

**TEAM : DARK MATTER MINDS**

**Presents :-**

# **KrishiPatha: Smart Sustainable Farming Game for Future Generations**



**Interactive ML + Game-based Learning for Sustainable Agriculture.**



# **Addressing Farmers' Awareness Gap**

## **Understanding the Problem Statement**

- Over 40% of water in agriculture is wasted due to inefficient irrigation.
- Farmers and students lack engaging tools to understand sustainable farming practices.
- Traditional awareness methods fail to create interactive learning experiences.
- There is a need for climate-smart, tech-driven solutions that simplify complex agricultural decisions.

# Proposed Solution Overview

## Interactive Learning Experience

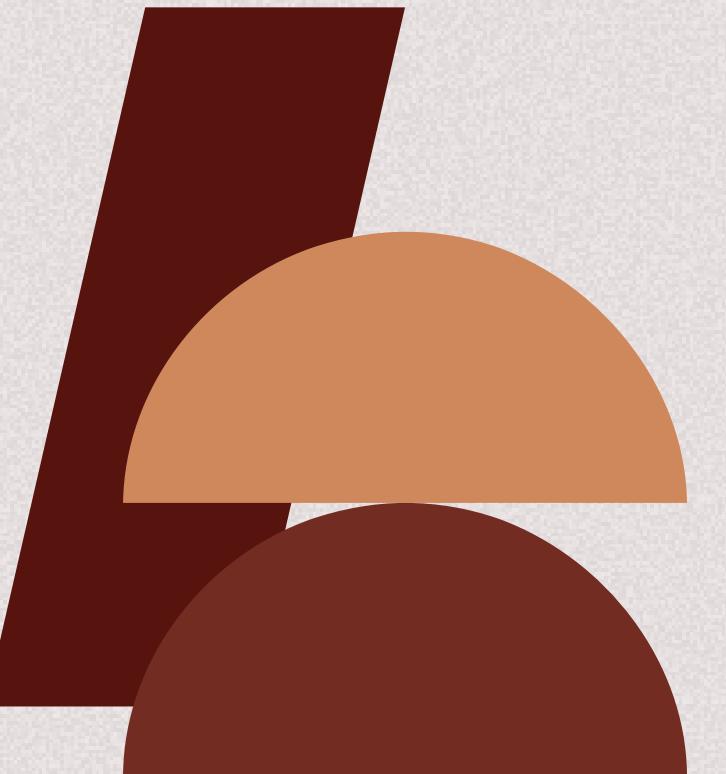
KrishiPatha utilizes **gamification techniques** to engage users, transforming traditional farming education into an interactive experience that encourages active participation and deeper understanding.

## Impact

The game promotes awareness of sustainable farming and smart water use. It provides an interactive education tool for students and farmers. Encourages climate resilience and smart decision-making. And hence, lay foundation for AI-driven agricultural training platforms.

## Data-Driven Recommendations

- Personalized crop choices based on local climate conditions
- Tailored livestock suggestions for optimal farming efficiency
- Customized irrigation setups to conserve water resources



# Technology Stack

Tools and Technologies for KrishiPatha Project



## Pygame: Interactive Frontend

Pygame serves as the **interactive frontend**, enabling users to engage with sustainable farming simulations through a user-friendly interface, fostering an immersive learning experience for players of all ages.



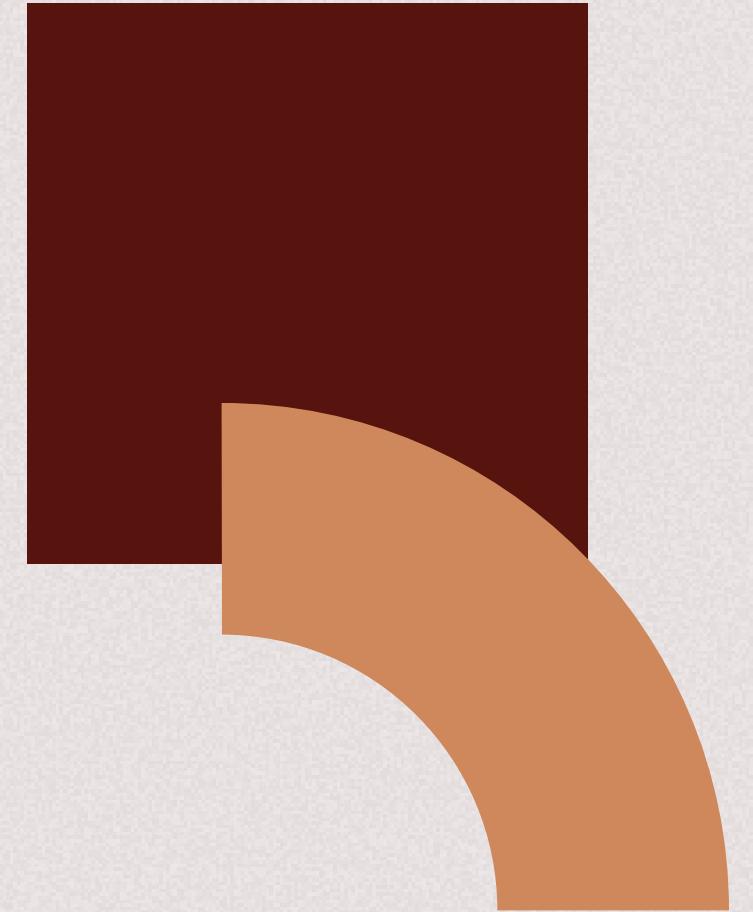
## FastAPI: Efficient Backend

FastAPI provides a robust, efficient backend that facilitates quick and reliable interactions between the game and the server, ensuring real-time data handling and processing for a seamless user experience.



