

Cambridge Centre for Risk Studies

2022 Risk Summit

# RISK FLASH – FOOD AND WATER SECURITY

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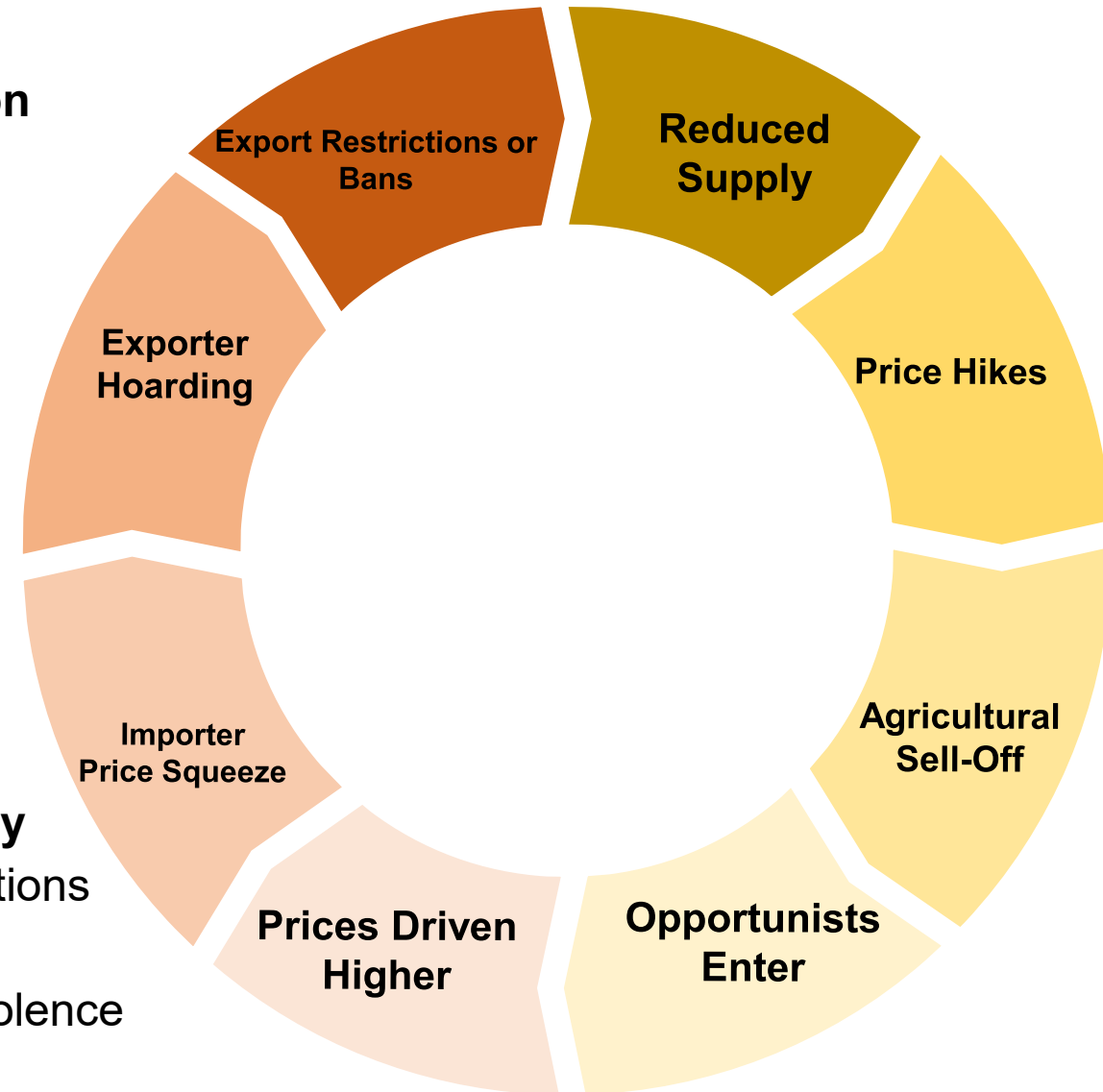
# Food – Cascading Risk Impacts

