

SINCE 2018 –
What has happened- macro scale?
Polycrisis!

**Conflict, COVID-19 and climate crisis
are driving a deadly combination**



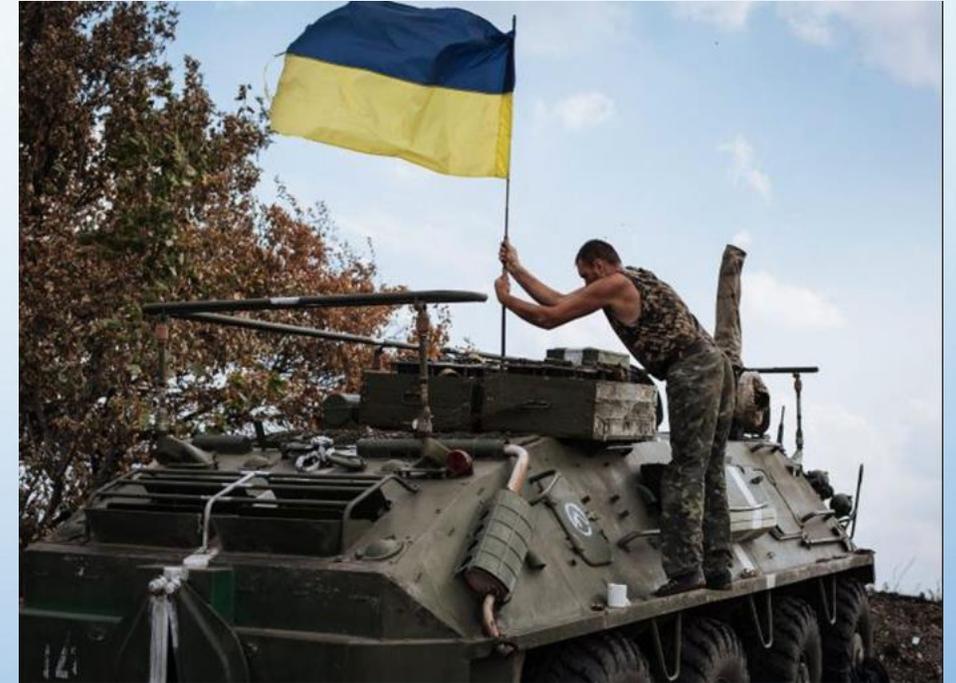
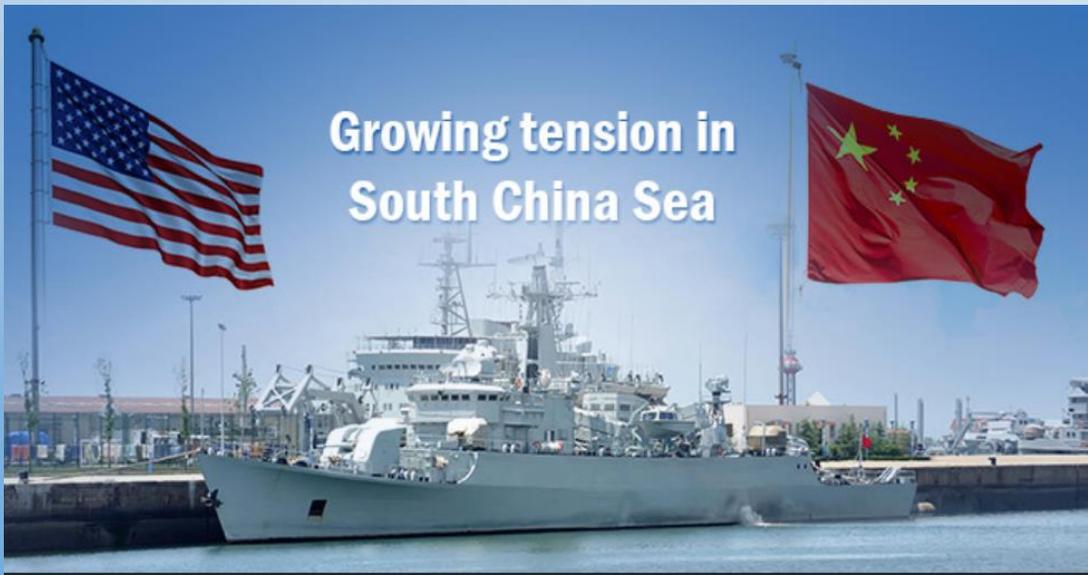
Food shortages
and hunger