## ML Models: Intelligent Recommendations

The ML models analyze user inputs to provide **intelligent recommendations** on crop selection and resource management, enabling sustainable decision-making based on data-driven insights and local environmental conditions.



# GAMEPLAY FLOW



**Explore Stage**

Select your farm location on a real map.



**AI Insight**

System analyzes soil, temperature, and rainfall.



**Decision Stage**

Choose crops, livestock, and irrigation type.



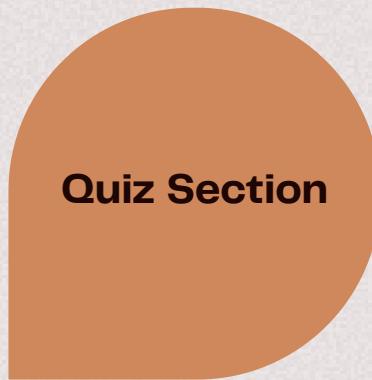
**Simulation Stage**

Watch the process and learn outcomes.



**Results**

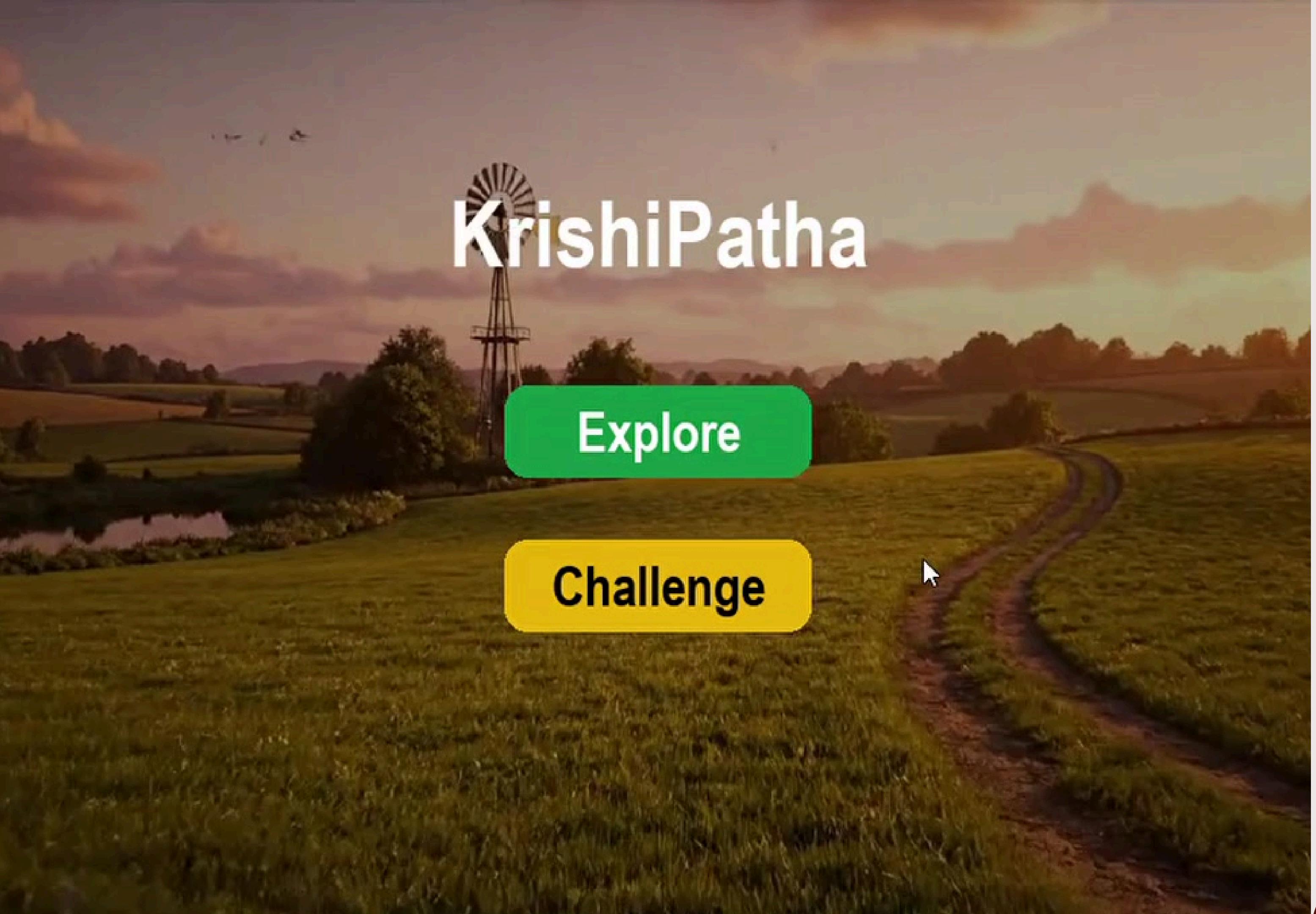
Get a sustainability score and performance feedback.