- **Food availability reductions can have serious knock-on impacts.**

- Reduced supply
- Price hikes
- Agricultural sell-off
- Opportunists enter Hot Market looking
- Prices driven higher
- Importers feel High Prices (Low-Income)
- Exporter Hoarding (High-Income)
- Export Restrictions and Bans

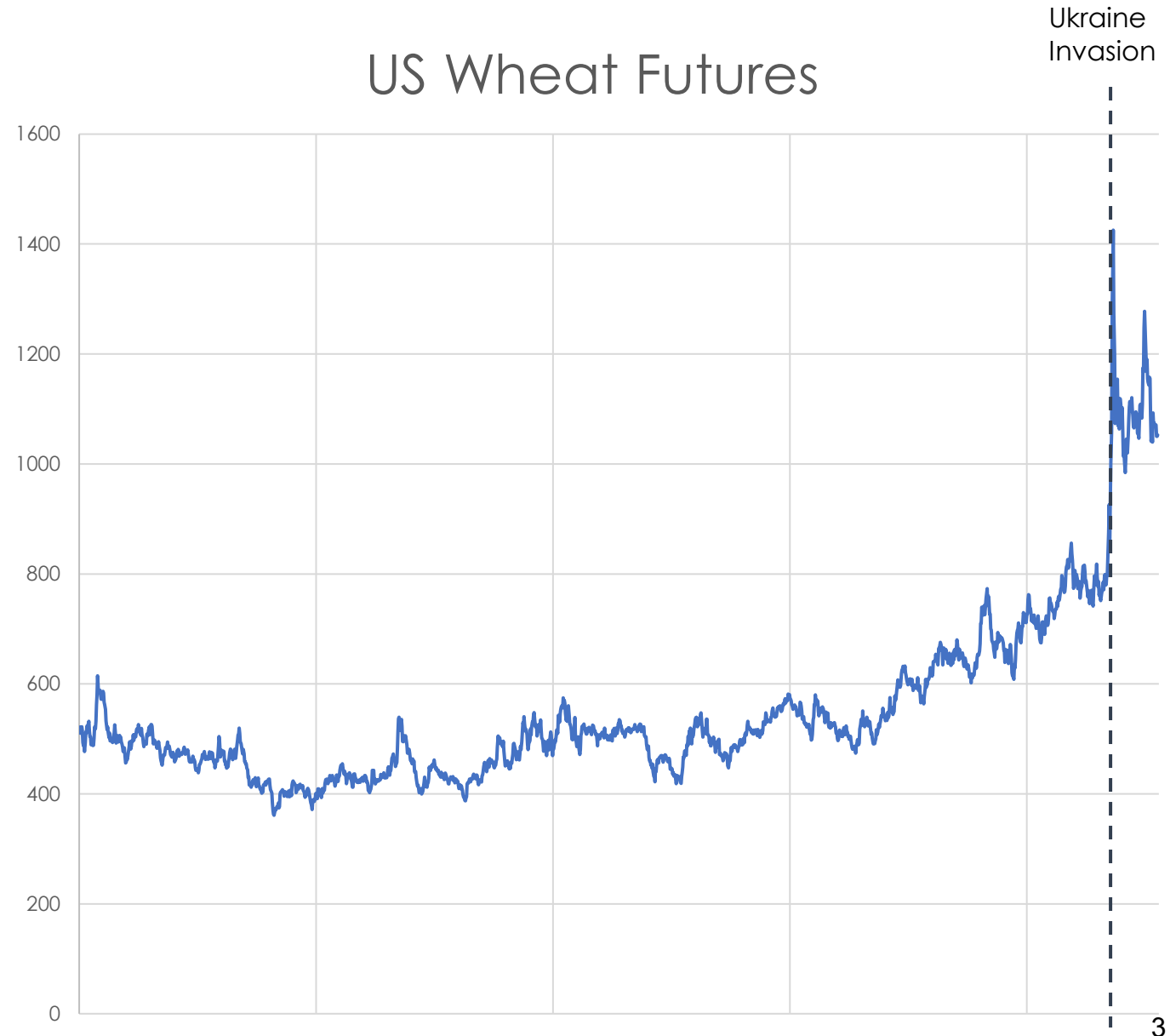
- **Starts a cycle of increasing prices and reducing supply**

