



MACHINES THAT BRING HAPPINESS

Our Vision is Happy rural masses with sustainable livelihoods using local resources and clean energy.

Our Mission is to Create innovative machines that increase Productivity & improve Quality to bring greater Income and comfort for rural producers.

We support sustainable development goals for People & Planet.



# employment Committed to improve lives of some of the most backward people in India.

Sustainable

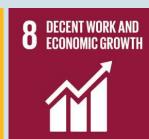


Empowerment
Self employment in
farming,
spinning &
weaving.

Women



Clean Energy
Solar power &
safe techniques
to protect
environment
forests & water.



Rural
Livelihood
Healthy &
remunerative
work in villages
for better
family life.



Innovations
New technology
leads to higher
productivity,
better quality
and is user
friendly.

### **About us**

Resham Sutra Private Limited was established with the vision to create renewable energy based rural livelihood options. Textile production is the second largest employer in India after agriculture. At Resham Sutra, we leverage the experience of the founders in establishing entire textile value chain from farming to yarn production to weaving and finishing and marketing.

We promote use of local resources, including renewable solar power, to create sustainable livelihood options in the villages.

We focus on rural silk production value chain as it is one of the most backward and it has great employment potential.

India is the largest consumer of silk. It imports significant part of its needs. Increased domestic production can find ready market and good value.

Resham Sutra has developed modern machines that can revolutionize rural silk production and fabric weaving.

Resham Sutra is also facilitating setup of integrated Silk yarn and fabric production centers in rural areas.



# **PRODUCTS**

# Silk Reeling & Spinning

Unnati world's first
Solar powered silk
reeling machine.

**02** Buniyaad Micro silk reeling machine for thigh reelers.

O3 Sonalika Muga silk reeling machine for North East India.

Silky Spin Compact and reliable spinning wheel for silk and wool.

Silk reeling is the process by which a number of cocoon ends are reeled together to produce a single thread. This is achieved by unwinding filaments collectively from a group of cooked cocoons in warm water bath and winding the resultant thread onto a fast moving reel.

# Unnati

Unnati is a flexible machine used for reeling, spinning & twisting of silk yarn.

It is used to produce Tassar, Muga and Mulberry varieties of silk.

### **Buniyaad**



This flexible machine is used for processes of reeling, spinning & twisting of silk yarn.

It is used for Tassar, Muga and Mulberry silks.

### Sonalika



Sonalika machine is designed for special effect in reeling Muga silk weft.

Sonalika reeled Muga yarn is in great demand for festive sarees in India.

### **Silky Spin**



Silky spin can operate with Solar, electric or pedal power.

With many user friendly features, it's easy to run machine.

# **PRODUCTS**

# Weaving & Reeling

### SunKargha - Solar assisted loom



The SunKargha increases productivity by three fold over traditional hand loom. It works with wide variety of yarns including Silk, Cotton, Wool and manmade fibers.

It can be operated with Solar power, manual power and pedal power.

Jacquard and Dobby can be attached.

**O5** SunKargha Solar assisted loom with high productivity.

6 Handy Reel
Silk reeling and twisting machine

**Oyna Charkha**wooden, hank sized reeling machines

Handy Reel (MRTM)



The Handy Reel is a proven work horse for Reeling and Twisting of silk yarn.

This sturdy, low maintenance machine is used by rural entrepreneurs to produce twisted Muga and Tassar silk for the warp.

It has options of Solar, Electric and Pedal operations.

Weaving is the method of interlacing of warp and weft yarns at right angles to form the fabric. India is home to more than 4 million hand loom weavers. Most of them use traditional looms, weaving with great skill, but low productivity.

## **Dyna Charkha**



It is the fast processing machine for the rural entrepreneurs.

Dyna Charkha is available in different options for silk reeling or to wind yarn from bobbins and smaller reels to standard sized hanks.

# Fakirpur, Odisha

The Buniyaad machine has become an integral part of lives of the women of Fakirpur In less than a year.

