

A Report on Training On Designing on Dobby and Jacquard held in Regional Silk Technological Research Station (RSTRS), Khanapara from 28th April to 8th May 2014

Participants: There were 14 trainers, 2 MIE interns and 2 ERPs.

About RSTRS: CSTRI established a DCTSC, Sualkuchi and was upgraded to RSTRS and relocated to Khanapara in 2009 with the objective of developing silk industries in North Eastern India. Presently, the station is dealing with training and research activities. These activities include Vanya Silk reeling, silk spinning, silk twisting, silk weaving, wet processing and testing. It also implements the CDP schemes for the North Eastern States.

The training started on 28th April, 2014 Monday, with formal inauguration where all the Scientists and Staffs were present.

In this training about 90% of the course was practical and it emphasized on jacquard designing.



Trainees with the Scientists and Staff of RSTRS

Dr A. Reddy, Scientist C and in-charge RSTRS explains about weaving and different types of basic weaves.

- **Weave:** the interlacement of two sets of threads namely longitudinal (warp) and horizontal (weft). The smallest unit of weave is referred as a weave repeat.
- **Weaving:** it is the mechanism of interlacement of two sets of threads namely longitudinal (warp) and horizontal (weft).
- **Design:** the pattern of interlacement of warp and weft.
- **Basic weave:** there are 3 different types of weave.
 - Plain weave: a weave in which the weave is on 2 ends (warp) and 2 picks (weft). It is the strongest fabric.
 - Twill weave: the ends are arranged diagonally. This is mainly used for suiting fabric.
 - Sateen / satin weave: sateen are weft faced fabric and satin are warp faced fabric.

- For designs that require the production of freely drawn shapes, it is necessary for each end in the repeat to be separately controlled. This is provided for by a jacquard machine with 100 to 2000 or more ends per repeat.

Dr. R.Munshi Scientist B explained about the various loom accessories.

Shri. Soni VijayKumar, Scientist C briefed about sericulture activities like rearing, silkworm life cycle till the production of cocoons.

Shri. A.K Barman TA, explained about different types of primary and secondary motion in weaving.

Practical session:

In practice jacquards are mainly used in weaving large and intricate designs with several hundreds or even several thousands of ends working differently and repeating up on the same number of picks.

The principle features of the jacquard system are the facility with which the jacquard machine is able to cope with such large arrangements and the comparatively small size of the machine itself. The drafting of warp thread is simple and does not require altering for every change of design which is additional advantage of this system.



Jacquard machine

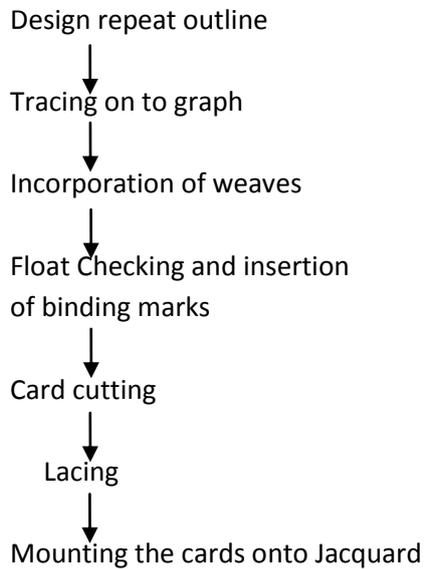
The jacquards are primarily classified into two types, viz ordinary jacquards and special jacquards. Ordinary jacquards are extremely versatile and can be used to produce figure designs in almost any construction. Special jacquards are built for specific constructions thereby limiting their application. These include leno brocade, inverted hook sectional harness and self twilling jacquards.