- Widening divide between low and high income populations
- Tensions and Conflict over low supply and high prices
- Mass Migration events occur to escape hunger and violence



# 2022 Global Food Crisis

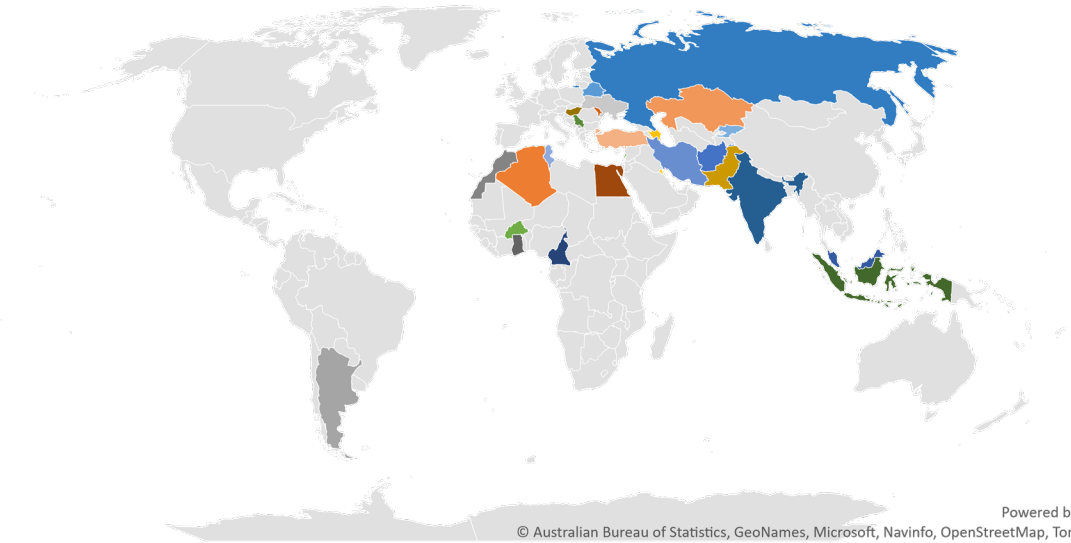
- Cascades are already in motion
  - Russia's invasion of Ukraine has sparked global concerns over grain security.
  - This has seen wheat prices spike globally
- US Wheat Futures up 60% in the week after the Ukraine Invasion
  - Global fears over general food security
  - Many countries introducing export bans/restrictions for food staples.



# 2022 Global Food Crisis

- **Over two dozen countries have imposed bans or restrictions on some kind of food since the invasion of Ukraine**
- **India's Wheat Export Ban:**
  - Initial export push, capitalising on price hike.
  - Severe mid-March heatwave reduced expected wheat yield by over 10%.
  - Consumer Price Inflation (CPI) hitting 7.79% in April, and retail food inflation hitting 8.38%.
  - Bangladesh, UAE, and Nepal rely heavily on Indian Wheat and this export ban raises Food Security questions for these nations
- **Other exporters like Australia can fill gaps in the Wheat export market but prices have increased significantly.**
  - *What if Australian wheat had experienced a similar heatwave and reductions in wheat yields?*
  - Food Insecurity has the capacity to impact the economy of the Asia-Pacific region.
  - Potential for Global price hikes driving food security concerns

## Banned Exports on Food Products since the Invasion of Ukraine by Russia



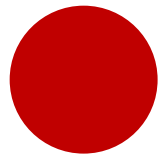
<b>Afghanistan</b>	Wheat
<b>Algeria</b>	Pasta, wheat derivatives, vegetable oil, sugar
<b>Argentina</b>	Soy flour, Soybean Oil, Soybean Meal
<b>Azerbaijan</b>	flour-grinding industry goods, starch, wheat gluten, oil, seeds and other seeds, medicinal and industrial crops, feed
<b>Belarus</b>	Wheat, rice, wholemeal flour, flour from rye, pasta, barley, oats, corn, buckwheat, millet, triticale, rapeseed seeds, sunflower seeds, beet pulp, cake, rapeseed meal
<b>Burkina Faso</b>	Millet flour, corn flour, sorghum flour
<b>Cameroon</b>	Cereals, vegetable oils
<b>Egypt</b>	wheat, flour, lentils, pasta, beans, gravel and mashedush, vegetable oil, grits, maize
<b>Ghana</b>	Maize, soybean, rice
<b>Hungary</b>	Wheat, rye, barley, oat, corn, soy beans, sunflower seeds
<b>India</b>	Wheat, sugar
<b>Indonesia</b>	Palm oil, palm kernel oil

