

Community Farming and Livelihood (CFL)

The Global Population is expected to reach 10 billion by 2050, raising concerns about feeding these increasing numbers without further degrading the environment. Our work focuses on bringing sustainability in agriculture practices by developing plant and microbe derived products that reduce the use of chemical fertilizers while substantially improving crop yields. We are making strides in using nano biotechnology to develop a range of green products including nano-fertilisers, super foods and algal based bioenergy. We demonstrate change by helping farming communities improve their livelihood through our products and practices. Under Community Farming and Livelihood (CFL), TRISHA, Supi and Micropropagation Technology Park (MTP) are main Area.

About TRISHA

TERI initiated efforts by establishing TRISHA (TERI's Research Initiative at Supi for Himalayan Advancement) at the village Supi, Mukteshwar in Nainital district of Uttarakhand in 2003. Since agriculture is the main occupation, research and extension has been largely undertaken to improve the livelihoods of local farmers. The aim was to develop crop value chains as a viable approach for providing financial security to the marginal farmers of the Himalayan villages.

Thrust Areas of Himalayan Agriculture

- Fragmented and Marginal Land Holding
- Rainfed Agriculture
- Infestation of Wild Animals
- Un-Sustainable Farming Practices
- Less Marketing Facilities

Available Facilities

TRISHA, situated at height of 7,500 feet, is a distinct venture towards sustainable development. There are various facilities at Supi which was established by Sustainable Agriculture Program of TERI, including various facilities at Supi Bio Farm Vermi composting units, Polyhouses, Glasshouses, PSGS, Oil Distillation Unit, Solar Dryers, Mechanical Dryers, Grinders, Pulverisers, Ovens, Herbal Garden of Medicinal and Aromatic Crops, Rain Water Harvesting Models, Knowledge-cum-Training Centre, and a Resource Centre of various Value Added Products.

TERI- TRISHA Approach

Our approach encompasses a strategy for enhancing land and crop productivity by using sustainable and organic biotechnological approaches and harmonizing modern technologies and traditional knowledge. Our initiatives have helped the local farmers to look beyond their conventional farming system and bring about successful diversification of crops through organic inputs. The farmers of the area have been able to overcome the adverse impact of climate change by adopting cultivation of medicinal and aromatic herbs that require minimal amount of water and thereby have an assured source of income round the year. It has also helped them in developing village based micro enterprise capability for improving their economic condition. With its initiatives, TERI has touched lives of more than 5000 households spread across many villages across the country. With the approach of improving the socio-economic status of the farming community, TERI has provided farmers with high quality

planting material and entered into buy back arrangement with them to provide them assured market and better returns. Hence, we have successfully created a platform for assuring economic returns by eliminating intermediaries and thus created a win-win situation for farmers and clients.

Ongoing Activities/Projects

1. Developing crop value chains as a viable approach for providing financial security to the marginal farmers through SUPI SUGANDH-Development of High Value Products (Herbs, Infusions, Jams and Chutney, Traditional Food Items)
2. Income generation programme for rural women farmers through commercial production of medicinal and aromatic plants in Garhwal and Kumaon regions of Uttarakhand - National Mission on Himalayan Studies (NMHS), GBPNIHESD, Almora, Uttarakhand
3. Raising Local Food Nutritional and Environmental Security and Sustainability Utilizing Biodiversity of Uttarakhand
4. Cultivation of High altitude Medicinal and Aromatic plants & Spices
5. Establishment of High Tech. Nurseries of Medicinal Plants & Other plant species/ Distribution of superior quality seeds and planting material to local farmers
6. Training and capacity building of local farmers and stakeholders
7. Formation of Farmers Producer Organization- NABARD, Uttarakhand
8. Application of mycorrhiza to crop plants for sustainable and organic agriculture, crop yield improvement and nutritional improvement
9. Supply of elite planting material produced through tissue culture to farmers



Various Activities of TRISHA under Community Farming and Sustainable Livelihood

Future Planning

- Setting up an Agro-school/centre of excellence for farmers for agri-skills and agri-businesses skill development
- Certification of Organic Farming Clusters
- Extension of Sustainable Farming Practices through Farmers Producer Organizations/Cluster Farming
- Sustainable Cultivation Practices of High Altitude Medicinal and Aromatic Crops/Advance Horticulture Practices
- Large Scale Processing and Value Addition work for Sustainable Practices

Micropropagation Technology Park

The Energy and Resources Institute (TERI) is a leading think tank dedicated to conducting research for sustainable development of India and the Global South. TERI was established in 1974 as an information centre on energy issue.

