

Sustainable Technology Advisory Group

<u>Team Member Name</u>	<u>Year</u>	<u>Major</u>
Aliya Buzurukova	2025	Economics
Anha Mehta	2025	OIM
Aashna Shah	2026	Finance & Managerial Economics
Ananya Talluri	2026	Finance & Informatics
Riya Ramanlal	2026	OIM

Advisor(s): Jennifer Merton

Topic Title: AI in Agriculture: Opportunities for Famine Relief

Audience: Senior Leadership of Garbal

Sustainable Development Goals

SDG #9: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation

SDG #2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

Executive Summary

Garbal is a leader in providing relevant data to pastoral herders in West Africa. With advances in data collection from geo-satellites, drones, and from the herders themselves, there is a prevalence of agricultural information that can be life-changing for herders. Garbal has undertaken the challenge of democratizing access to this information through an innovative call center service model. This complements efforts by the UN and other development organizations that are focused on the dissemination to herders of agricultural information through community radio and texts. The incorporation of AI-powered insights in all aspects of agricultural management will be essential to efforts to scale positive impact in these communities. Thoughtful implementation of AI should be embraced by Garbal side-by-side with Garbal's unique approach to information dissemination.

While AI's use in agriculture is a burgeoning field and brings many benefits, there are valid ethical challenges regarding the adoption and utilization of AI in this landscape. AI might widen the wealth inequalities in developing countries because of access issues. The financial and environmental costs of AI, together with infrastructure challenges in bringing AI to developing countries, are of particular concern. Additionally, AI use may introduce or exacerbate biases, particularly for pastoral herding communities. We recommend embracing the benefits of the use of AI in agriculture while mitigating the potential harms. Garbal should continue to provide agricultural data to pastoral herders, accelerating the incorporation of AI into those efforts. Garbal can take the lead to advance equity, accessibility, and transparency as it uses AI technologies to enrich agricultural decision-making to maximize sustainable outcomes.