ABSTRACT

Block printing is an age old art form of India, with wide variations in different regions of the country. Traditional Bagru prints of Rajasthan reflect an essence of eco-friendly textiles and printing practices from pre-treatment to stamping of the base cloth with beautifully patterned blocks. Objective of the present study were to document the traditional dyeing and printing practices of Bagru along with current scenario and changes noticed in its manufacturing process, colours, motifs and products. Data regarding printing was collected from purposively selected craftsmen. Direct style of printing was practiced by the printers in which natural coloring agents such as alum, turmeric, pomegranate, dried flowers, indigo etc are used to add colourful patterns to the fabric. Traditional Bagru printing has gone through many changes with respect to its motifs, production process, tools as well as for the colour used.

KEYWORDS: Block Printing, Bagru Prints, Rajasthan, Eco Friendly, Direct Printing, Resist Printing, Dabu Paste

INTRODUCTION

India is endowed with natural resources and their application is well reflected in most of its traditional art and crafts. Each region has its specific style and method of printing which is an identity of that region. Block printing is an age-old art-form of India, with variations in different regions of the country. The fragment of madder dyed cotton fabrics were found at sovereignty of Mohenjo-Daro of the Indus valley civilization of the III millennium BC. Block printing is believed to have originated in China during the early third century. Also, there is evidence of records of its presence in Egypt and some Asian countries as far early as the fourth century. From these regions, it spread to Europe and other places. India has been renowned for its printed and dyed cotton clothes since 12th century and the creative processes flourished as the fabric received royal patronage in Rajasthan. The art of block printing, however, began much later, and the craft has since been passed down from generation to generation. Today, India is the major hub for block printing specifically regions of Andhra Pradesh, Rajasthan and Gujarat are the flourishing trade centres for hand block printing. Even today, Rajasthan is home to some of the best block printing work. The desert belt e.g. Jaipur, Pali, Chittorgarh, Jodhpur, Jaisalmer, Barmer of India can be described as the land of most colorful dyed and printing textile of India. Bagru a small town in Rajasthan state, located 30 kilometres east from Jaipur city, is known for its legacy of printing fabrics in indigenous styles using locally available natural colours with wooden blocks known as ‘Bagru printing’.
In the absence of authentic record for reference, there prevail different views on backdating the printing practice of Bagru. According to one view, it is estimated that this art form was introduced 450 years back when some communities of Chippas were migrated from Sawai Madhopur (Alwar), Sikkar and Jhunjhunu districts of Rajasthan and settled in Bagru by the Sanjaria riverside like any other nomadic settlement. The bank of river provided them important ingredient (clay) for the base color of the famed ‘Bagru’ prints. According to the opinion of other group, the tale unfolds more than 400 years ago when the Thakur on the lease of the village decided to develop Bagru as a centre for block printing and brought two families of printers from Isarda, a village four miles from Jaipur and then on migration of more families of chippas continued from different places.

The printers locally known as ‘Chippa’ came for the royal patronage. Presence of abundant water in the overflowing ‘Sanjaria’ river and its clean sunny river bed led to the settlement of the Chippas. Artisans used to coat the cloth with clay obtained from riverside and then immersed it in turmeric water for beige colored background. After that, they stamp the cloth with beautiful blocks using natural dyes of earthly shades.

METHODOLOGY

The study aims at the documentation of Traditional Bagru printing of Rajasthan. To fulfil the objectives a descriptive research design was planned to analyze and document various aspects of printing process followed by the traditional artisans of Bagru. A sample size of ten families was selected through purposive and snow ball method under non probability sampling technique. The tools selected for data collection included interview schedule and observation method as it provided more scope to obtain relevant and complete information. The interview schedule consisted of both open and closed ended questions which dealt with demographic details, history of craft and production process of the traditional printing. The observations were also recorded by taking photographs and videos of the respondents.