The jacquards are available in various sizes. The common sizes and hook arrangements are as shown below:

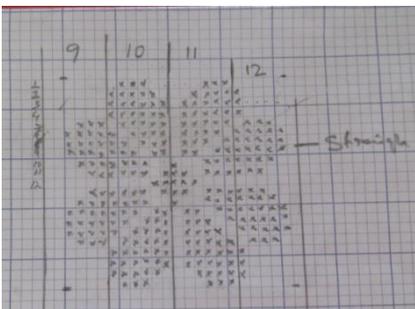
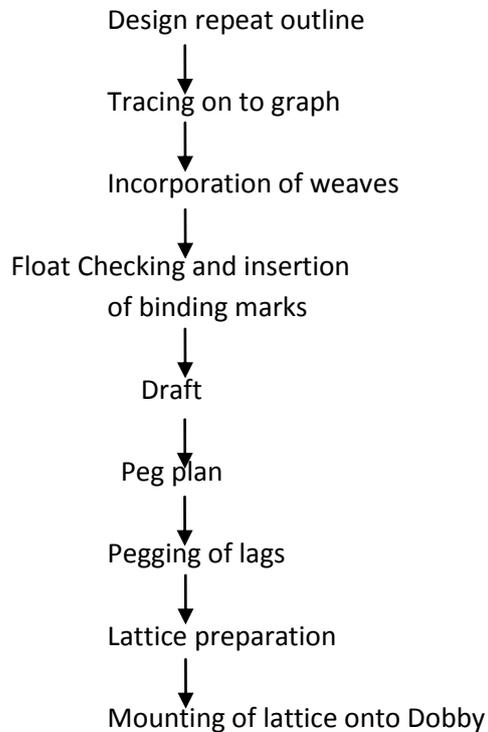
1. 26 rows of 4 hooks per row = 104 hooks
2. 20 rows of 6 hooks per row = 120 hooks
3. 38 rows of 8 hooks per row = 304 hooks
4. 51 rows of 8 hooks per row = 408 hooks
5. 51 rows of 10 hooks per row = 510 hooks
6. 51 rows of 12 hooks per row = 612 hooks

Method of transfer of design:

Jacquard



Dobby



1. Outline the design on the graph paper.



2. Punching of cards as per the design on the graph



3. Lacing the punched cards



4. Loading the cards in the Jacquard



5. Weaving the fabric.



6. Design appeared on the weaved fabric

The above photos showing the different steps of converting design through jacquard.

Field Visit

On 6th May 2014 we went for a field visit to Fabric Plus and Sualkuchi weaving cluster.

1. Fabric Plus: This is privately own enterprise established in 2009. It is one of the popular Eri spun mill in the country. The activity here includes processing of Eri cocoons, spinning, degumming, dyeing and weaving. The mills consumed around 180-200 kg of cocoon per day and the production of yarn is about 150 to 180 kg per day. The yarn produced is sold all over the country. Dyeing of yarn is done with metal complex dye.

There are around 27 looms in the factory installed with jacquard. Design is done through jacquard and CATD system of designing. The production per loom is 7-8 metres per day plain weave and about 2.4 – 2.9 metres designed weave.

2. Sualkuchi: It is one of the oldest weaving clusters in Assam. More than 1000 handlooms and 8 CATD systems are operating in the area. The CATD system of designing takes less time for making designs compared to the manual system of designing. The weavers weave traditional dresses of Assam, Meghalaya, Karbi and also Bombay Saris using Silk Yarn.

They also weave non silk fabrics. Silk yarn is procured from Bangalore since twisted silk yarn is not available in the area.



Khasi dharas weave in Salkuchi

Valediction: Valediction was held on the 8th May, 2014, the last day and distribution of certificate to the trainees.



Distribution of certificate.

Feedback:

The training was satisfactory to all trainees. The knowledge and ideas that was acquired during the training will be efficiently converted to useful products and also to spread the knowledge in the respective areas. Also the trainees were very excited with the CATD system of designing and would like to learn more about it.

Suggestion:

Some of the partners are Master weavers and it is suggested to send them for further training in textile designing to further improve the value addition in the weaving sector in the state.