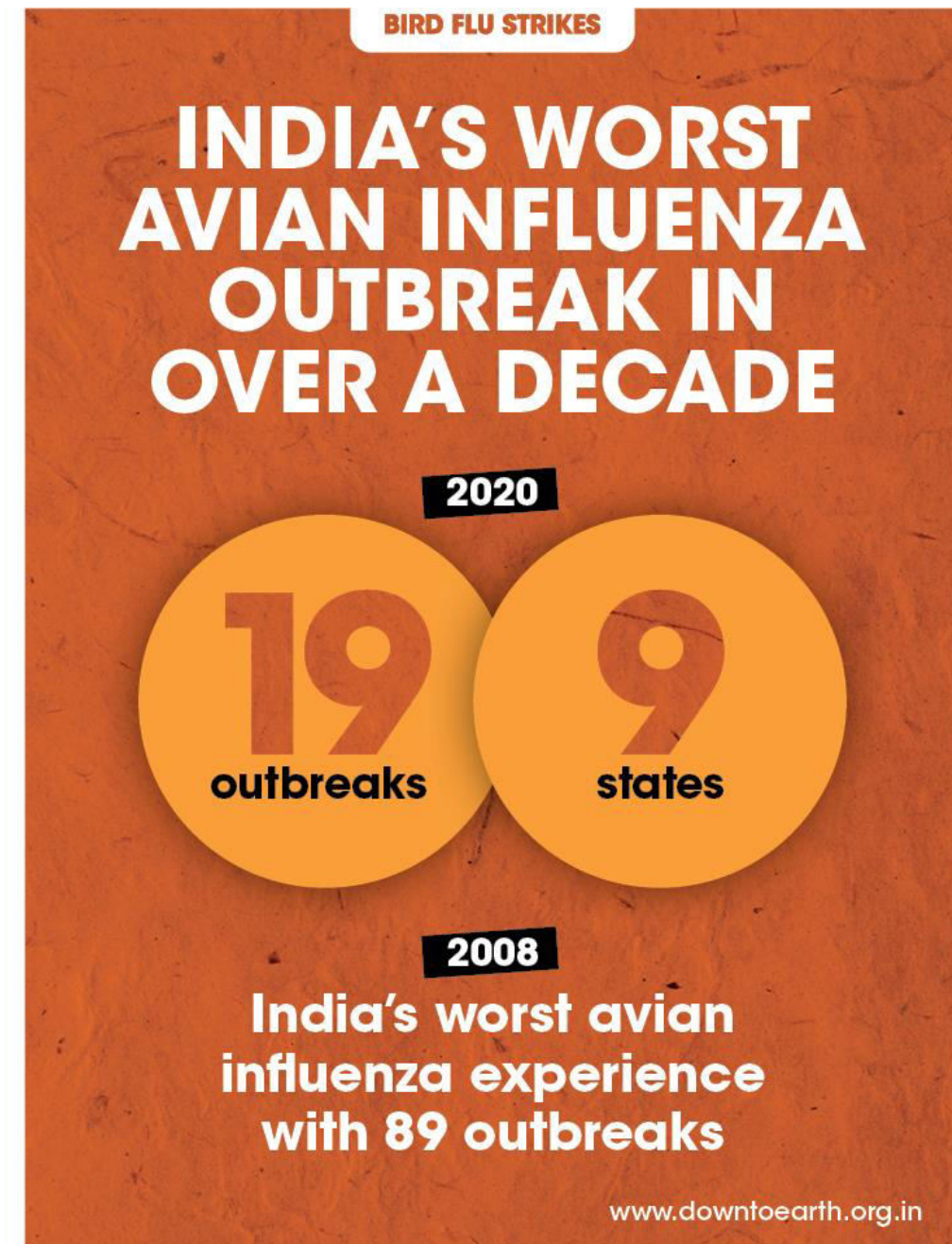


Bird menace

Ishan Kukreti
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Down to Earth


Avian Influenza Progression in India

- **Rajasthan** was the first state to confirm avian influenza in a five dead crows in Jhalawar on **December 29**. The mortality took place on December 25. In the first week of 2021, many states confirmed avian influenza –
- **Kerala** (January 4 confirmation, incident reported 21/22 December),
- **Himachal Pradesh** (January 4 confirmation, December 28 incident reported)
- **Haryana** (January 7 confirmation, incidents reported since December 5),
- **Uttar Pradesh** (January 9 confirmation, incident reported January 5),
- **Gujarat** (January 9 confirmation, incident reported January 3)
- **Maharashtra** (January 10 confirmation, incident reported January 7),
- **Madhya Pradesh** (January 12 confirmation, incident reported January 6),
- **Delhi** (January 11 confirmation, January 7 incident reported),
- **Uttarakhand** (Confirmation January 12)
- Chhattisgarh (January 17 confirmation, January 14 date of incident)
- Punjab (January 20 confirmation, January 8 date of incident)



