

Sudden Threats to Global Food

A neglected risk?

Global Fatalities: Likely Causes (2020-2040)

This poster considers orders of magnitude in global food security, and past/future scenarios which could overwhelm existing resilience and humanitarian capacity.

At level A, existing preparedness is close to adequate.

At level B, significant adaptation of global food and supply systems would be needed, beyond current planning and preparedness.

At level C, new and adapted food technologies would be essential, and need to be scaled rapidly, to prevent mass starvation.

Both Level B and C are highly neglected in the international food security field and in academic research. This gap poses a severe threat while offering a great opportunity for resilience research and a vast potential for saving lives.

WWW.ALLFED.INFO
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~5 million starve

- # Severe pandemic + Lockdown Impacts
- # War, droughts, floods, politics

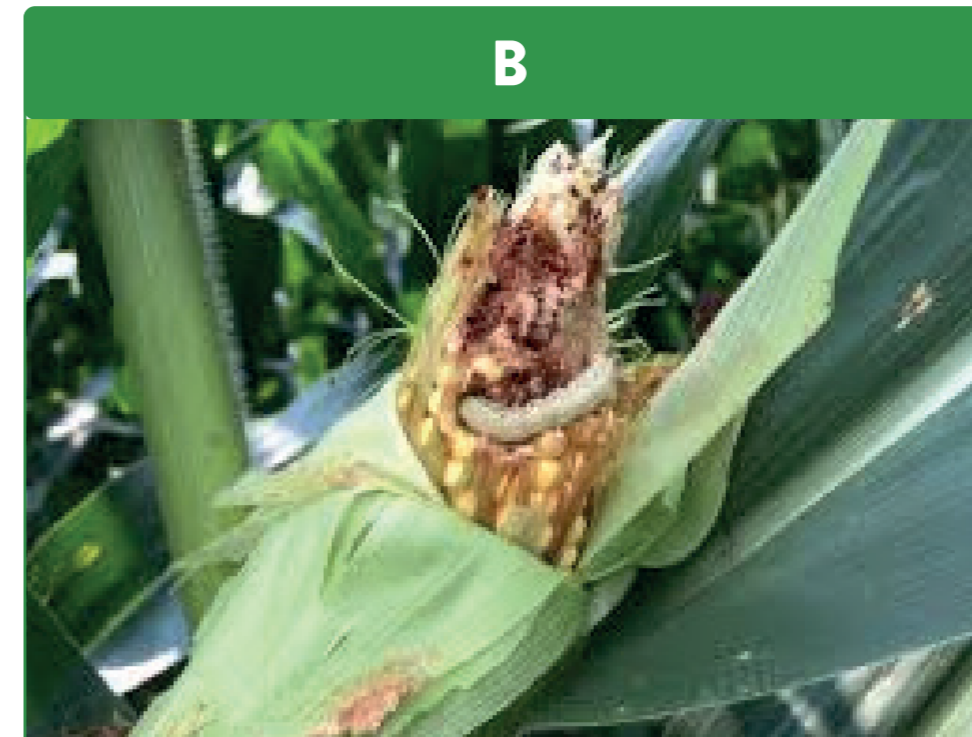
See: Bengal famine of 1943 vs 1966 famine relief (Lester Brown et al)

Solutions

- Preparedness
- Borrowing
- Politics
- Cash or vouchers
- World Food Programme
- World Bank
- Relief

Impact x neglectedness = low (at GFOODSEC2020)

Most food security work ends at this scale of sudden disruption.



~50 million starve

- # Abrupt climate change
- # Multiple Breadbasket Failure (MBBF)

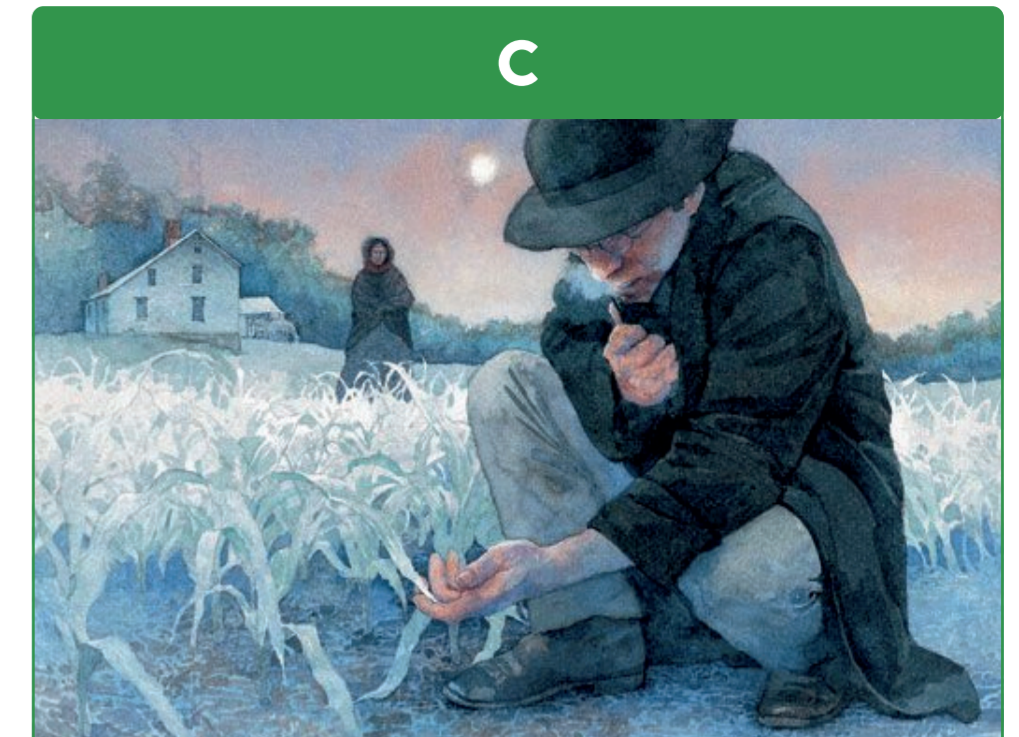
Scale as World War 2

Solutions/tractability

- Preparedness
- Global mobilisations
- Scale rapid adaptations to agriculture
- www.ALLFED.info

Impact x neglectedness = medium (at GFOODSEC2020)

Level B exceeds current response capacities. Research needed.



~500 million starve

- # Regional Nuclear War (eg. South Asia)
- # VEI-7 Eruption with Climate Impact as Tambora Crisis 1815-1818

See: The year without a summer (1816) or nuclear winter threat (Alan Robock et al)

Neglected solutions/tractability

- Preparedness
- Mass polytunnel greenhouse production
- Massive seaweed production scaleup
- Industrial food replacements, such as single cell protein or Lignocellulosic sugar (Prof D. Denkenberger et al)

Impact x neglectedness = extremely high

Research into resilience on this scale is almost completely absent. Expected value of additional research could be extremely high due to the current neglectedness.