



Tissue Culture Lab

Making Science Accessible to Farmers

Why Invest in Tissue Culture-Based Plant Propagation?

Millions of smallholder farmers still wait for something as fundamental as healthy planting material. High costs, long supply chains, and poor-quality saplings keep them trapped in cycles of low productivity and limited income. In Chhattisgarh, where agriculture forms the backbone of rural livelihoods, this gap remains one of the most overlooked yet critical barriers to progress.

Tissue culture is not new. It is a globally recognized, time-tested method to mass-produce healthy, virus-free, and fast-growing plants using controlled environments and minimal space. Yet, for most farmers, this science remains distant, locked behind the doors of private labs or urban institutions, far from the reach of the fields.

What Are We Proposing?

CAS proposes the establishment of a Tissue Culture Lab in Kabirdham, designed to produce primary hardened saplings crops that are high in market value, suitable for the region, and ideal for propagation through tissue culture.

This initiative is more than a lab—it is a localized system that:

- Mass multiplies virus-free, homogenous, and fast-growing plantlets
- Trains and employs rural youth and women in both lab and nursery operations
- Enables farmers to carry out secondary hardening in their own fields, turning them into decentralized entrepreneurs
- Builds a self-sustaining, community-owned value chain in horticulture

The result: accessible planting material, reduced input costs, improved yields, and a thriving rural economy.

Why Kabirdham?

Kabirdham is not starting from scratch. It is home to a progressive farmer base, already adopting practices like micro-irrigation, mechanized farming, and hybrid seed varieties. Yet, despite its agricultural strength, the region remains focused primarily on paddy and sugarcane. There is untapped potential for crop diversification, especially into high-value horticulture.

CAS already operates the KAVIR Lab, with financial support of **Commonland Foundation** and technical support of **NIPHM**, a facility that mass produces bio-inputs

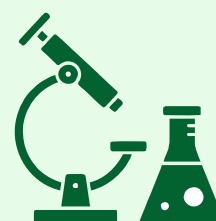
Pseudomonas

Azotobacter

Trichoderma

PSB

KRB



and has conducted
600+ soil tests.

With an active network of
Volunteers Lead Farmers Women

**KAVIR
Volunteers**

**KAVIR
Kisan**

**KAVIR
Sakhi**

community engagement
is already in motion.

How can we create tangible impact?



Distribute over 2 lakh virus-free, primary hardened saplings annually, helping farmers improve crop success rates and market value.



Train and employ rural women and youth, equipping them with technical biotech skills and enabling dignified livelihoods.



Reduce dependence on external nurseries, decreasing costs and ensuring reliable access to high-quality planting material.



Accelerate crop cycles and support farmers to diversify into banana, papaya, bamboo, and ginger cultivation.



Promote farmer-led entrepreneurship by enabling secondary hardening and local sapling sales.



Build a self-reliant agri-ecosystem, where science is embedded in rural communities, not distanced from them.



Why Partner With CAS?

- **18 years of expertise** in rural development and institution building.
- Deep-rooted **community trust** with strong convergence with government departments.
- Strategic partnership with **Commonland Foundation** for landscape restoration in Kabirdham.
- Active member of the **CHiRP coalition** network and working alongside **UNICEF** and other partner organizations.
- Technical support from institutions such as **NIPHM** (National Institute of Plant Health Management) and **IGKV** (Indira Gandhi Krishi Vishwavidyalaya).



Your Investment

- Establish a fully functional Tissue Culture Lab with primary hardening facilities
- A dedicated plant biotechnologist to lead and oversee operations
- Train women and youth volunteers in micropropagation and lab protocols
- Support farmer training on secondary hardening and entrepreneurship
- Develop a community-based distribution and sapling enterprise model

Call to Action

We invite funders, CSR partners, and development agencies to co-invest in locally rooted plant science that empowers communities. Together, we can catalyse a farmer-led revolution in Kabirdham — one that is equitable, entrepreneurial, and sustainable.

Contact

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