RESULTS AND DISCUSSIONS

Brief Profile of Workers

It was noted that all the respondents belonged to chippas community and are practicing this art from generations. According to the respondents, some of the families of Bagru have their ancestral lineage from Sanganer. This craft was practised out by men and women both. Men were involved in each and every process from preparation of fabric, colour, printing and finishing process whereas women folk restricted to printing job only. A number of other communities have also been engaged in the job of dyeing and printing i.e. Rangrez and Nilgar who were mainly dyers, whereas the printing is mainly done by cheepa community. In Bagru, chippas are called Namdevi chippas as they are follower of saint Namdev.

The demographic data revealed that the age of six craftsmen ranged between 45-60 yrs and three craftsmen belongs to 30-45 age groups whereas only one of them belonged to 15-30 age group. This shows that younger generation had no inclination to continue with the traditional printing practice followed by the ancestors. Eight craftsmen belonged to joint family and only two had nuclear family setup. Dyeing and printing serve as a main source of income for all the craftsmen. The craftsmen do not have any technical qualification in this field and leaned this art from their ancestors. Printers were paid daily as well as per piece basis and on an average manage to earn 10-12 thousand per month.
Units Profile

Most of the dyeing and printing units were of small and medium scale, started by the ancestors of the respondents. Most of the units developed product on order received from retailers, exporters and also by anticipating the demand. The whole processing of dyeing and dyeing is not a single unit task but needs interdependency of other units for completion of the consignment. Different units (Dyeing, Printing, finishing) work in collaboration and thus can manage mutual benefits, this is the beauty of these kind of small scale industries.

The final products were sold in local as well as in the national market. Exhibitions and fairs organized by state and central govt. were also provide good opportunity for selected printer to earn good amount. The earning of the units depended upon order placed by the party, on an average these small and medium scale units were manage to earn around Rs one to two lakhs annually.

Contemporary Changes

Traditional printing was mainly done with black and red colours extracted from natural sources. Natural dyes madder, indigo, harada, pomegranate rind, dhawaii and kesula flowers, turmeric, limestone, geru and clay were used as colouring, mordanting and resisting material. The passage of time introduced changes in the traditional material and method of printing. Printers now a day’s using synthetic alizarin and indigo in place of madder and natural indigo also for producing different hues, synthetic pigments are used in printing paste. Earlier chippas only produced local varieties of printed fabrics, mostly fadats, lugdis, angochhas, bichhanunis, rezais etc. Now they have shifted their production from traditional products to other products like dress materials, sarees, kaftans, wraprons etc. Today printing on a number of different fabrics is also practiced i.e. malmal, silk sarees which were not in used earlier. Similarly with time, few changes were made in the prints, the motifs were rearranged to give variety.

Documentation of the Craft

Raw Material Used

The data gathered from primary and secondary sources is complied and presented below:

- Tools and Equipment Used

Handmade carved wooden blocks with fine carpentry tools were used for printing. These blocks are made of teak and Rorda (light weight wood). The artisan carved the wooden blocks with iron chisels of different width and cutting surface. In order to smoothen the grains these blocks are soaked for 10-12 hours in oils prior to printing. Over a period of time, Chhippas have a good amount of block collection which is consider as their core wealth. Most of the printing units were equipped with utensils for color mixing (drums) and traditional boiler (copper vessel mounted by bricks), long length padded printing table, printing paste tray and paste carrying tray and revolving stool. Whereas in a few units traditional boiler (copper vessel mounted by bricks), Steaming drum were also found.
DYES

Bagru prints are printed on off-white or beige background and are known mainly for its natural colours i.e. black, mustard, red and mehroon made with natural contents and prepared for print by mixing in tamarind seed powder gum material.

Black colour (Shyahi) prepared from the fermented mixture of iron extract with jaggary for minimum 15 days in plastic jars. Red colour (Begur) is prepared from gum paste and alum (Phitkari). Mehroon (Ruby red) colour is prepared by mixing alum and iron extract paste in different ratios as per shade, mustard yellow colour is obtained from turmeric whereas Harada is used to obtain light shades of yellow. Apart from these other desired colours and shades are prepared through exploring natural material (leaves, seed, bark, fruits e.t.c) from plants and vegetable. The traditional knowledge of printing with natural hues has been passed from one generation to another.

