

Existential risk is any risk that have the potential of eliminating humanity.

The technological advances of the last century, while responsible for great progress and achievements, have also opened us up to new existential risks.

climate change , nuclear war are growing concern that people and government are trying to address.

Multi-layer defense

Defense in depth is a useful framework for categorizing risk mitigation measures into three layers of defense:

- *Prevention*: Reducing the probability of a catastrophe occurring in the first place. Example: Measures to prevent outbreaks of new highly infectious diseases.

- *Response*: Preventing the scaling of a catastrophe to the global level. Example: Measures to prevent escalation of a small-scale nuclear exchange into an all-out nuclear war.
- *Resilience*: Increasing humanity's resilience (against extinction) when faced with global catastrophes. Example: Measures to increase food

security during a nuclear winter.

Human extinction is most likely when all three defenses are weak, that is, "by risks we are unlikely to prevent, unlikely to successfully respond to, and unlikely to be resilient .