



## RESEARCH ARTICLE

# Design transformation: Ajrakh traditional printing to hand painting

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## Abstract

The present study attempts to document the modernized version of Ajrakh hand block printing, which is significant ancient craftwork of the Kutch, Gujarat. Every Indian handicraft has its own uniqueness and carries the high heritage of our native traditions. The uniqueness of the Ajrakh craft is explored and has developed into a contemporary Western garment collection for modern women through the transformation of Ajrakh's traditional printing to hand painting. In the current scenario, there is an overdo of the traditional Ajrakh in the market. It needs an innovative idea and an uplift. The idea of transforming Ajrakh hand block printing to hand painting is a new innovation and an efficient technique with natural dyes and it is cost-effective as well.

**Keywords:** Handicraft, Block printing, Hand painting, Ajrakh, Natural dyes.

## Introduction

Handicrafts may be defined as objects made by skillful use of one's palms. Handicraft is also called 'craftwork' or genuinely a 'craft'. It is an established time period that consists of special ethnic and traditional objects made and designed absolutely through arms or by means of the usage of easy hand tools. It epitomizes centuries of evolutionary subculture and consists of items that can be used for sacred and spiritual rituals or have cultural importance, which includes pottery, metalware, sculpture, and jewelry. At the same time, handicrafts also consist of objects of domestic usage like pots, lamps, and so on. Handicrafts normally deliver a touch of ethnicity and unusual fashion and beauty. In India, handicrafts are a quintessential part of life (Tyagi, 2008). In this report, the study is all about understanding the Ajrakh in detail and how it can be transformed into another craft. This innovation is brought up to give another

dimension to the craft and bring some contemporary output with its own uniqueness while keeping the sustainable factor in mind.

## Literature Review

Theoretician and educator, K. G. Subramanyan characterizes Indian art and craft practice as a diverse blend of numerous traditional art forms and an interaction and assimilation of many cultural traditions (Subramanyan and Rawson, 1978). He says that this broad and diversified blend not only reflects today's multicultural scenario but may also be a useful tool in the regeneration of Indian cultural heritage (Kolay, 2015).

## Handicraft

Handicrafts are items that are made entirely by hand or with the use of tools. Machine tools can be used as much as the artisan's direct guide involvement remains the biggest aspect of the finished product (Crafts and Design | United Nations Educational, Scientific and Cultural Organization). Handicrafts are made from natural materials and can be made in large quantities. These items can be practical, attractive, creative, revolutionary, culturally relevant, decorative, functional, conventional, spiritually and spiritually meaningful, and massive (Ghouse, 2012). Indian handicrafts flourished in eras marked by a vibrant folk tradition, a welcoming lifestyle, and a time when individuality and accuracy were prized (Chattopadhyaya, 1970). India is quite well known for its diverse culture, which involves a variety of art forms. The handicraft industry has a long and illustrious history. From the beginning, artisans were known for their talent and workmanship all

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throughout the world. The engravings on the monuments bear this out. Handmade products from India have already been exported since the dawn of time (Rao, 1979). India is a developed country with a rich cultural history and ethnic traditions and a center for handicraft products. India's cultural variety allows for a plethora of wonderful art and craft products. Handicrafts are a one-of-a-kind function of a specific lifestyle based on local craft abilities and materials (Crafts and Design | United Nations Educational, Scientific and Cultural Organization).

