Smart Crop Protector & Rainwater Saver

A Practical Innovation by a Farmer’s Son
By: Rohit Dahiya, 18-Year-Old Innovator from a Farming Family

Introduction : Dear sir

I am Rohit Dahiya, an 18-year-old innovator from a family of farmers. Both my **grandfather** and **maternal grand father** were farmers, and I have personally seen the struggles they faced with **unpredictable weather** and **rainwater wastage**. Growing up with this background, I’ve come up with an idea that I believe can significantly improve **crop protection** and

water management for small farmers in India.

I've developed the **Smart Crop Protection System**, a solution designed to help farmers **prevent crop damage during heavy rainfall** and **store excess rainwater** for future use. This system is scalable, affordable, and easy to implement, even on small farms.

The Problem:

In India, **unpredictable rainfall** often leads to **crop destruction** and **water wastage**. Farmers, especially those with small holdings of around **2 acres**, face the risk of their crops being washed away by sudden rain. The excess water is often wasted, as it cannot be effectively stored or used later.

The Solution:

My **Smart Crop Protection System** is designed to address these challenges by:

- **Detecting Rain Automatically**: The system uses **rain sensors** and **soil moisture sensors** to monitor rainfall and soil conditions in real-time.

- **Deploying a Protective Cover**: Once the system detects excess rainfall, it **automatically covers** the crops, preventing water damage.

- **Storing Excess Rainwater**: The system collects and stores **excess rainwater** in **storage tanks** for later use, especially during dry spells.

Solar-Powered: The system operates on

solar power, reducing reliance on electricity and ensuring sustainability, particularly in rural areas.

Why It Matters:

- **Prevents Crop Damage**: The system protects crops from the destructive effects of sudden rainfall, improving **yield** and **quality and in india approx 33.9 million Hector land is disturbed due to heavy rainfall**

- **Conserves Water**: By storing excess water, farmers can use it during dry spells, reducing dependency on irrigation systems and **water shortages**.

- **Promotes Sustainability**: The solar-powered, low-energy system promotes **environmentally friendly** farming

practices.

- **Affordable for Small Farms**: Designed with cost-effectiveness in mind, this system is perfect for **small-scale farmers** with land holdings of 2-5 acres.

The Vision:

I believe that by **integrating technology with traditional farming**, we can help **small farmers** become more resilient to climate change and improve their **livelihoods**. My vision is to see this technology deployed across India, benefiting millions of farmers who face the challenges of **rainwater management** and **crop protection and also the agriculture industry market size 99689 billion INR SO with sloving issues we can also make profit with this idea**

Budget Breakdown:

To make this vision a reality, here is an approximate budget for developing the **prototype** and eventually scaling the system:

1. Prototype Development Costs:

- **Rain Detection System (Sensors)**: ₹2,000 - ₹5,000
- **Soil Moisture Sensors**: ₹1,500 - ₹3,000 each
- **Protective Cover System (Retractable Tarp/Canopy)**: ₹10,000 - ₹15,000
- **Water Storage Tank (Rainwater Harvesting)**: ₹5,000 - ₹10,000

- **Solar Power System**: ₹5,000 - ₹12,000
- **Controller Unit (Microcontroller or Automation)**: ₹2,000 - ₹4,000
- **Miscellaneous Components (Cabling, Connectors, Mounting Equipment)**: ₹2,000 - ₹3,000

2. **Labor and Development Costs:**

- **Prototype Development and Testing**: ₹15,000 - ₹25,000
- **Field Testing and Data Collection**: ₹5,000 - ₹10,000

3. **Marketing and Outreach:**

- **Marketing Materials** (Pitch Decks, Brochures, etc.): ₹5,000 - ₹8,000

- **Website or Online Presence**: ₹5,000 - ₹10,000

- **Pitch Events/Networking**: ₹10,000 - ₹20,000

4. **Miscellaneous and Contingency:**

- **Contingency Fund**: ₹10,000 - ₹15,000

Total Estimated Prototype Development Cost: ₹60,000 - ₹1,20,000

Cost Per Unit (Mass Production):

Once the prototype is developed and tested, here is the estimated cost per unit for small-scale farms (1-2 acres):

- **Rain Detection System**: ₹500 - ₹1,000

- **Soil Moisture Sensors**: ₹300 - ₹500

Retractable Tarp or Cover System: ₹3,000 - ₹5,000

- **Water Storage Tank**: ₹2,000 - ₹4,000
- **Solar System**: ₹2,500 - ₹5,000
- **Controller Unit**: ₹500 - ₹1,000
- **Other Materials (Wiring, Mounting, etc.)**: ₹500 - ₹1,000

Estimated Unit Cost for Mass Production: ₹9,800 - ₹17,500

What I Need:

I am looking for **partnerships**, **mentorship**,

and **financial support** to develop a working prototype and test it on real farms. Specifically, I would like to:

- Work with companies that specialize in **agriculture**, **technology**, and **water management**.

- Receive funding or **grants** to bring this idea to life.

- Collaborate with experts to refine the system and ensure its scalability and affordability for small farmers.

Conclusion:

I am excited about the potential of this technology to help farmers **adapt to climate change**, **conserve water**, and **protect their crops**. Together, we can

create a **sustainable future** for Indian agriculture.

Let’s build a future where **crops don’t drown and water isn’t wasted.**

Thank you for considering my proposal.

Contact: Rohit Dahiya
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This is a clear and professional pitch that includes the **vision, problem, solution, and budget** for your crop protector idea.
I’m a young innovator with a solution to save crops from rain damage while conserving water. I don’t have funds, but I have a real solution for farmers and need support to develop it. Can I pitch my idea to you?”