***SMART AGRICULTURE ADVISORY SYSTEM***

ABSTRACT:

The Smart Agri Advisory System is an AI-driven platform designed to assist farmers in making data-informed agricultural decisions. The system integrates real-time weather forecasting, drone-based crop image analysis, and artificial intelligence to monitor crop health and generate personalized cultivation recommendations. Using image processing techniques such as color segmentation and HSV masking, the system detects stressed crop areas and computes the percentage of healthy vegetation. Weather data, obtained through the OpenWeatherMap API, is combined with crop health analytics to provide intelligent advice regarding irrigation, fertilizer use, and pest management.

This project aims to enhance agricultural productivity, reduce resource wastage, and promote sustainable farming practices aligned with the UN Sustainable Development Goals (SDG 2: Zero Hunger) and SDG 13: Climate Action. The system also generates downloadable reports in TXT and PDF formats for easy record-keeping. By leveraging AI and IoT-based concepts, the Smart Agri Advisory System serves as an efficient decision-support tool that empowers farmers to optimize yield and adapt to changing climatic conditions.