



GenAI for Good  
**CHALLENGE**

# AI-Powered Agricultural Extension Chatbot in Lesotho

IEEE Humanitarian Technologies (IEEE HT) and the International Telecommunication Union (ITU) are harnessing generative AI to strengthen outcomes for smallholder farmers in Lesotho through a scalable and localized chatbot solution, in collaboration with the Food and Agriculture Organization of the United Nations (FAO).

## THE CHALLENGE

Agriculture employs nearly one-third of Lesotho's workforce and anchors food security. Yet farmers and agricultural advisors face limited services, scarce digital tools, and mounting climate pressures. Without new approaches, rural resilience will remain at risk.

## SCALING DIGITAL AG

Through the GenAI for Good Challenge, IEEE HT and ITU are seeking innovators to design and prototype an AI-powered chatbot that can provide and scale timely information for agricultural advisors and smallholder farmers in Lesotho. The envisioned solution would meet people where they are—through SMS, WhatsApp, and voice—and could provide localized evidence-based farming advice, deliver personalized responses, connect users to the Food and Agriculture Organization of the United Nations and Ministry resources, and offer multilingual and voice options for greater accessibility.

## EQUITY AT THE CORE

The chatbot is designed to strengthen extension services and ensure farmers in rural areas receive timely, localized guidance. By expanding access to information, it can boost productivity, build resilience, and create new market opportunities.

### When developed and deployed, this solution could:

- Reach thousands of farmers and extension workers nationwide
- Enhance agricultural advisors efficiency and knowledge delivery
- Improve food security by reducing crop loss and boosting productivity
- Support climate resilience and sustainable agricultural practices

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According to FAO and ITU, digital agricultural advisory services could raise farmer productivity by up to 30% in the coming decade. The Lesotho use case offers a model for scalable digital tools that strengthen food systems and build rural resilience.

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## ABOUT THE CHALLENGE

The GenAI for Good Challenge is designed for innovators developing AI solutions that address urgent global challenges in health, agriculture, and climate resilience. The Lesotho agriculture chatbot prevention chatbot use case is one of three focus areas in 2025.

## THE CHALLENGE PROCESS

**Step 1** — Submit a written application for generative AI-driven solutions aligned to one of the defined use cases.

**Step 2** — Selected teams advance to prototyping, applying open-source framework developed by ITU to design prototypes.

**Step 3** — Teams refine solutions with input from technical experts and local stakeholders to ensure readiness and social and environmental impact.

**Step 4** — Finalists present their prototypes to a panel of global judges and partners from the IEEE and ITU networks

**Step 5** — Winning teams move into deployment planning with IEEE, ITU, and in-country partners and access up to \$25k in grants.

**Step 6** — Solutions are implemented in partnership with UN in-country offices, global partners, national ministries, and ITU local leads—depending on the focus area.

### Reasons to join:

#### Tackle real-world problems.

Work on urgent challenges identified by UN agencies and local organizations—issues with immediate relevance in-country, not just theoretical use cases.

#### Deliver impact where it matters most.

Your solution has the potential to scale from local to national levels, creating meaningful change and improving lives on the ground.

#### Go beyond the lab.

Advance your solution in a real world setting with funding and a structured framework built for deployment and impact.

## GET INVOLVED

Applications open October 7 and close December 1. To get started, [visit the Challenge website](#). Questions? Submit yours [here](#).

### About IEEE Humanitarian Technologies (HT)

HT empowers volunteers and partners worldwide to apply technology ethically and effectively to address societal challenges—from local initiatives to global policy. Learn more at [ieeeht.org](#).

### About The International Telecommunication Union (ITU)

ITU is the United Nations agency for digital technologies, helping connect everyone, everywhere and shaping the digital future for all. Learn more at [itu.int](#).