Their income has more than doubled and they are able to send their children to better schools. Entire family now participates in silk reeling activities, so the skills are getting passed to new generation.

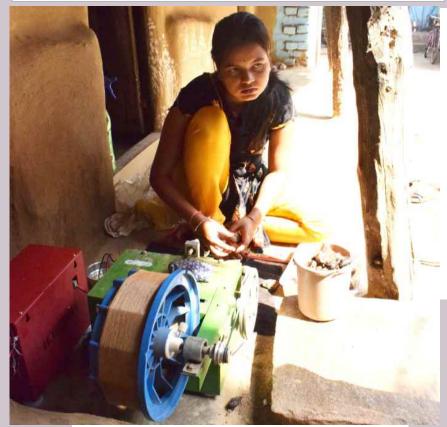
The villagers are preparing to set up a solar micro-grid so the work is not interrupted by frequent power cuts.

**Location** *District Jajpur, Odisha* 

**Machines** Buniyaad with Solar backup

Beneficiaries 300 odd women have been reeling silk on their thigh for a long time.

Impact Income increased by 100%. Job profile changed from job workers to business owners.





# Kharsawan, Jharkhand

**Location** District Saraikela Kharsawan, Jharkhand

**Machines** *Unnati, Buniyaad and Dyna Charkha* 

**Beneficiaries** 32 Self Help Groups of 30 Tribal women each.

Impact Most women are first time earners. The work has given them financial independence and prospects of better future. Unnati machine has revolutionized lives of the women in the tribal villages of Saraikela Kharsawan. The only job option till now, was collecting tobacco leaves from forest and occasional work on farms in ploughing and harvesting seasons.

Extremely poor power availability further limited possible employment options.

Unnati silk centers were setup with the help of local Government. The women have taken to this work like fish to water. Resham Sutra is working with them to backward integrate to silk farming.





# BHAGAMUNDA, ODISHA

The silk producers group at Bhagamunda is an integrated setup from cocoon production to yarn production to weaving. It has become a showcase for success of silk based livelihood.

There are always more women wanting to join the group than it can accommodate. The group has incubated satellite centers in association with Tata Steel and others.

The group in increasing its size to over 300 women and adding value addition processes like digital printing and computerized embroidery.

**Location** *District Keonjhar, Odisha* 

Machines Unnati, Dyna Charkha, SunKargha,

Beneficiaries Sixty tribal women working on silk reeling and weaving.

Impact the women come from very poor families.
They get a place to live along with a common kitchen.





# Bodoland, Assam

**Location** *Udalguri, Bodoland,, Assam* 

**Machines** *Silky Spin, Handy Reel, SunKargha* 

Beneficiaries rural silk producers of Assam.

Impact BTC has emerged as one of the most promising places for Eri silk production. It is now poised to become the largest eri producer in the world.

Bodoland region in Assam was keen to develop local livelihood options after the end of years of disturbance. Silk production emerged as an ideal choice. Eri and Muga silks are native to the region and have good demand.

Resham Sutra is working with the local authorities to facilitate Reeling, Spinning and weaving of silk in the area.

This large scale project is already the leading producer of Eri silk in the world. It promises to create employment for thousands of women.





# Bilaspur, Chattisgarh

Location

District Bilaspur, Chattisgarh

**Machines** 

Silky Spin, Buniyaad

**Beneficiaries** 

Long term women prisoners.

### **Impact**

The women prisoners are being trained to spin silk on Silky spin machines. This helps them earn a living inside the prison and also once they are released.

Local NGO is spearheading this project with financial and technical support from Resham Sutra.

This unique project provides a great earning opportunity to the inmates of the central prison, that'll help them throughout life.

The project has grown from a pilot of ten women to sixty. Now it is being expanded to cover all prisons in the state. The project also won national award for its impact.





# **ACHIEVEMENTS**



Buniyaad machine launch by the Prime Minister Mr. Narender Modi



Winner ISHOW India 2019
by American Society of Mechanical Engineers



Inventor of **Buniyaad**, felicitated by the **Minister of Textiles**, **Government of India** 



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