IIT Tirupati Navavishkār I-Hub Foundation

भारतीय प्रौद्योगिकी संस्थान तिरुपति
IIT TIRUPATI

विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF SCIENCE & TECHNOLOGY

IIM CALCUTTA INNOVATION PARK

KISAN ROVER

Powered By
GEO-INTEL LAB

MULTIFUNCTIONAL AGRICULTURE ROBOTIC BULL

Agriculture

Pilot District
Kamrup, Assam

Geospatial Innovation Accelerator
IIM Calcutta Innovation Park

Technology Summary

We are developing Kisan Rover, a multi-functional Agricultural Robotic Bull designed specifically for small and marginal farmers. The machine performs multiple farm operations such as plowing, weeding, seeding, spraying, and land leveling — all in one compact and affordable unit.

It is called an Agricultural Robotic Bull because it is designed like a bull and works as a modern, electric-powered replacement for traditional animal labor. Kisan Rover reduces manual labor, saves time and operational costs, and eliminates health risks caused by pesticide exposure and long working hours in harsh conditions.

Powered by a solar-electric hybrid system, it runs for 5–6 hours per charge and covers up to 6 crop rows. The system also integrates geospatial and AI-enabled precision features to enhance productivity, optimize input use, and promote sustainable, emission-free farming.

Technology Readiness Level:
5

Value Proposition

Kisan Rover provides an affordable, solar-electric hybrid solution for small and marginal farmers to mechanize their farms without depending on diesel machines or animal labor.
- Reduces labor cost by up to 70% and time by 60%.
- Operates with zero emissions and zero fuel cost.
- Designed to be lightweight, woman-friendly, and easy to maintain.
- Performs multiple tasks with one machine — plowing, weeding, seeding, spraying, and leveling.

Market Potential / Deployment Plan

India has over 500 million small and marginal farmers struggling with high labor costs, rising input prices, and limited access to affordable mechanization. Kisan Rover targets this underserved segment.

Deployment will begin through pilot demonstrations under Operation Dronagiri in partnership with Krishi Vigyan Kendras (KVKs), NGOs, and Village Level Entrepreneurs (VLEs). Expansion plans include scalable distribution via rural networks and agri-cooperatives across multiple states.

Applications
- Plowing and Land Preparation
- Weeding and Inter-Cultivation
- Seeding and Fertilizer Application
- Spraying Pesticides and Nutrients
- Land Leveling and Transport (as barrow)
- Future Integration: Automated Operations, AI & Geospatial Precision Mapping

Environmental / Social Impact
- 0% Carbon Emission: Fully electric, solar-powered operation.
- Improved Health & Safety: Reduces pesticide exposure and manual strain.
- Women Empowerment: Lightweight and ergonomic for women farmers.
- Sustainable Livelihoods: Enhances productivity and income for rural families.

Contribution to Sustainable Development Goals (SDGs)

SDG 1, 2, 5, 7, 8 & 9

Product / Application Image

Ramdhan Lodha
Founder & Managing Director
Dhanram Ventures Private Limited (Kisan Rover)

PH: +91 9829857728
E: contact@gmail.com | ramdhanlodha631@gmail.com
kisanrover@gmail.com

www.kisanrover.com
Address: C/O Meena Devi, Near Mata Ji Chowk, Govindpura, Jhalawar, Rajasthan – 326023

✉ od@iittnif.com   ☎ +91 91547 46805   🌐 www.dronagiribharat.com