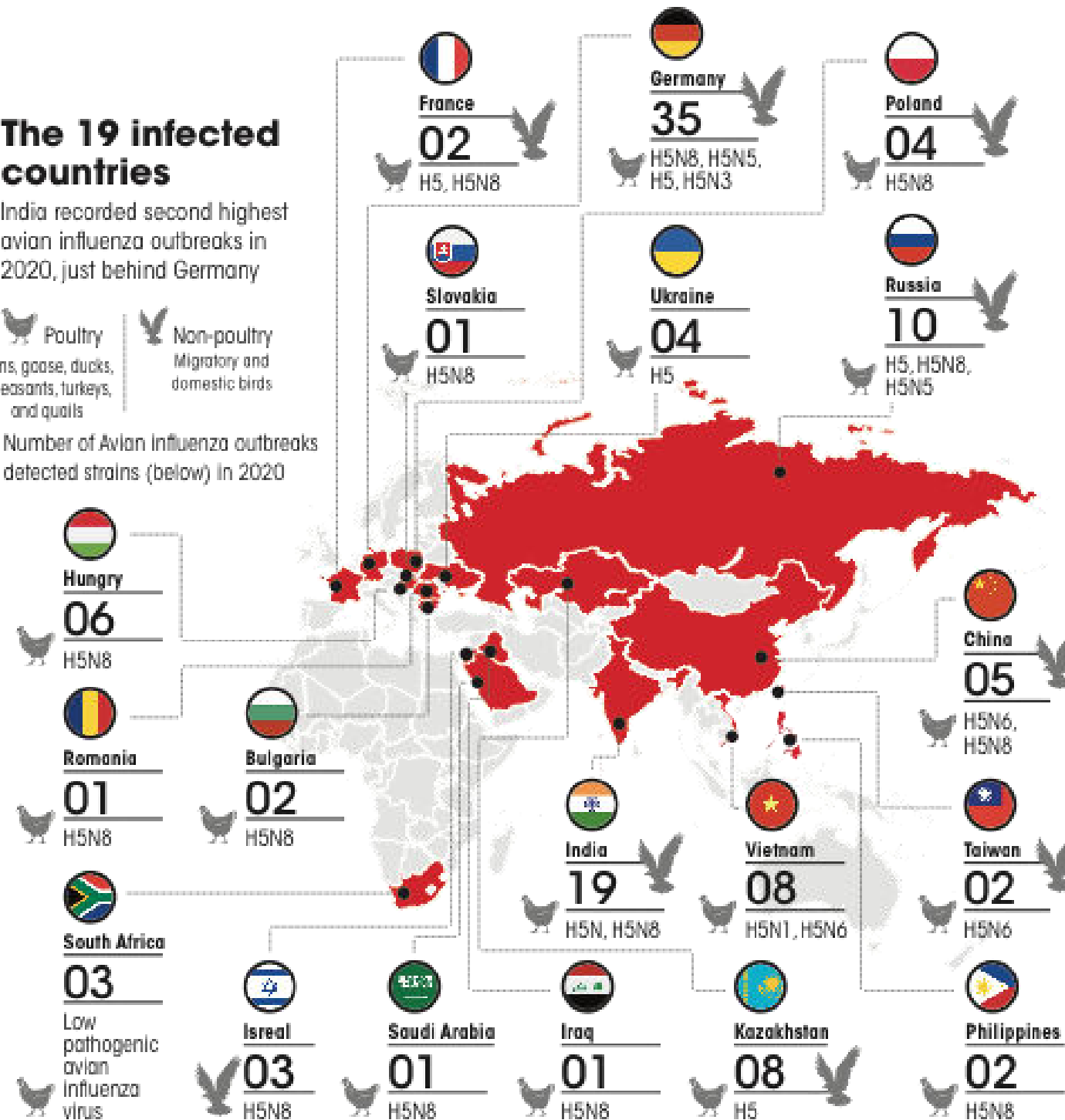
The 19 infected countries

India recorded second highest avian influenza outbreaks in 2020, just behind Germany

 Poultry
hens, geese, ducks,
pheasants, turkeys,
and quails

 Non-poultry
Migratory and
domestic birds

00 Number of Avian Influenza outbreaks and detected strains (below) in 2020



Source: World Organisation for Animal Health

A global outbreak

A mutating virus

- A new genetic variant of H5N8 that was first detected in Poland in December 2019.
- Since then has spread to European and Asian countries.
- A reassortment between the Eurasian and African strain.
- **Affects only poultry, no human cases recorded so far.**