<b>Iran</b>	Potatoes, eggplants, tomatoes, onion
<b>Kazakhstan</b>	Wheat, wheat flour, sunflower oil, sunflower seeds, hay, silage, seed and other oats, seed and other rye, live cattle, small cattle, potatoes, carrots, sugar
<b>Kosovo</b>	Wheat, corn, flour, vegetable oil, salt, sugar
<b>Kuwait</b>	Grains, vegetable oils, chicken meat
<b>Kyrgyzstan</b>	Wheat, meslin, flour, vegetable butter, sugar, sunflower seed, eggs, barley, oats, bovine meat and feed products
<b>Lebanon</b>	processed fruits and vegetables, milled grain products, sugar, bread
<b>Malaysia</b>	Chickens
<b>Moldova</b>	Wheat, Sugar, Corn
<b>Morocco</b>	Tomato
<b>Pakistan</b>	Sugar
<b>Russia</b>	Wheat, meslin, rye, barley, maize, sugar, sunflower seeds, sunflower oil, rapeseed, corn, sunflower meal
<b>Serbia</b>	Wheat, corn, flour, oil
<b>Tunisia</b>	Fruits, vegetables
<b>Turkey</b>	Beef meat, sheep meat, goat meat, grains, seeds, cooking oil, red lentils and beans, olive oil, cooking oils, poultry meat, eggs, vegetables, fruits, butter
<b>Ukraine</b>	Wheat, oats, millet, sugar, poultry, eggs, sunflower oil, bovine meat, rye, maize



