East West University

Group Project

Project Proposal

Smart Agriculture Information System (SAIS)

Course Code: CSE347
Course Title: Information System Analysis and Design
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Objective of the Project

The primary objective of this project is to develop a smart, user-friendly system tailored to address the major challenges faced by farmers in Bangladesh. This application, aims to serve as a digital assistant for small to medium-scale farmers, providing them with timely, location-specific, and actionable agricultural information.

The system is designed to help farmers make informed decisions by offering features such as localized weather forecasts, real-time crop price updates from nearby markets, and a farming calendar personalized according to the type of crop and land. Additionally, the application will facilitate a buy/sell network, enabling farmers to directly market their products or purchase necessary agricultural inputs like seeds, fertilizers, and tools without relying on middlemen.

Furthermore, the app will provide guidance on micro-loans and insurance options by analyzing the farmer's input data, recommending suitable institutions or packages. All features are built with simplicity in mind, ensuring that even users with minimal digital literacy can navigate and benefit from the platform.

The ultimate goal of the project is not just to digitize agricultural information, but to **empower farmers with knowledge and tools that increase productivity, reduce dependency, and improve economic resilience**. By bridging the information gap through technology, this project seeks to contribute to sustainable agricultural practices and the socio-economic upliftment of rural farming communities in Bangladesh.

Rationale of the Project

Farmers in Bangladesh often face limited access to information, unpredictable weather, and unfair market practices. Most rely on traditional methods and lack digital support, leading to crop loss and income instability.

This project addresses these gaps by offering a digital solution that brings essential farming knowledge, market access, and financial guidance directly to the farmer's phone. AgroConnect supports national goals of digital agriculture and rural development.

Stakeholders

- **Farmers** – Main users who input crop and field data.

- **Agricultural Officers** – Advisors who monitor and guide practices.

- **NGOs & Government Agencies** – May use the system for monitoring and training.

- **Local Communities** – Indirectly benefit from improved food productivity.

Requirement Collection

Requirements will be gathered through:

- **Interviews with Farmers** – To understand real-world needs and literacy levels.

- **Consultation with Agricultural Experts** – For technical input on soil, weather, and crop management.

- **Surveys and Feedback Forms** – To validate features like alerts, language preference, and mobile usability.

- **Observation of Existing Practices** – To identify pain points in current paper-based or manual systems.

Economics benefits of the Project

- Increases **agricultural productivity** by helping farmers make data driven decisions.

- Reduces **crop losses** by issuing early pest/disease alerts.

- Supports **government and NGO monitoring**, improving policy planning.

- Promotes **digital inclusion** and rural development.

- Enables long-term **data collection** for future analytics and AI integration.

Technology Used for Development

- **Frontend**: HTML, CSS, JavaScript, Bootstrap (for responsive UI)

- **Backend**: PHP or Java (to handle logic and database)

- **Database**: Oracle, MYSQL (for data storage)

- **Hosting**: XAMPP/Localhost (demo), optionally deployable online

- **Optional**: Google Charts for visual analytics, OpenWeather API for dummy weather data