# RESHAM DARSHAN

*A Machine Vision Solution for Colour Analysis of Silk Yarn*

**A Sub-project under the eAgriEn Program**

**Implementing Agencies:**
**C-DAC, Kolkata & PRADAN, Jharkhand**
**100% Funded by Tata Education Trust (TET)**

## About Silk Yarn

- Commercially two types of yarns are produced - Spun yarn (coarse) and Reeled yarn (fine).
- The colour of Tasar yarns is determined by a number of production factors (e.g. cocoon type, selection of cocoons etc).
- Tasar yarns are of different colours at the producers level.
- These needs to sort before packing.
- Market demands lots with perfectly uniformly coloured yarns within the lot though inter-lot variation in colour is encouraged.
- Un-uniform colour of silk yarn deteriorates the performance of weaving.

Different Colour of Silk Yarn

## Present Method of Sorting & Problems

- Sorting is done manually, by sorting individual hanks with naked eye by skilled personal.
- Problems with present method:
  - ✓ Tasar silk yarn is lustrous in nature; it reflects light, thus difficult to ascertain the exact colour manually.
  - ✓ Human eye may not separate small variations in colour. Require skilled manpower.
  - ✓ With the change in the source and intensity of light the colour of yarn shows differently.
  - ✓ Process involves human perception, which is highly subjective, prone to error.
  - ✓ Separation of large number of silk yarn is monotonous, tedious – creates fatigues to the human beings.
  - ✓ No standardization in colour.

## Resham Darshan

**An image processing based solution for Colour Characterization of reeled as well as span yarn of silk.**

## Target Users

- Tasar yarn producers/buyers and Exporters.
- Sericulture Research Laboratory.
- Yarn processing / Quality control laboratories.


Electronic Vision system for Silk Colour Analysis

## Applications - Grading of silk based on colour.


Yarn Colour sorting using Reshan Darshan System


Software Screen for Silk Colour Analysis

## Features:

- ✓ PC based online Image capture and instant colour analysis of the silk sample.
- ✓ Graphical user Interface for easy operability.
- ✓ Building colour templates automatically and Colour comparison.
- ✓ Online weight measurement and Data logging.
- ✓ Bar plot for distribution of different silk grades, Instant report generation and print out facility.
- ✓ Compact in size for field mobility.

**Centre for Development of Advanced Computing, Kolkata Centre**
Plot-E2/1, Block-GP, Sector-V, Salt Lake Electronics Complex, Bidhan Nagar, Kolkata - 700 091
Telephone: 91 33 2357 9846/3581/3950/5989/4258 Fax: 91 33 2357 5141 Website: www.cdackolkata.in