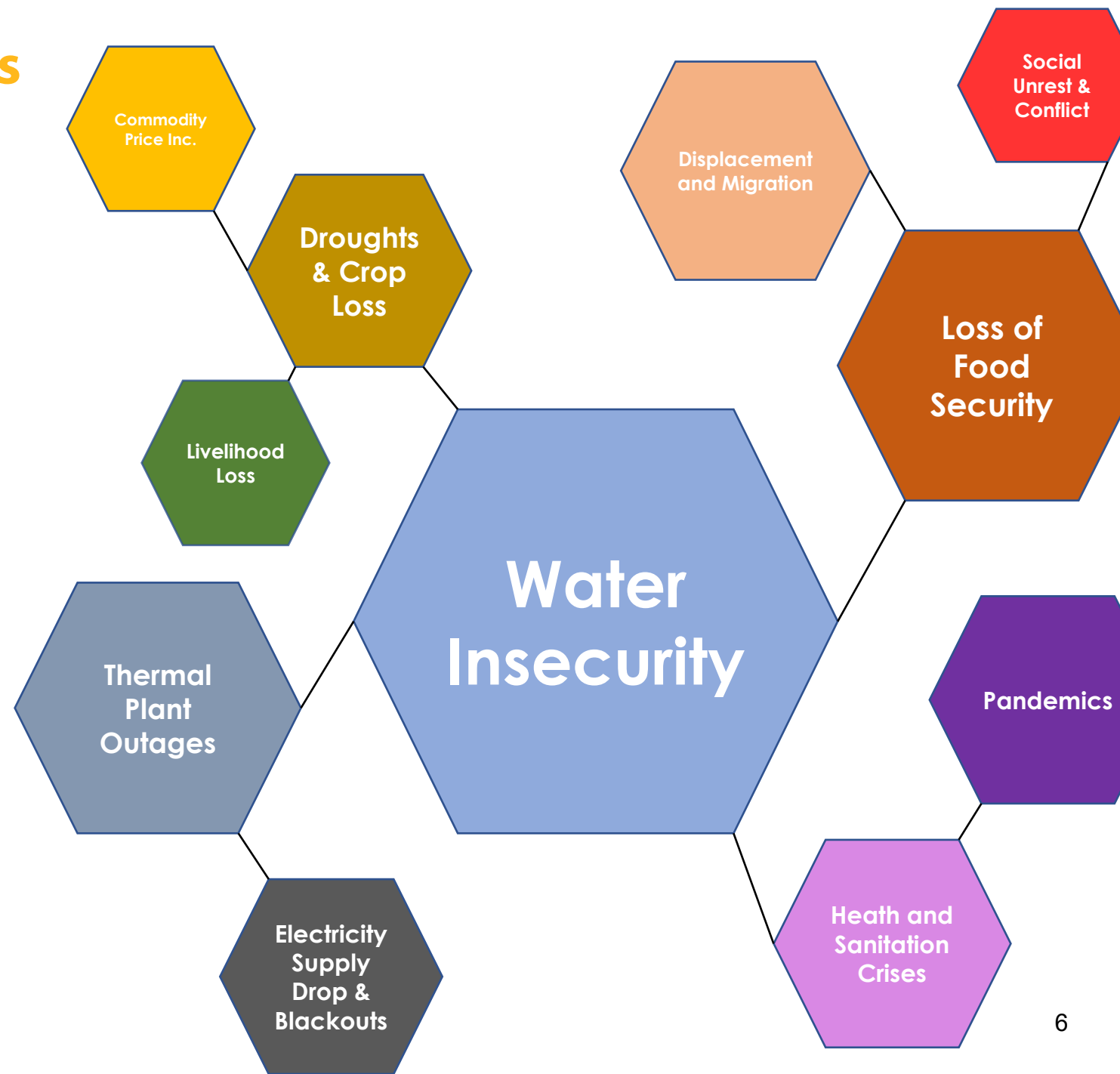
# 2022 Global Food Crisis

- Price increases hit developing economies especially hard
  - Egypt, Cameroon, Nigeria and Yemen get over **half** of their imported calories from Russia and Ukraine
  - Lower-income populations worst affected
  - Growing hunger and increasing costs will increase instability and unrest leading to migration and conflict
- The self-declared republic of Somaliland:
  - Suffered a severe drought crippling local food & water security
  - The Ukraine crisis causing food and fuel prices to spike, Importation challenges



# Water – Cascading Risk Impacts

- **Water Stress events can cause similar cascading impacts.**
- Reduced crop yields or complete loss of crops
  - Commodity Price Increases and Livelihood losses
- Food Insecurity – triggering a new set of cascading impacts
- Health or Sanitation-related crises
  - Leading to increased Pandemic Risk
- Thermal Plant Outages
  - Drops in Electricity Supply and even Blackouts



