**Project Title: Kisan-Netra: A Hyper-Local AI Advisory Loop for Farmer Profitability**

Hackathon Track: Kisan Salah (Farmer Advice): Tech for Agriculture

1. **Team Details**

- Institution: BITS Pilani, Hyderabad Campus
- Team Name: AgriWizz
- Team Members:
    - Sujal Jindal (f20221810@hyderabad.bits-pilani.ac.in) - AI/ML Development
    - Abhinivesh Mitra (f20221311@hyderabad.bits-pilani.ac.in) - Backend & Database
    - Rishit Raj (f20220431@hyderabad.bits-pilani.ac.in) - Frontend & UI/UX Design
    - Paarth Prakash (f20220558@hyderabad.bits-pilani.ac.in) - Language Tech & API
    - Shradha (f20242242@hyderabad.bits-pilani.ac.in) - Data and Research


2. **Problem Statement and Context**

Smallholder farmers in India face a critical "information-to-action" gap. When crops are diseased, they lack immediate, accurate diagnosis and economically-viable solutions. This problem is amplified by linguistic and literacy barriers, making most digital tools inaccessible and inequitable for rural demographics.

3. **Proposed Solution and Its Uniqueness**

We propose Kisan-Netra, a voice-first, multi-lingual Progressive Web App (PWA) using a "Diagnose -> Prescribe -> Predict" loop. A farmer uses their camera for an instant diagnosis via an advanced computer vision model. Our uniqueness lies in the next step: the app connects this diagnosis to a hyper-local economic engine. It cross-references local agro-dealer prices with real-time mandi prices to recommend the single most net-profitable action (e.g., "Brand A yields ₹5000 profit vs. Brand B's ₹4200"). The entire advisory is delivered as a simple voice note in the farmer's native language. This closed-loop system is our key innovation.

4. **Technology Stack and Approach**

- AI: Advanced deep learning model (visual diagnosis); Bhashini/AI4Bharat (multi-lingual voice STT/TTS).
- App: Python (Flask) backend, lightweight PWA frontend (for low-bandwidth).
- Data: PostgreSQL & a scraped/crowd-sourced database of local dealer/mandi prices.


5. **Expected Impact and Scalability**

We empower farmers by breaking accessibility barriers (voice, language) to provide equitable, profit-maximizing, data-driven insights. This directly delivers on resource optimization and market linkage. The lightweight PWA and API-based architecture is highly scalable and leverages national-scale platforms like Bhashini.