ZOONOTICIDISERSESI

Transmission of Diseases from Animals to Humans

Why are zoonoses becoming more prevalent?

Zoonoses, especially those caused by zoonotic viruses, are becoming more prevalent in line with development and globalisation. Let's look at some of these factors closely!

Factors Driving the Emergence of Zoonotic Viruses



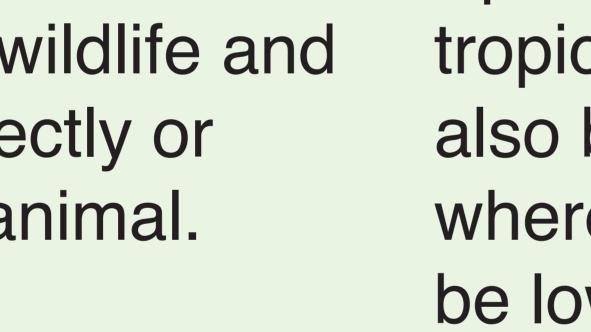
Population Growth & Urbanization

Denser cities make disease transmission easier! Clearing lands and developing industries close to natural environments increase the possibilities of wildlife and human interaction.



Deforestation & Creation of Dams & Reservoirs

These activities fragment habitats and displace species, forcing closer contact between wildlife and human, either directly or through another animal.



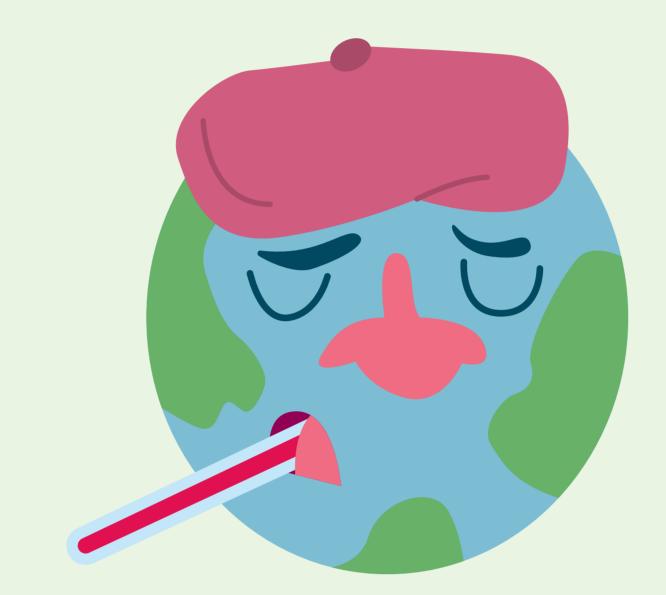
Pocket Fact:

Intermediate hosts are species that transmit viruses to humans from its initial animal host.



Pocket Fact:

SARS-CoV was likely to be transmitted to humans from bats via the intermediate host, civet cats!



Climate Change

Global heating changes the behaviour of many species. Species that thrive in tropical settings now can also be found in regions where temperature used to be low!



Pocket Fact:

Zika virus, carried by mosquitoes, is an example of this!

Virus Hunter Icon:

Dian Fossey was a

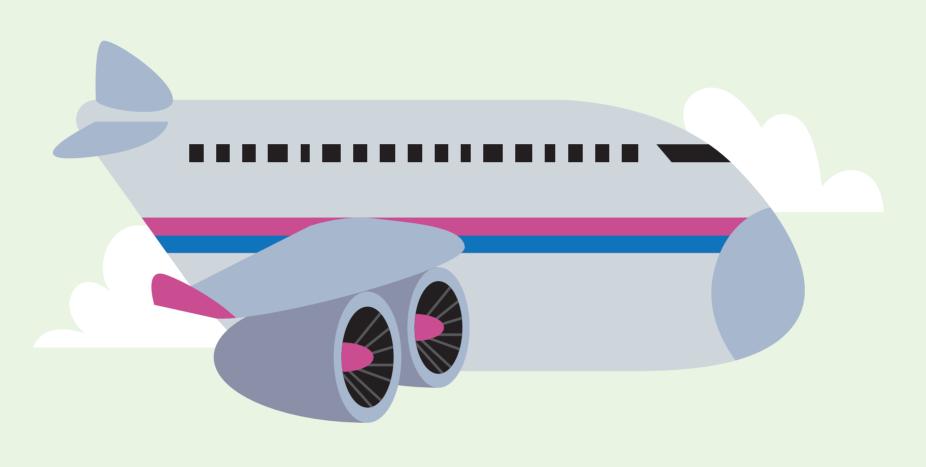
wildlife, particularly

primates.

conservationist who spent

her life advocating against

trafficking and poaching of



Transportation & Travel

Millions of people travel—and millions of animals are transported annually, increasing possibility of spreading emerging viruses into new regions.



Illegal Wildlife Trafficking & Trading

Unlawful trade of animals, both living and in parts, brings animals to close proximity to humans. These animals include species of different origins, which may increase possibility of contact between natural reservoir and intermediate host!



Pocket Fact:

Natural reservoir is the group of animals in which a virus naturally lives, without necessarily causing a disease in the animals!

Tackling wildlife trafficking is one of the keys to preventing future zoonotic disease outbreaks.



Pocket Fact:

Widely Trafficked Animals



Tigers

Poached for their parts including bone, skins, claws, teeth and blood



Elephants

Poached for their ivory tusks



Pangolins

Believed to be the most trafficked animal, pangolins have been identified to be a potential intermediate host for novel coronavirus



Turtles

Poached for their shell and meat, and illegally traded as exotic pets



Rhinos

Poached for their horn





Hornbills

Poached for their bill casque



Try this:

How does animal trafficking facilitate development of zoonotic viruses?



What's Next?

Other than understanding factors that drive emerging viruses, previous experience in disease outbreaks can also help us to prepare better for future disease threats.

Let's continue virus hunting!

