Co-Crop

Bridging the information gap for rural areas in South Asia through Conversational AI
Problem Statement

- In South Asia, agriculture remains the backbone of the economy.
- Extreme weather conditions expose farmers to increased threats of income loss and safety issues, particularly among vulnerable groups.

- Farmers in rural areas are mostly digitally illiterate and not adapted to the current technological solutions.
- There is an information gap between the traditional farming practices and agritech methods, resulting in farmers’ mistrust and reduced adoption of such tools.
Global spending on smart agriculture is projected to triple to **$15.3 billion** by 2025 (Forbes).

*Research* suggests that the market size of AI in agriculture should expect a compound annual growth rate of **20%**, reaching **$2.5 billion by 2026**.

In rural India, the number of smartphone users increased to **760.53 million**. However, merely **4.4%** of rural households are digitally literate.

Owing to the lack of access to resources, household responsibilities, and cultural barriers, women face constraints in learning about technology.
Proposed Solution: EdTech for Farmers

**TARGET AUDIENCE**
-
Small-scale farmers, aged 20-30 and based in India and Bangladesh, with basis digital connectivity (smartphones)

**OBJECTIVE**
-
Enhance digital literacy
- Bridge information gap in rural areas
- Enhance knowledge on climate-smart agriculture

**KEY ACTIVITIES**
-
A generative AI-driven multilingual chatbot for farmers – **Croppy** – act as an educational platform to assess the knowledge and choose a learning track, including online courses and community sessions.

**IMPLEMENTATION STRATEGY**

**Stage-wise Rollout:** The project will be implemented in stages, commencing in India with a pilot intervention program in Assam.

**Youth Engagement:** Leveraging the enthusiasm and quick learning abilities, the youth will be targeted who will further act as educators alongside trained professionals.

**Pilot Assessment:** Collate the insights and feedback from the pilot to refine the approach, using AI-driven feedback mechanisms.

**Expansion to Increase Inclusivity:** Ensure gender-inclusivity by targeting female farmers to educate them about smart agriculture.

**Scalability Considerations:** Design the project to scale for potential expansion to other regions based on suitable outcomes.
Predictive Analytics in Agriculture

Risk management

Where can I upskill?

Community Learning

Start assessment

Browse online courses

Start user grouping

Class Intro

Syllabus

Past assessments

Online courses

Free tutorials

Book a Mentor

By gender

By language

By income

It's time to upskill!

It's time to plant!
Empower and equip small-scale farmers with digital literacy on climate-smart agriculture

Provide accessible and personalized learning experience through Croppy

Address gender disparities by incorporating female farmers in knowledge sharing

Create job opportunities and promote economic growth within the community

Accessibility: Leverage instant messaging platforms (e.g. WhatsApp, Telegram)

Direct Outreach: Collaborate with local agricultural extension services and community networks

Engagement: Conduct community-led workshops facilitating personalized learning and fostering trust

Enhance Legitimacy: Tap into local networks and local governance structures

Raise Awareness: Utilize local media like radio, public announcements

Foster multi-stakeholder partnerships corporates, edtech companies, corporate sector, philanthropies and High-Net-Worth individuals to sustain a steady flow of finances.

Croppy will be suggested as an add-on to existing agritech solutions to maximize their conversion among farmers in South Asia

Croppy will offer free and premium versions. Farmers and mentors will get free access to the premium version. External users will need to subscribe to the premium version, to enjoy unlimited features

Seek grants from governments, and multilateral organizations, focusing on climate innovation, SDGs, and agritech
ESG Evaluation & Impact

**Environment**

- EdTech training for farmers to promote an environmentally empowered planet
  - Use conversational AI, chatbot and education technologies to increase the exposure to smart agriculture and climate resilience
  - Enhance in adapting the marginalized communities to negative impacts of climate crisis

**Social**

- Empowering Marginalized Communities Through Social Change
  - Create green jobs for mentors and expose farmers to agritech.
  - Support local communities, fosters sustainable livelihoods and reduces poverty.
  - We will measure social impact through certificates rates, community surveys, and real-time feedback from the chatbot.

