ASSIGNMENT – 1

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PROBLEM STATEMENT

Title:

Smart Crop Advisory System for Small and Marginal Farmers

Problem Description

Small and marginal farmers in India often lack access to structured, data-driven agricultural planning tools. Most farming decisions such as irrigation scheduling, fertilizer application, and crop planning are made based on experience or irregular local advice rather than real-time weather data and soil conditions.

Unpredictable climate changes, limited digital record-keeping, and absence of personalized advisory systems lead to inefficient resource usage, increased input costs, and reduced crop productivity. Farmers also struggle to track crop activities systematically, making it difficult to optimize farming practices across seasons.

There is a need for a smart, accessible, and localized advisory platform that integrates weather data, soil information, and crop schedules to support informed agricultural decision-making.

Proposed Solution

AgriBuddy is a web-based Smart Crop Scheduling & Advisory System designed to assist farmers with:

- Weather-based irrigation and fertilization alerts
- Soil-informed crop recommendations
- Smart crop calendar and scheduling
- Digital crop diary for activity tracking
- Real-time notifications and localized advisory
- Multilingual, mobile-friendly interface

The system integrates external weather APIs with a centralized database to provide personalized and timely agricultural guidance.

Expected Outcomes

- Improved crop planning and resource optimisation

- Reduced water and fertiliser wastage
- Increased crop productivity
- Digital record management for farms
- Better decision-making through real-time advisory

Stakeholders

- Small and marginal farmers
- Agricultural experts
- Government agriculture departments
- Rural development organisations