Energy disruption
with high prices

Increasing poverty,
inequality and inequity

Geopolitics

- Ukraine war
- NATO expansion
- Brexit
- Regional tensions – China
- Energy



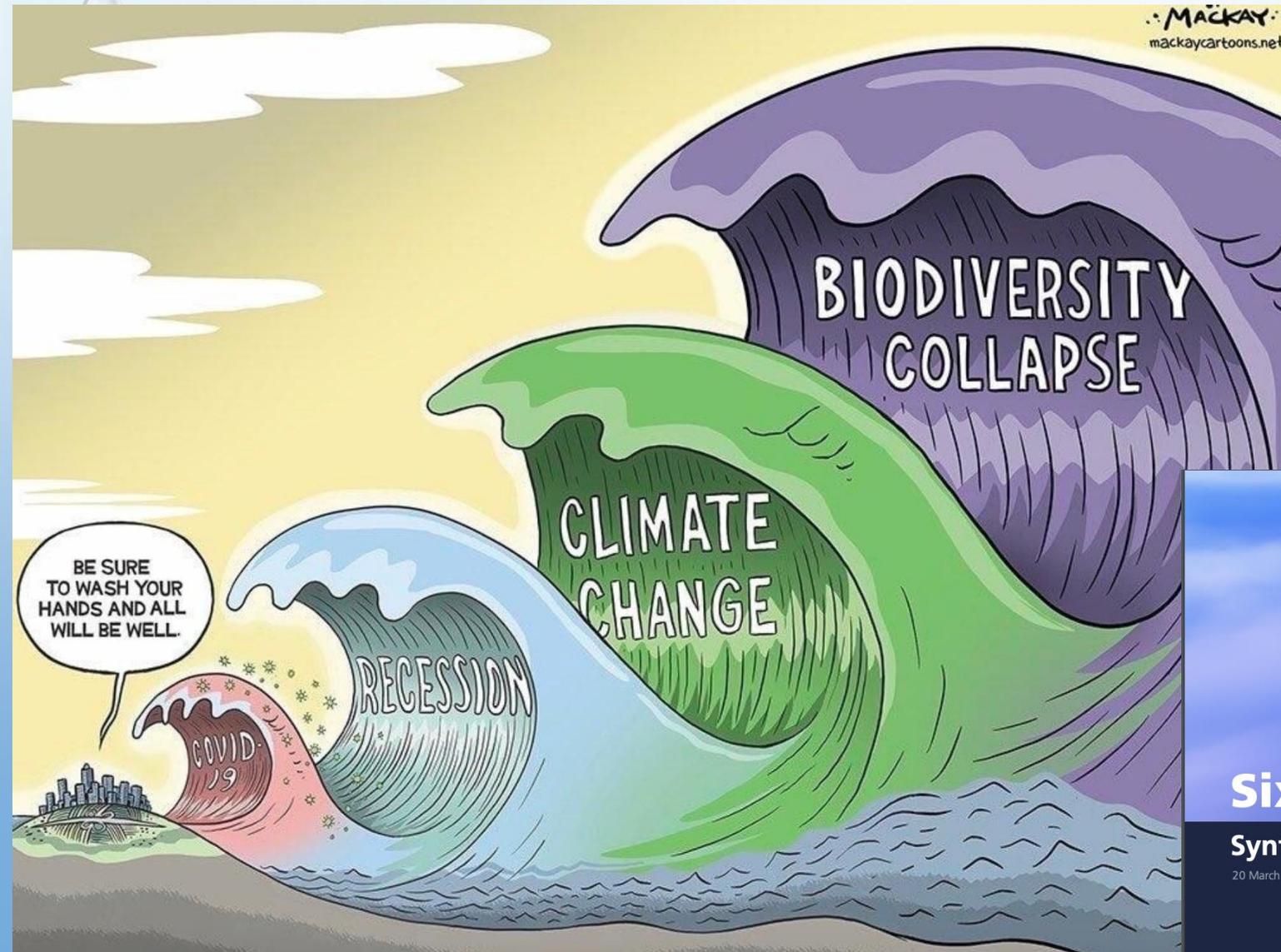
SINCE 2018 – What has happened- closer to home? Still polycrisis!