**Quiz Section**

Build your knowledge by answering important farming questions.

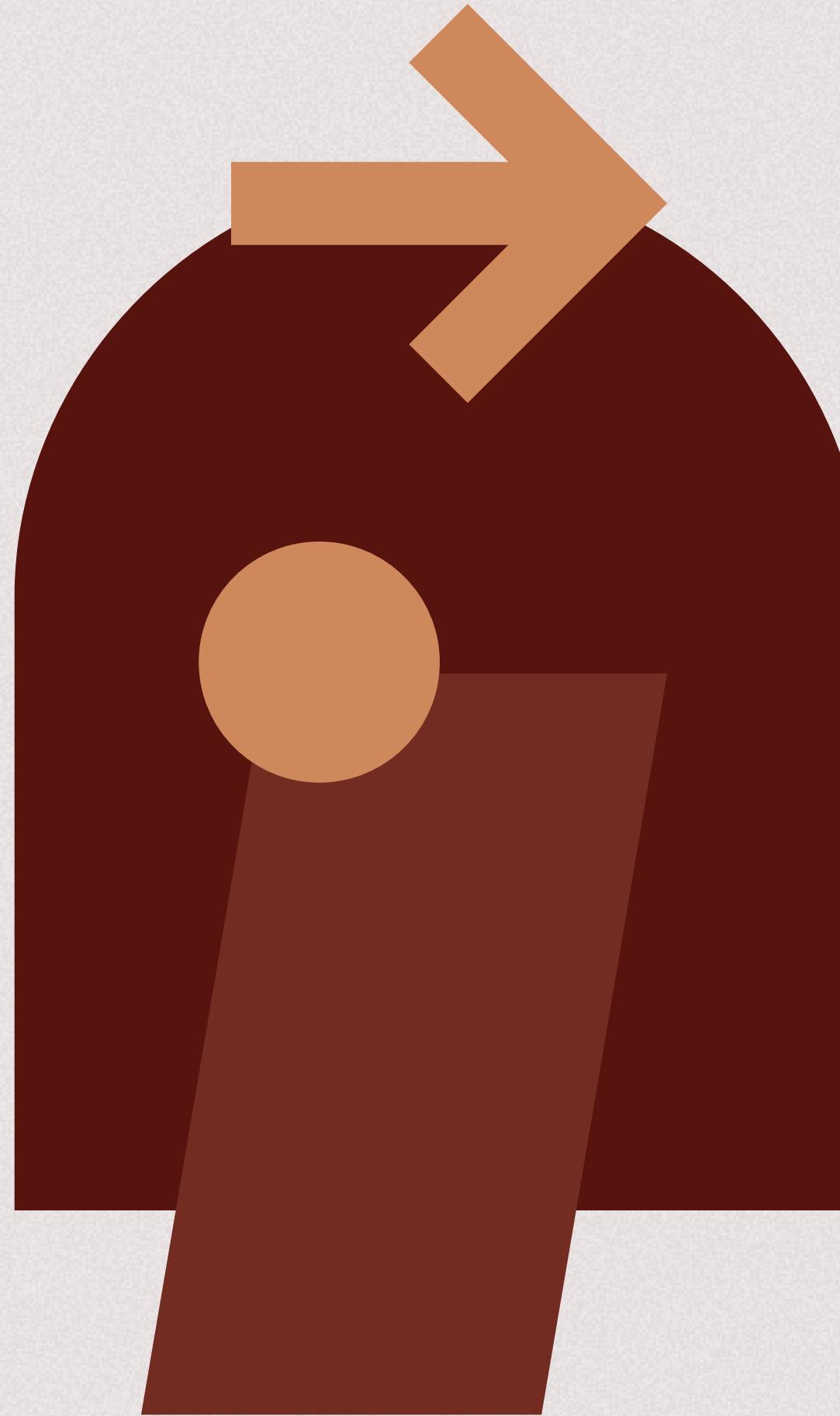
# INTERACTIVE DEMONSTRATION



KrishiPatha

Explore

Challenge



# Contact Information

For any inquiries or collaboration opportunities, please reach out to our team.

## **Project**

KrishiPatha – NASA Space Apps Challenge 2025

## **Email**

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## **GitHub**

[https://github.com/Sans-kriti2004/KrishiPatha\\_Game](https://github.com/Sans-kriti2004/KrishiPatha_Game)