**Table 1: Traditional Materials Used to Obtain Different Colour Shades in Bagru Printing**

<table>
<thead>
<tr>
<th>Colour</th>
<th>Material used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>Harada$^+$ Alum$^+$ Madder/Alizarin</td>
</tr>
<tr>
<td>Black</td>
<td>Harada$^+$ Iron oxide (iron nails or horse shoe nails)$^+$ Tamarind powder</td>
</tr>
<tr>
<td>Light brown</td>
<td>Harada$^+$ Alum$^+$ Tamarind powder</td>
</tr>
<tr>
<td>Dark brown</td>
<td>Harada$^+$ [Alum (3 parts)$^+$ Iron oxide (1 part)]$^+$ alizarin</td>
</tr>
<tr>
<td>Light olive green</td>
<td>Harada$^+$ Alum$^+$ Ratan jot</td>
</tr>
<tr>
<td>Golden orange</td>
<td>Harada$^+$ Alum$^+$ Kesula ke phool</td>
</tr>
<tr>
<td>Dull yellow</td>
<td>Harada$^+$ alum$^+$ pomegranate rinds</td>
</tr>
<tr>
<td>Light pinkish</td>
<td>Harada$^+$ alum$^+$ red turmeric</td>
</tr>
</tbody>
</table>

Motifs Used

Motifs used in Bagru prints are generally small in size and mainly include bel (creepers), buta and buti (floral motifs of different sizes) and jaal (floral net). Stylized patterns of flowers, fruits (keri), leaves (paan ka paata), buds, twisted tendrils and stylized figurative motif of animals (haathi, ghoda, mor, oonth), humans (dancing females) along with stylized geometric patterns (chaupar, chatai, kangura) are also the attraction of Bagru printing. When Bagru printing started at that time common patterns printed by the local people were coriander (hara dhania), Chaubundi, Chakri and neem leaves. Some of the traditional motifs used in Bagru printing are ilaichi buti, bichu buti, keri buti, dhatura buti,
dhania buti, genda buti, chaubundi buti, Kamal buti, Gulab buti, Mukt buti, paan buti, katar buti, mirchi buti, jadhpul buti, surajmukhi buti, haathi buti, ghoda buti, belpatra ki bel, neem patti ki bel, angoor ki bel, machi ki bel, kamal phul ki bel, kalash ka kangura, kali ka kangura, leheriya and Sanganeri Buti.

Figure 2: Motifs and Pattern Used in Bagru Printing

(1,2): Stylized Paisley (Keri) Motif  (3,4,5,6,7): Stylized Buti Pattern  (9,10): Zig-Zag Linear Pattern
(11) Stylized Leaf Pattern  (12) Jaal Pattern  (13) Stylized Peacock Pattern

Products

Bagru printed clothes are used to produce a wide range of made ups, garments and home furnishing articles. Clothing, mainly include fadat, lungi, angochha, tehmat, dhoti, sarees, whereas accessories like scarfs, rumal and head gears are also made with exotic Bagru prints. Bhichhauni, table covers, napkins, bed sheets or bed spreads and quilts are popular furnishing articles prepared from Bagru prints. Traditional Bagru prints were found mostly in cotton fabric but to meet the contemporary demands of market sometimes cotton and silk blends are also being used for Bagru printing.

Printing Procedure

There are mainly two styles of printing followed by the printers namely direct and resist printing style.

Direct Printing Style

Black Colour

for preparation of black colour, rusted iron pieces (horse shoe nails) are kept in little amount with Jaggery for 20-25 days (in winter) and 10-15 days (in summers) before printing was done. Iron ore can also used to obtain desired black colour.

Recepie

- Tamarind kernel powder: 1kg
- Fermented solution (water, iron nails and Jaggery): 3 litre
- Iron nails or shoe horses: 30 kg
- Water: 50 litres
- Jaggery: 2kilo
The fixing agent for black dye is tamarind kernel powder (*chiye ka aata*). To prepare the fixing agent, 1 kilogram of tamarind kernel powder is added to 3 litres of fermented solution and then boiled for an hour.