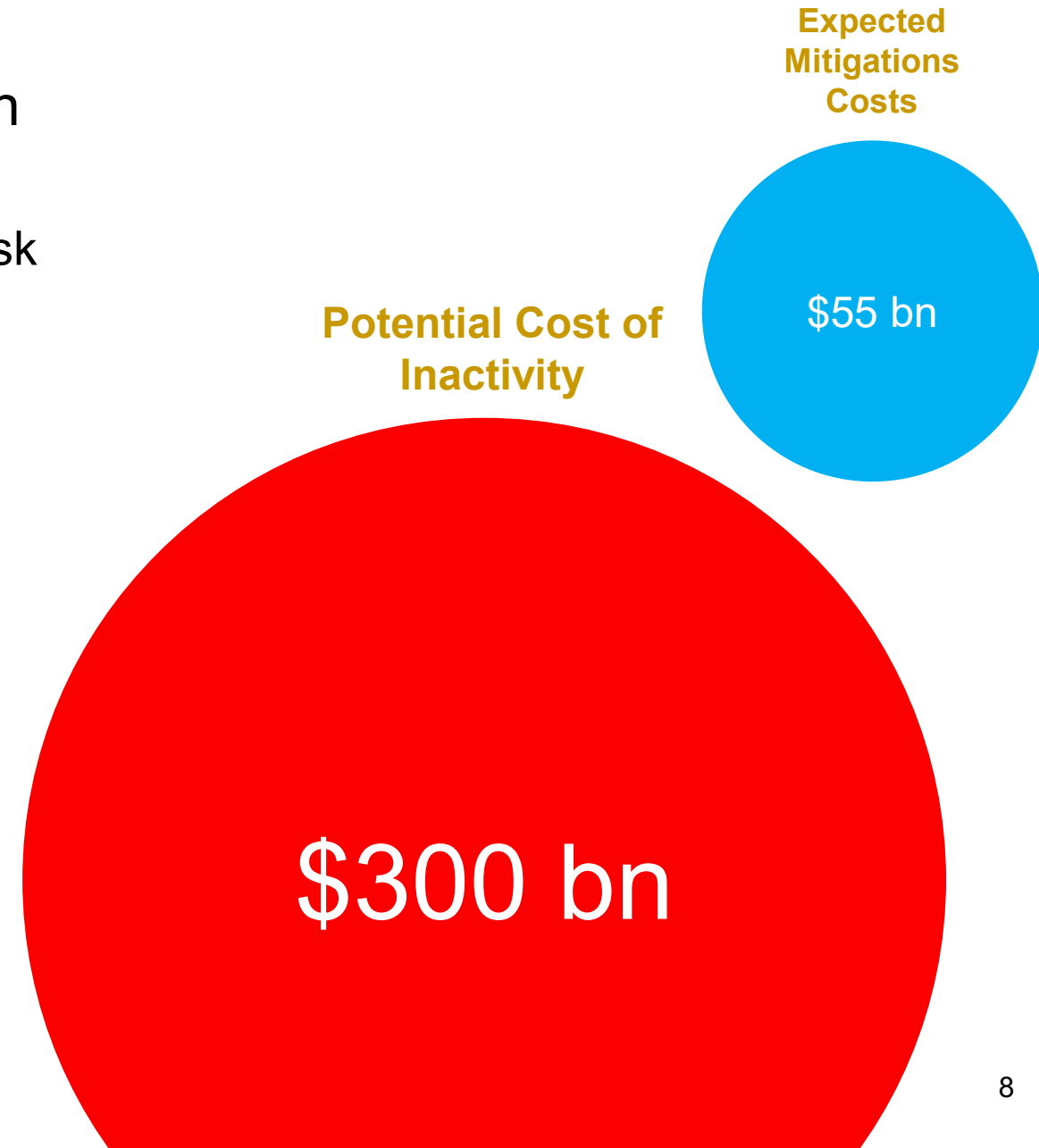
# Disclosure Issues

- Interesting to note that disclosure for water quality and use is lacking
  - Water supply is intrinsically linked to climate change
- **So, why is there such a dramatic mismatch in water and carbon disclosures by corporates?**
  - Managers could steer to avoid water security-related risks and the impacts that come with them
  - It is in corporate interests to maximise water security
  - *However, If Water-related disclosures were ramped up corporates could be held accountable*
    - Beneficial for shifting strategy to be more economic, but a deterrent



# Inactivity – Costs of the Consequences

- It makes economic sense to try and act on mitigating against water risk
  - CDP estimates the potential impact of water risk inaction is over \$300 bn
  - The cost of mitigations is only ~\$55 bn
- The cost of inaction is 6x higher than the cost of action
- Water Disclosure and Mitigation Investments can limit the probability and extent of Water Security Risk.





# What Can Be Done?

## Food

- Understanding Food Insecurity Risk can help steer strategies to mitigate against its cascading impacts and reduce its likelihood
- Through acknowledgement and understanding this risk governing bodies can strategise policy responses (export bans etc.) and assess whether such actions will inadvertently lead to a greater risk to domestic socio-economic conditions

## Water

- Increasing the quality of corporate water-related disclosures can help steer corporate strategy to increase water use efficiency to provide economic benefits to firms
- Water-Intensive corporates can be held accountable and understand the how their actions may impact regional or even global water security
- Understanding the cost of inaction in the case of a water insecurity scenario occurring and the costs of mitigating actions can steer corporate strategy

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