The Warren Centre
& Professor Ron Johnston

Humanitarian *Innovation* Hackathon

Challenge B

Climate change resilient agricultural practices

Overview

The Food and Agriculture Organization (FAO) estimates that **40%** of the world's population is highly vulnerable to the climate crisis, and extreme weather events are a major driver of global hunger.[1] There exists a vicious cycle where unsustainable agricultural practices degrade the quality of soil, deplete water resources, drive deforestation and result in biodiversity loss; which further **increases vulnerability** to climatic events, such as drought, flooding and extreme weather events.[2]

To break this cycle, **sustainable agricultural practices** are needed that consider the intersection of food, water, land and biodiversity, to both strengthen climate change resilience and food security.

2 ZERO HUNGER

THE GLOBAL GOALS
For Sustainable Development

SDG 2 End Hunger, achieve food security and improve nutrition and promote sustainable agriculture

Target 2.4 Sustainable Food Production and Resilient Agricultural Practices

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters that progressively improve land and soil quality.

Challenge Task

Design a sustainable farming intervention that includes appropriate farming technologies and/or nature-based solutions that would increase climate change resilience for larger-scale producers in LMIC contexts.

Through the development of your design, be specific with the type of farming, context and climate risk you are addressing.

2 ZERO HUNGER

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Overarching Challenge

Globally, hunger and food insecurity have shown a rapid increase since 2015, due to the combined impacts of the COVID-19 pandemic, conflict, climate change, and deepening inequalities.

In 2022, **9.2%** of the population (735 million people) were experiencing chronic hunger, and **2.4 billion** people faced moderate to severe food insecurity, which indicates the scale of the crisis.[4]

Overcoming hunger and malnutrition is critical to achieving sustainable development. People are not able to realise their full potential when suffering from hunger and/or malnutrition, as they are **more likely to get sick,** which further reduces their abilities to generate a livelihood.

Tackling global hunger is a complex process that requires cross-disciplinary teams to consider multi-dimensional approaches.

Namibia is experiencing its worst drought in 100 years and farming businesses are failing.[4]

Considerations

In designing your zero hunger innovations, the principles of Humanitarian Engineering need to be employed. These principles can be summarised as solutions that are:

Effective
The desired change is logically achievable.

Affordable
Financially feasible for lower-income households or local business projects in low and middle-income countries (LMIC).

Appropriate
Wanted by the community and culturally acceptable within the regional context.

Sustainable
Consideration for how the innovation will be sustained into the future (e.g. public funding sources or market mechanisms).

Do no harm
The innovation considers inclusiveness and does not cause harm.

References

1. Food and Agriculture Organization (FAO), 2024, *Transforming Agrifood systems holds the key to climate, biodiversity and land solutions*, **fao.org/director-general/news/2024/transforming-agrifood-systems-holds-the-key-to-climate-biodiversity-land-solutions**
2. FAO, 2024
3. United Nations, 2024, *SDG 2. Zero Hunger,* **un.org/sustainabledevelopment/hunger**
4. Farmer's Weekly, 2024, *Drought through the eyes of farmers*, **farmersweekly.co.za/agri-technology/farming-for-tomorrow/drought-through-the-eyes-of-farmers**