



TNSCST funded Project (2017-2020)

Project Overview

The Tamil Nadu State Council for Science and Technology (TNSCST), under its program “Demonstration of Technology in the Area of Water, Energy and Agriculture for Location-Specific Challenges of Tamil Nadu,” sanctioned a three-year research project titled: “Exploitation of Banana Fiber as an Alternative for Cotton and Value-Added Product Development in the Rural Community.” The project was approved on 16 November 2017 with a total budget outlay of ₹18,44,000. Due to natural calamities, including the COVID-19 pandemic, the project duration was extended and successfully completed on 30 November 2024.

Training Objectives

The project focused on **skill development and technology transfer** to empower rural communities, with the following objectives:

- **Hands-on training in banana fiber extraction** from the pseudostem of selected banana varieties
- **Skill-building for value-added banana fiber products** such as cloth, pillows, mats, handbags, and other handicrafts
- **Demonstration of plant nutrient formulations** (PGPR enriched with banana sap) for flowering and vegetable crops
- **Training in yarn production** from banana fiber to support livelihoods

Program Overview: Who We Trained

- Target Beneficiaries: SHG members and banana-cultivating farmers from Annur Taluk and surrounding areas, Coimbatore District, Tamil Nadu
- Number of Batches : 14
- Trainees per Batch : 25–30
- Total Participants : 400 (Women: 324, Men: 76)
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Skills Imparted: Hands-On Learning

Participants received practical training in:

- Extraction of fiber from banana pseudostems
- Crafting handicraft products (pencil pouches, pen stands, tea coasters, pillows, key chains, toys, etc.)

- Production of banana fiber yarn
- Preparation of liquid biofertilizer enriched with banana sap using Plant Growth Promoting Rhizobacteria (PGPR) isolated from banana rhizospheric soil

Training Support

- Provided the manual “Creating the Artisans for Banana Fiber Handicraft Products (Tamil)” to guide learning and future practice

Research & Innovation: Science Meets Sustainability

The project also involved significant research and laboratory-based activities, including:

- Isolation of Plant Growth Promoting Rhizobacteria (PGPR) from banana rhizospheric soil
- Molecular characterization of isolated PGPR strains
- Screening of PGPR for various plant growth-promoting activities
- Mass multiplication of selected Plant growth promoting bacterial strains (PGPR) strains
- Evaluation of the shelf life of PGPR liquid biofertilizer enriched with banana sap

Impact: Transforming Lives & Livelihoods

This initiative helped rural women and farmers to:

- Learn new skills
- Create eco-friendly products
- Increase income opportunities
- Promote sustainable agriculture using locally available resources

Hands on Training on Banana Fiber Extraction, Cleaning and Processing



Development of Handicraft Products from Banana Fiber



Production of Handicraft products and Jewells from Banana Fiber



Hands on training on yarn making from Banana Fiber



Certificate Distribution