- **COVID-19 pandemic**
- **Climate change related**
 - **Fires and floods**
- **Economics/inflation**
 - **Energy costs and interest rates**
- **Increasing inequality**



COVID.....

- And beyond



“Identify the most severe risks on a global scale over the next 10 years”

■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological



Source: World Economic Forum Global Risks Perception Survey 2021-2022

SINCE 2018 –

What has happened in biosecurity domain?

Animal related

- **COVID-19**
- **African swine fever (ASF)**
- **Lumpy Skin disease (LSD)**
- **Foot and mouth disease (FMD)**
- **Japanese encephalitis (JE)**
- **Avian Influenza (AI)**
- **Hendra virus (HeV) understanding**

Other

- **Marine**
- **Exotic animals**
- **Expansion of zones for RIFA**
- **Citrus Canker declaration of freedom**
- **Khapra Beetle**
- **Fall armyworm**
- **Polyphagous shothole border**
- **Banana freckle**
- **Varroa Mite**
- **Guava root nematode**

**SINCE 2018 –
What has changed?
Late 2019 - COVID emerged
since then**

- **Global COVID-19 pandemic changed the way biosecurity issues are viewed by general public**
- **More people know about disease control options (e.g., isolation, disinfection, movement controls, vaccination)**
- **Almost everyone's an epidemiologist !!**
- **Animals as source of zoonotic viruses better appreciated by some !!**

SINCE 2018 – What has changed? (animal world)

- **ASF into Indonesia (2019), Timor Leste (2019) and PNG (Feb 2020)**
- **LSD into Indonesia February 2022**
- **FMD into Indonesia April 2022**

- **Threats are real and close !! We are on alert.**

SINCE 2018 – What has changed?

- **JEV - widespread in parts of eastern Australia - first detected February 2022**
- **Will it persist?? Possibly.**
- **HeV: Understanding Hendra virus spillover risk over time**
- **Recent research : El Nino and lack of flowering native trees – lead to nutritional stress and increased rates of virus excretion – increased spillover risk. Prevention....plant the right trees to renovate habitat**

Avian influenza: H5N1 initially detected in 1996 in geese in southern China and Hong Kong – has been mutating for long time.....

World's largest avian flu outbreak spreads to sea lions

NEWS | HEALTH

'Incredibly concerning': Bird flu outbreak at Spanish mink farm triggers pandemic fears

Spread among captive mink could give the H5N1 strain opportunities to evolve and adapt to mammals

24 JAN 2023 · 5:00 PM · BY KAI KUPPERSCHMIDT



**A1 – biggest global outbreak of H5N1. Millions birds culled or died including wild birds
Also infected farmed mink in Spain and sea lions in the wild in Peru
UNPRECEDENTED**

Lots happening in One Health space
regionally and globally

Quadripartite now!

WHO, FAO, WOAHA and UNEP

Includes environment and not just wildlife but
all other elements of ecosystems.....

One Health working definition by the
One Health High-Level Expert panel
(OHHLEP)

One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.

The approach mobilizes multiple sectors, disciplines and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, taking action on climate change, and contributing to sustainable development.

Source: OHHLEP. 2022. One Health: A new definition for a sustainable and healthy future. *PLOS Pathogens*. 18(6).

Learning and understanding

- Highlighting need for One Health approaches
- COVID/JE/Hendra/AI
- Broader thinking around FMD, LSD and ASF – what are the drivers for disease movement?

PREVENTION OF ZOOONOTIC SPILLOVER

**FROM RELYING ON
RESPONSE TO REDUCING
THE RISK AT SOURCE**

OHHLEP whitepaper/Opinion piece

Our thinking has moved on from where we were in 2018

Building on from what we achieved to date....

- What is relevant to future Queensland Biosecurity Strategy?
- E.g. Polycrisis thinking – highlights all hazards approach and need for resilience in biosecurity preparedness and response