SMART INDIA HACKATHON 2025

PROBLEM STATEMENT DETAILS

Problem Statement ID	25030
Problem Statement Title	AI-Based Crop Recommendation for Farmers
Description	**Background** Farmers often face challenges in accessing timely, personalized, and accurate agricultural support. Language barriers, lack of technical knowledge, and limited reach of conventional advisory services reduce the effectiveness of existing solutions. Emerging generative AI technologies present an opportunity to deliver hyper-localized guidance in natural language, paired with visual understanding to assist with field-level problems like crop disease detection. **Detailed Description** The objective is to create an AI-driven decision support system that determines real-time soil properties (pH, moisture, nutrient content) based on satellite data (e.g., Soil Grids, Bhuvan APIs) or IoT sensors. The system must also account for localized weather forecasts, past crop rotation data to preserve soil fertility, and existing market demand and price trends obtained through APIs or scraping agri-market websites. A machine learning model will provide the most appropriate crops for specified conditions, forecasting yield, profit margins, and sustainability scores. The solution should comprise a mobile application with a simple multilingual interface where farmers can enter or retrieve relevant data, see recommendations, and operate offline in low-connectivity regions. **Expected Solution** A mobile-based prototype offering farmers customized, science-guided crop advice, increasing income, making resources more efficient, and facilitating sustainable agriculture. The solution should deliver an AI-powered platform that integrates text and image-based interactions tailored for agricultural use. It must support voice and chat interfaces in local languages, enabling farmers to ask questions and receive actionable responses.
Organization	Government of Jharkhand
Department	Department of Higher and Technical Education
Category	Software
Theme	Agriculture, FoodTech & Rural Development
Youtube Link	
Dataset Link	
Contact info	

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S.N							Deadline for Idea Submission
30	Jharkhand	Recommendation for Farmers				FoodTech & Rural Development	October 2025

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