**Governance**

- Governance Training of AgriTech Policies and Digital Divide
  - Educate both the older generation of farmers on best practices and exposure to agritech tools and policies.
  - Facilitate youth engagement to act as trainers and educate on climate-smart agriculture
  - Relevant materials will be incorporated into the syllabus
Cost Considerations

Initial Investments (Pilot test in Assam)
Prototype Chatbot Customization (Open AI or IBM): $400
Data Scraping Development and Collection: $300
Product Testing & Design: $150

Training & Ongoing Costs
Youth Training (logistics, 15-20 mentors): $150
Data Maintenance and Validation: $100-$200 per year
Material Update and User Feedback: $100-$200 per year

S&E ROI
- **Enhanced agricultural benefits** and climate resilience for farmers to support their families
- Great exposure to digital innovation and possibilities of additional income sources (e-commerce)
- Young mentors receiving career advisory and field experience in agritech

Pilot test: allow examination of efficiency of the chatbot
Reliance on open-source platforms: reduce costs and train young mentors on voluntary

These mentors receive free agritech training and career guidance in exchange for their service.
Implementation Plan

**Long-Term Vision (5-10 years):** Long-term objectives and expected outcomes.

- **Proven case studies of digital empowerment and economic growth of farmers** in India and Bangladesh
- **Scalable business model** following culturally sensitive evaluation of impact and accuracy in South Asia
- The **circular model of learning** will turn the farmer student into a mentor, and is adopted across South Asian countries

**Short-Term Plan: Actions you can start immediately**

- **Product Mockups**
- **Technological Infrastructure Selection**
- **Identification of Partnerships**
- **Drafting Farmers Survey**

**JAN 2024**
- **Product Mockups**
- **Technological Infrastructure Selection**
- **Identification of Partnerships**
- **Drafting Farmers Survey**

**JUNE 2024**
- **Product Mockups**
- **Technological Infrastructure Selection**
- **Identification of Partnerships**
- **Drafting Farmers Survey**

- **Initial intervention pilot run in Assam**
- **Continued chatbot testing and validation**
- **Launch grants and EdTech partnerships in India and Bangladesh**

**DEC 2024**
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- **Continued chatbot testing and validation**
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**DEC 2025**
- **Establish partnerships with tech-based MNCs and agritech startups**
- **State-run programs to increase awareness amongst farmers**
- **Farmers receive additional income from crops selling in e-commerce**

**DEC 2026**
- **Establish partnerships with tech-based MNCs and agritech startups**
- **State-run programs to increase awareness amongst farmers**
- **Farmers receive additional income from crops selling in e-commerce**

**DEC 2027**
- **Complete 2 Mentoring Cohorts**
- **Establish 3-4 village intervention pilots**
- **Enroll 70-150 farmers in our pilots**
- **10-20 farmers start piloting e-commerce of crops in the community**

**DEC 2028**
- **Complete 2 Mentoring Cohorts**
- **Establish 3-4 village intervention pilots**
- **Enroll 70-150 farmers in our pilots**
- **10-20 farmers start piloting e-commerce of crops in the community**

**DEC 2029**
- **Establish partnerships with tech-based MNCs and agritech startups**
- **State-run programs to increase awareness amongst farmers**
- **Farmers receive additional income from crops selling in e-commerce**

**DEC 2030**
- **Establish partnerships with tech-based MNCs and agritech startups**
- **State-run programs to increase awareness amongst farmers**
- **Farmers receive additional income from crops selling in e-commerce**

**DEC 2031**
- **Establish partnerships with tech-based MNCs and agritech startups**
- **State-run programs to increase awareness amongst farmers**
- **Farmers receive additional income from crops selling in e-commerce**

**DEC 2032**
- **Establish partnerships with tech-based MNCs and agritech startups**
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**DEC 2033**
- **Establish partnerships with tech-based MNCs and agritech startups**
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**DEC 2034**
- **Establish partnerships with tech-based MNCs and agritech startups**
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**DEC 2035**
- **Establish partnerships with tech-based MNCs and agritech startups**
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**2035**
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**Medium-Term Goals (1 year): Milestones achievable within a year.**

- **Farming Feedback and survey completion**
- **Chatbot testing and customization finalization**
- **Selection and training of young mentors**

**JAN 2025**
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**Partnerships**

To strengthen the project’s impact and influence in South Asia, we emphasise on multi-stakeholder partnerships.

**Foundations and High-Net-Worth Individuals**
- Fostering resource pooling with HNIs and family foundations who share similar goals and value for sustained, long-term flow of financial resources.

**UN Agencies**
- Provide technical expertise, policy support and advocacy, as well as impact-based solutions.

**Corporates, Startups, and Innovation Hubs**
- Provide capacity-building, knowledge and information sharing, cause-marketing campaigns, and technical assistance.
- Emphasise partnership with agritech solutions.

**Government Ministries**
- Collaborate on designing and implementing training programs for farmers.

**Financial Institutions**
- Partner with banks and financial institutions to facilitate access to financial services.
- Explore avenues for micro-financing and subsidies.

**Non-Government Organisations (NGOs) and Civil Society Organisation (CSOs)**
- Foster training and capacity building, advocacy outreach to raise awareness, and facilitate community engagement.
About the Team

Maya Sherman
Role: AI Consultant & Researcher
Education: University of Oxford

Tulika Karmakar
Role: Communications & Partnerships
Education: University of Delhi

Emon Kazi
Role: Co-Founder
Education: Khulna University