

KisaanAI - AWS AI for Bharat Hackathon Submission

Slide 1 : Introduction

Team Name: KisaanAi

Problem: Information Asymmetry & Market Inefficiency

Leader: KisaanAI Team Lead

Slide 2 : Brief Idea

KisaanAI is a voice-first, AI-powered platform that empowers farmers with real-time mandi prices, weather forecasts, and crop advisory services in their local language. It bridges the information gap, enabling data-driven decisions for better profitability.

Slide 3 : Proposed Solution & USP

1. Voice-First Interface: Breaks literacy barriers using Bhashini AI.
2. Predictive Intelligence: 7-day price forecasts using Temporal Fusion Transformers.
3. Smart Routing: Calculates Net Profit (Price - Transport Cost).
4. Explainable AI: Provides reasoning to build trust.

Slide 4 : Key Features

- KisanCredit (New): AI-based credit scoring using yield forecasts for instant micro-loans.
- AI Price Forecasting: Accurate predictions for Potato, Onion, Tomato.
- Voice Assistant: 'Bolo aur Jaano' interface.
- Smart Routing: Real-time transport cost calculation.
- WhatsApp Bot: Low-bandwidth access.
- Crop Doctor: Image-based disease detection.

Slide 5 : Process Flow

1. Farmer asks query via Voice/WhatsApp.
2. Bhashini translates speech to text.
3. NLP Engine identifies intent (Price/Weather/Disease).
4. Backend fetches data from AI Models or Databases.
5. AI generates personalized response.
6. Bhashini converts text to speech.
7. Farmer receives actionable advice.

Slide 6 : User Interface Experience

The KisaanAI Dashboard features a high-contrast, accessible design:

- MagicUI Animations: Engaging, smooth interactions.
- Bento Grid Layout: Clear, modular information display.
- Responsive Design: Optimized for low-end Android devices and desktops.
- Visual Cues: Icons and color-coding (Green/Red) for intuitive understanding of trends.

Slide 7 : System Architecture

[Frontend]: Next.js 16 (PWA) + Tailwind CSS + MagicUI

[Backend]: FastAPI + PostgreSQL (PostGIS) + Redis

[AI Layer]: PyTorch (Price Forecasting), YOLO (Disease Detection), Bhashini (Voice)

[Data Pipeline]: Agmarknet + Sentinel-2 + IMD

[Infrastructure]: AWS EC2 + S3 + RDS

Slide 8 : Technology Stack

- Cloud: AWS
- AI/ML: PyTorch, XGBoost, TFT
- Voice/NLP: Bhashini API, Twilio
- Web: Next.js, Tailwind CSS
- Backend: FastAPI, PostgreSQL

Slide 9 : Implementation Cost

- Infrastructure: ~\$50/month (AWS Spot).
- Data: Free (Open Gov Data).
- Feasibility: MVP ready in 4 weeks.

Slide 10 : Business Impact

- Impact: 15-20% projected income increase for farmers.
- Scale: Extensible to 50+ crops.
- Future: FPO integration.