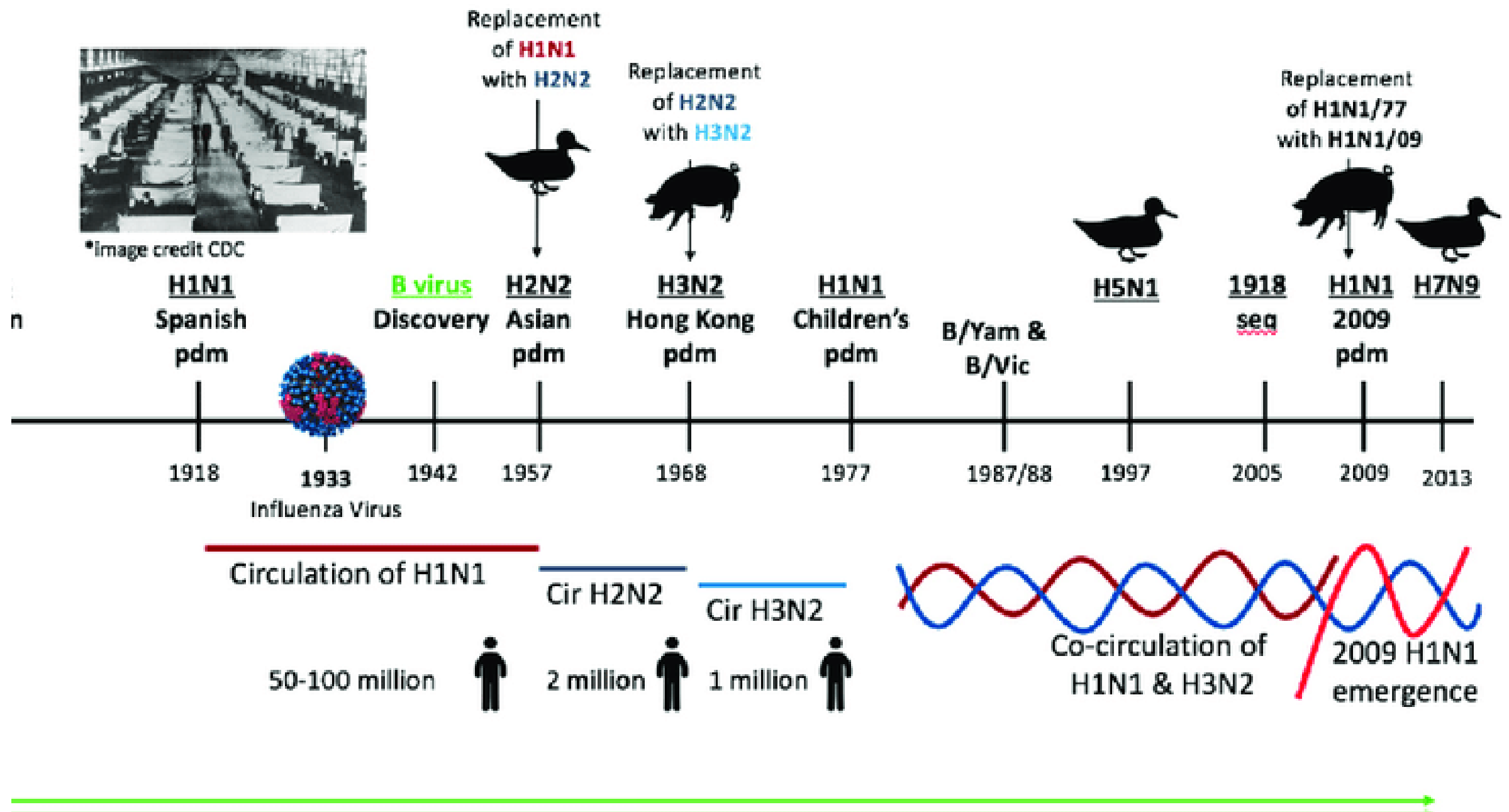
BIRD FLU STRIKES

H5N8

A new genetic variation of avian influenza virus strikes India; Kerala and Haryana have confirmed its infection

This genetic variant has been responsible for almost all the outbreaks that have erupted since December, 2020. This has evolved through a process called reassortment where influenza viruses swap gene segments.

www.downtoearth.org.in



Evolution of the Influenza Virus

Economic cost

- **Humans are safe** for now, but the poultry sector will be hit.
- **729 million small and medium farmers**, mostly engaged in contract farming, and another 30 million farmers engaged in backyard poultry, notes the National Action Plan for Egg & Poultry-2022.





MIGRATORY BIRDS VS POULTRY

- Migratory birds natural reservoir.
- Poultry acts as amplifier.
- Inter-country movement of poultry can create new outbreaks. Ex. From China to Tibet. West Bengal in 2008
- Poultry vulnerable -density and low genetic diversity.



Meat production and zoonotic

- Pathogens thrive on density.
- Immunity of poultry birds low
- Increased interaction between migratory birds and poultry
 - increase in poultry (no regulation on number of animals)
 - shrinking wetlands and nesting sites for migratory birds
 - spread by transportation.
- Poor surveillance:
 - Absence of passive and year round surveillance
 - The case of Haryana: It took a month to confirm H5N8.

Way forward

- Better surveillance.
- Making monitoring and surveillance an agenda for the states' Wetland Authorities.
- Mapping hotspots.

Thank You

–Ishan Kukreti