Tulsi Mala Beads Making Device

Background

In the villages of Brij area (Mathura, Vrindavan) and nearby villages of Bharatpur, Rajasthan, India, spherical beads are made from the stems of Holy Basil (*Tulsi*). Artisans have devised their own conventional arrangements for turning, drilling, polishing and cutting of beads from the stem of Holy Basil (*Tulsi*). The process is cumbersome, the productivity is low and the quality is inconsistent. An Improved device for making *Tulsi Mala* beads has been developed at RuTAG IIT Delhi. The Artisans are happy working on the improved device.

Improved Device

Artisan Working on Improved Device

Artisan Working on Improved Device

Tulsi Mala

Area of the Project

Rural Livelihood, Women Empowerment, Design Ergonomics.

Challenges

- Existing device comprises of 5 components, Motor, stem holder, Battery, Cutting tool & a needle supported on fixed tail stock without motor support.

- Motor is held in hand continuously to perform turning, drilling, polishing & cutting of each bead throughout a complete-day working cycle, which causes pain in arm, neck & back.
- Irritation & pain in arm & fingers, occurs when motor is stopped by bare fingers periodically to remove the finished bead from the needle.
- Motor runs on battery & option of power supply is missing.

Salient Features and Advantages

- A base plate is provided to support the motor so that it need not be carried by hand.
- Steel bars are provided for support & horizontal sliding of the base plate in forward and backward direction.
- A switch is provided to stop the motor, instead of stopping it manually with fingers.
- Power supply is provided, to run the motor apart from battery.
- A New Stem holder with improved features of self-locking, alignment with reduced vibration has been introduced at a very low cost.
- **Contactless switch** based on infrared (IR) sensor is under development due to the shorter life span of the manual switches.

Project Timeline

- Problem Identified: 2012.
- Design Modification: 2012-2013.
- Technology Dissemination: 2013 onwards.

Impact of the Technology

- Nearly 115 devices are sold.
- Better sitting posture.
- Consistent finish of beads.
- Ergonomically designed.
- Enhanced productivity and income.

Success Stories

- Currently being used in Rajasthan, Kerala, Karnataka, Uttarakhand, Gujarat, and Maharashtra.
- Vendors have been identified for fabrication, manufacturing and assembly.
- Adapted by AMMACHI labs, Amritapuri for improvement of women livelihood.

Funding and Collaborations

- Office of the Principal Scientific Adviser (PSA) to the Govt. of India.
- Lupin Human Welfare and Research Foundation, Bharatpur, Rajasthan.

In Pipeline

- IR based contactless switches instead of physical ones.
- Technology dissemination.
- Explore new utilities of the device. Example: Beads other than Tulsi.

Benefits from Industry Collaboration

- Improved industry – academia relations.
- Better market penetration.
- Dedicated vendors/ manufacturers.

Tentative Cost of Device is about Rs. 8,000*

* This cost does not include freight, installation, GST and other levies.