**Red Colour:** printing paste is developed by mixing aluminium sulphate (Alum) and aligrine dye. Alum is added as per shade required.

**Recepie**
- Aluminium sulphate: 200-800 mg
- Guar gum: 1 kilo
- Water: 20 litres

**Preparation of Printing Paste**

The fixing agent for red dye is guar gum. To prepare the fixing agent, one kilo of gum powder is added to 20 litres of fresh water. Alum (200-800 mg) is added in it with continuous stirring until required viscosity of printing paste is achieved.

**Brown Colour**

It is developed from potassium dichromate ($\text{Cr}_2\text{K}_2\text{O}_7$), which is locally known as *red kassis*.

**Recepie**
- Potassium dichromate ($\text{Cr}_2\text{K}_2\text{O}_7$) : 5mg
- Water: 1 lit
- Tamarind kernel powder: 1 kilo

**Preparation of Printing Paste**

Potassium dichromate (5 mg) is added to one litre of cold water. The fixing agent for brown colour is tamarind kernel powder. One kilogram of tamarind kernel powder is mixed with three litres of water and then boiled. The paste so prepared is cooled and ready for printing.

![Figure 3: Printing Paste from Natural Materials](image)

**Pre-Treatment of the Fabric**

Grey fabric is cut according as per the size desired for the final product (*saree, dupatta* and running fabric). Once the fabrics are cut, they are prewash and soak in plain water for 24 hours, to remove starch, dust, oil or any other contaminants. This process is locally known as *Hari sarana.*
Prior to printing the prewashed fabric is treated with Harada solution. The method of mordanting is also known as peela karna in the local language. Harada is extracted from myroballan tree having high level of tannic acid which facilitates the link between the fibers and the subsequent application of printing paste which allow natural mordant to adhere to the fabric and become colourfast. Harada solution is made in separate container by adding 250 g of Harada in a litre of water allow soaking over night then boiled for 15 to 20 min and filtered. Then fabric is immersed in this solution the mordanted fabric was dried in open field under the bright sunlight. When the fabric becomes yellowish cream in colour it is considered as ready to print.

![Figure 4: Process of Mordanting the Fabric](image)

### Printing of the Fabric

The wooden block is dipped in colour tray and then applied to the fabric with one hand sharp hit to the centre to insure even printing throughout the fabric. The printing is started with the gadh block for background then the rekh as it immediately shows black impression. Alum (begger) usually used for printing through filling (datta) block. The printed fabric is left for 1-2 days before washing. Once the printed fabric gets dried, it is boiled in a large container with a small amount of alum mixture. The fabric is constantly stirred to avoid burning during the boiling process. The fabric is then again washed to remove superfluous dye or dirt and then finally dried in the sunlight.

![Figure 5: Process of Printing the Fabric](image)
Post Treatment

Once the printing completed, fabrics are dried on the sand in the sunlight for 3-4 hours. Then dried printed fabric are washed in plain water and dried again. Steaming process is also done by keeping the printed fabric in a big drum which has a metal mesh (divider), placed horizontally at centre of the steamer over which the fabrics are laid to be exposed with steam. Below this divider, water is heated, thus the steam comes out in contact of printed fabrics. This is done to make better penetration of colour inside the fabric and to receive better colour fastness.

CONCLUSIONS

The traditional and exotic hand block printing of Bagru has been handed down generations but with the inclination towards industry, traditional printers are remain fewer in number. Most of the printers are switched to modern and synthetic methods in order to accommodate the changes in lifestyle, customers demand and fashion. It is difficult for block printers to compete against machine (screen print) but still Bagru Village artists are doing this traditional print to keep alive the ancient and fading art of “Bagru Hand Block Print”. There has been a global concern regarding use of eco-friendly dyeing material, which has renewed interest towards use of eco-friendly dyes.

REFERENCES