New York Times columnist Thomas Friedman, heard that the finger of blame should be

Event organiser Steve Osofsky, Jay Hyman Professor of Wildlife Health and Health Policy at the Cornell University College of Veterinary

pointed at humans rather than wild

Medicine and director of the Cornell Wildlife Health Center, said the majority of emerging viruses come from wildlife and we need to adopt

greater "behavioural distancing" "While there are literally hundreds of thousands of viruses in mammals alone, there are really only three basic ways we, through our own

behaviours, invite them into humanity's living room," he said. "We eat the body parts of wild animals, we capture and mix wild species together in markets for sale, and we destroy what's left of wild nature at a dizzying pace. Just think about deforestation - all greatly enhancing our encounter rates with

new pathogens along the way." Illegal trade in wild animals and crowded markets selling wildlife for human consumption, where wild species and domestic livestock, and the pathogens they carry, freely mix, were a concern not just in terms of biodiversity loss but also the health risks posed to humans.

"It's time for markets selling wildlife, especially mammals and birds, in places where people have other sources of nutrition, to be deemed totally unacceptable to humanity," Dr Osofsky argued making a clear distinction between those who need to eat wildlife for their sustenance and survival and those for whom it is a non-essential

preference. The crisis, he said, nov offered "a huge opportunity for the global community to finally come together on an urgent issue that ca only be addressed by a unified response".

Nik Sekhran, WWF chief conservation officer, said global trade in wildlife, both legal and illegal, was estimated to be worth a staggering \$20billion annually. Animals were captured for food, as delicacies, as luxury items, for medicinal products and the pet trade, driving biodiversity loss and presenting significant risks of a "spill-over" of viruses into the

human population. He highlighted the plight of pangolins - scaly anteater species from Africa and Asia that are caugh and sold for their meat and scales and are currently the world's most trafficked mammal, despite the fact that they are implicated as a potential intermediary species for zoonotic diseases. "One very conservative estimate is that one

pangolin is taken from the wild ever three minutes," he said, adding that the rarer they become, the more

desirable they are among buyers. Reducing large scale commercial wildlife trade, separate from subsistence hunting, needed to be part of the pandemic recovery plan he argued.

Healthy people require a healthy planet ... We humans are not treading lightly

## DOREEN ROBINSON, UNEP

A key lesson from the pandemic said Doreen Robinson, Kenya-based **UN Environment Programme Chief** for Wildlife, was that "healthy people require a healthy planet".

Over-consumption of wildlife and intensive agricultural systems of meat production were driving up pandemic risks, she said, adding:

"We humans are not treading lightly." However, current approaches and

laws to regulate wildlife trade and combat wildlife crime were simply "inadequate", argued John Scanlon chair of the Global Initiative to End Wildlife Crime. "We need to rethink how we trade, market and consume

wildlife," he said. He quoted a chilling statistic from the UN IPBES (Intergovernmental science-policy platform on biodiversity and ecosystem services) which estimates 1.7 million undiscovered viruses exist in wild animals, "about half of which coul-

spill over to people". Our collective memories were short when it came to previous pandemics, he said, adding: "We must hardwire a 'One Health' approach into the international legal

framework." Richard Kock, professor of wildlife health and emerging diseases at the Royal Veterinary College in London, told the conference that domestic animals were responsible for the vast

majority of zoonotic infections, human to human transmission also driving the spread. Examples included rabies, with all but 80-90 of the 50,000 cases a year coming from domestic sources such as dog bites; and Ebola, spread widely between people following isolated initial infections from wild mammals. We are "very gross in the way we blame

wildlife," he said. David Nabarro, WHO Special Envoy on Covid-19 who worked for the UN on efforts to contain the 2005 bird flu outbreak in Asia, said the United Nations should strive to ensure nations worked together on solutions. Theresa Mundita Lim executive director of the ASEAN

(Association for Southeast Asian

Nations) Centre for Biodiversity told the conference: "A new approach must not consider this crisis as a single event, but part of a recurring challenge that needs us to recognise that people, domestic animals, wildlife and environments are interconnected." And David Lodge,

, with director of the Cornell Atkinson Center for Sustainability emphasised that a 'One Health' approach to human and animal wellbeing needed to be "permanent, institutionalised, coordinated, global and systemic".

> Pangolins in cages among a range of

threatened species for sale at a wildlife

market in Myanmar

pushes wildlife to the brink of extinction,

but also brings people into closer contact

with a range of forest species and the

pathogens they carry

The overriding message from conference experts was that the ongoing Covid-19 pandemic was preventable and predictable, and that root causes of such threats from wildlife trade and factory farming to habitat destruction must be addressed in order to better

protect ourselves for the future. "Perhaps a tiny invisible virus," said Dr Osofsky, "will be what hopefully tips the scales toward a critical mass of global understanding of the fact that our own health is intimately tied to how we treat the

■ Visit the Jane Goodall Institute at https://www.janegoodall.org Cornell Atkinson Center at https:// www.atkinson.cornell.edu WWF at https://www.wwf.org.uk

natural world."