MICROPROPAGATION

Micropropagation is a proven means of producing millions of genetically identical plants under germ-free condition. Greater output economy of time and space, clonal uniformity, freedom from seasonal constraints and disease free nature of the plants are some of the major advantages that Micropropagation has over conventional methods of propagation.



MICROPROPAGATION AT TERI

TERI has extensive capacity in the area of plant tissue culture backed-up with over three decades of research, development and commercialization. In 1989, TERI established a state of the art Micro-propagation Technology Park at GwalPahari in Gurugram, Haryana, which has the complete infrastructural facilities ranging from modern laboratories and greenhouses to nurseries with an annual production capacity of 3 million plants.



QUALITY CONTROL

- ISO 9001 Certified
- Accredited under the National Certification System for Tissue culture Raised Plants (NCP-TCP) Department of Biotechnology Govt. of India.
- Managed by dedicated research scientists and production staff.



SERVICE OFFERED BY MTP

- Supply of tissue culture raised plants of various spp. in the domestic and international markets.
- Mass production and supply of plants on an exclusive basis.
- Development of Micropropagation protocols for new crops.
- Supply of mother/starter cultures on demand.
- Consultancy to set up tissue culture production facility.
- Training in commercial production of tissue cultured plants.

MICRO-PROPOGATION TECHNOLOGY PARK –LISTOF PLANTSSPP.

FORESTRY AND AGRO-FORESTRY SPECIES

- *AnogeissusSpp.*
- *Acacia Spp.*
- *Bambusabambos*
- *Bambusanutans*
- *Bambusabalcooa*
- *Dendrocalamusasper*
- *Eucalyptus tereticornis*
- *Leucaena hybrids*
- *Paulownia fortunei*
- *PopulusSpp.*

MEDICINAL AND AROMATIC CROPS

- *Aloe vera*
- *Artemisia*
- *Asparagus Spp.*
- *Bacopamonniieri*
- *Centellaasiatica*
- *Stevia*
- *Swertiachirata*
- *Vanilla*
- *Patchauli*

CASH CROPS

- *Asparagus*
- *Black Pepper*
- *Ginger*
- *Hops*
- *Large Cardamom*
- *Leek*
- *Potato*
- *Sugarcane*
- *Turmeric*

ORNAMENTAL (FOLIAGE)

- *AglaonemaSpp.*
- *Alpinia*
- *Calathea*
- *Cordyline*
- *Dieffenbachia Spp.*
- *Dracaena Spp.*
- *FicusSpp.*
- *HostaSpp.*
- *Fittonia*
- *Nandinadomestica*
- *Miscanthussinensis*
- *LiriopeSpp..*
- *Philodendron Spp..*
- *SyngoniumSpp..*
- *Phormium*
- *Yucca*
- *PlumbagoSpp..*
- *VerbascumSpp..*
- *Thalictrum*
- *Rose spp.*
- *Euphorbia Spp..*
- *Hibiscus*
- *Pinguicula*
- *Ophiopogon*
- *Money plant Spp.*
- *Gasteria hybrid*
- *HaworthiaSpp..*
- *More Spp.*

FRUIT SPECIES

- *Apple*
- *Banana Spp.*
- *Strawberry Spp.*
- *Pineapple*
- *Citrus Spp.*

Air purifying Plants: - Clean your indoor pollution by placing following air purifying plants

- Piece lily,
- Snake plant
- Red edged dracaena (dragon tree)
- Money plant
- Spider plants,
- Weeping fig
- Gerbera Daisy
- Chinese evergreen
- Rubber plant (Ficusrobusta)
- Poinsettia

Protocols available for various ornamental plants also.



PRODUCTION FACILITY

Micropropagation Technology Park, TERI-GRAM, GwalPahari, Near Mandi Village, Gurugram-122001, Haryana
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