NIIS Hackathon 2025
Problem Statement

Theme: “Digital Agriculture – Coding the Future of Farming”

Introduction

Agriculture remains the backbone of India’s economy and livelihood, yet small and marginal farmers continue to face challenges related to productivity, planning, market access, and sustainability.
In alignment with NIIS’s vision of promoting innovation, entrepreneurship, and real-world problem-solving among students, NIIS Hackathon 2025 invites students to develop software-based digital solutions that make agriculture simpler, smarter, and more accessible. This hackathon aims to encourage participants from all disciplines to collaborate and design impact-driven, technology-enabled prototypes addressing issues in agriculture and its allied sectors.

Problem Statement

Participants are required to develop a software-based solution (web, mobile, or desktop application) that addresses any real-world challenge in agriculture.
The solution should focus on improving efficiency, accessibility, profitability, or sustainability within the agricultural ecosystem. Hardware-based solutions are not part of this hackathon; however, mock data, sample datasets, or simulation tools may be used to support the concept.

Sub-Themes / Tracks

Teams may select any one of the following sub-themes as the focus area for their solution:

A. Code for Change (Social Impact in Agriculture)

Develop solutions that solve community or societal issues related to agriculture.

Illustrative examples:

- Digital literacy or weather-awareness portals for rural farmers.
- Government scheme information systems in local languages.

- Crop donation and food waste minimization platforms.
- Platforms connecting students or NGOs to farming communities.

Objective: Empower rural communities through digital and accessible tools.

B. Smart Supply Chain & Market Access

Create digital solutions that simplify the agricultural supply chain and enhance market access for farmers.

Illustrative examples:

- Mandi price comparison or market analytics apps.
- Logistics management platforms for farm produce.
- Buyer–seller digital marketplaces.
- Cooperative or group selling dashboards for small-scale farmers.

Objective: Make agriculture more profitable through improved planning and transparency.

C. Sustainability & Resource Management

Build tools that promote environmentally responsible and resource-efficient farming.

Illustrative examples:

- Water usage or irrigation planning systems.
- Fertilizer and pesticide scheduling dashboards.
- Climate data visualization and risk mapping tools.
- Sustainability or carbon footprint calculators for farms.

Objective: Encourage sustainable and climate-smart agricultural practices.

D. Digital Tools for Farm Management

Develop simple digital platforms that assist farmers or agri-entrepreneurs in managing daily activities.

Illustrative examples:

- Expense tracking applications.
- Farm diary or yield record systems.
- Labor and resource scheduling platforms.
- Inventory or supply tracking dashboards.

Objective: Simplify farm management and improve decision-making through digitization.

E. E-Learning and Knowledge Empowerment Platforms for Farmers

Design digital learning and advisory systems that enable farmers and agri-entrepreneurs to gain knowledge and practical skills through technology-enabled platforms.

Illustrative Examples:

- Digital knowledge libraries with offline access for farmers in remote areas.
- Chatbots or virtual assistants to answer queries and provide on-demand information.
- Blockchain-based certification tutorials for organic or fair-trade produce.
- Drone-based crop monitoring tutorials introducing remote sensing techniques.

Objective: Empower farmers and agri-entrepreneurs with accessible, interactive, and innovative e-learning platforms that enhance skills, improve decision-making, and enable secure knowledge sharing through advanced digital technologies.