### **Hand Block Printing**

Hand Block Printing on textiles refers back to the technique in which carved wood blocks blanketed with dye are repeatedly pressed along the duration of cloth to create styles. The beginnings of the art of ornamenting fabric via the stamping or printing of colored designs are misplaced in antiquity. Block printing is assumed to have originated in China in the early 3rd century. Around the 4th century, statistics of its presence had been determined in Egypt and some Asian nations from where it transferred to Europe and other locations. Block printing first evolved in China and is stated to be over 2000 years aged. However, the earliest acknowledged example is the Diamond Sutra from 868 AD that's presently in the British Museum (Ganguly, 2013). Block Printing has served man because of the means by which he ought to reproduce his imagination on the material. It served man in the equal manner in which movable type came to serve him after his invention (Irwin, 1956). Fabric is a wondrously numerous invention. It's far from nice, soft, and silken or so difficult that it repels your hand. It is generally made by using interlacing threads in easy samples. However, it may be pounded from fluffy balls of unsung fiber (Vats, 2019). In the 4th century A.D., samples were collected from Egyptian burial sites (Gillow, 2005). Around India, printing blocks were utilized in the fourth century B.C. (Choudhary, 2017).

### **Ajrakh Hand Block Printing**

"Ajrakh," a gift from the Indus Valley Civilization, could be a block-printing craze. It's a traditional block-printing technique that dates back to Sindhi and Kutch. The term 'Ajrakh' itself refers to a set of criteria (Roland and Dunning, 2007). The block printing traditional to Kutch in north Gujarat, India is the sort of craft. It is a concept to have originated over 4000 years ago, as evidenced by archaeological finds on historical Indus Valley Civilization websites which include Mohenjo-Daro dyeing gadget and, particularly a carved stone sculpture of a clergyman draped in patterned cloth (Hann, 2005). The phrase ajrakh is notion to have derived from the Arabic word for blue – azrak, and is the primary coloration in this traditional block printing, creating the use of the indigenous dye indigo (Roland and Dunning, 2007). Ajrakh prints are one of the most ancient in the traditional art of printing on fabrics, which had influences from the

Indus Valley Civilization to the districts of Kutch in Gujarat and Barmer in Rajasthan. The average length of an Ajrakh is 2.5-3 metres. The term "Ajrakh" may well be derived from the Word "Azrak," which means "blue," as blue is one of the primary colors used in Ajrakh printing (Choudhary, 2017). Complex ranges are concerned with producing a real or 'true ajrakh' range from artisan to artisan, however widely involves sixteen and eighteen specific stages of washing, drying, indigo, and mordant dyeing and face up to printing the usage of a paste of lime and gum Arabic ( Roland and Dunning, 2007). Khatris, a generational community whose most important occupation is printing and dyeing (the term Khatri basically means ("one who gives color to cloth"), practices Ajrakh block printing. It is currently produced within the areas of Sindh in what is now Pakistan, Kutch (also spelt Kachchh), in north Kutch and Barmer in Rajasthan each have their unique ajrakh variety. The Khatris claim to have relocated from Sindh to the Kutch village of Dhamadka 400 years ago, after they began providing printed and dyed clothing to the royal palace and regional and rural groups (Edwards, 2007).

Sheesham timber is used to make the timber blocks used to print ajrakh. Before they can be used for printing, the timber blocks are submerged in oil for 6 to 8 months. The designs are carved by hand into the wooden blocks. These blocks are more expensive than those available in Delhi or other cities. The reason for this is the high cost of the wood, as well as the delicate and complex carving. Traditional ornate themes include symmetrically-geometric jewel-like designs that represent natural elements such as flowers, leaves, stars, and the gods of earth, water, and sun's cohesive union. The web-like design is created by stamping all motifs around a central point and then repeating them in a grid throughout the fabric. Aside from the web, border designs are also printed. The colorings being crafted from all-natural substances are harmless to the workers in all methods. They are generally made by mixing the usual colors such as indigo blue, crimson red, yellow, and black, traditionally used. Greige cotton is the most common fabric used. On the first day, the cloth is rinsed in soda ash to remove any remaining contaminants. Printing takes place on a wooden table. It contains roughly 40 to 50 layers of cloth, so the main fabric can absorb colour more easily when printed. Ajrakh printing is a time-consuming procedure that involves multiple steps of printing and rinsing the fabric with various natural pigments and mordants (Choudhary, 2017).

- **Saaj**

Washing the cloth and then soaking it in a mix of camel dung, castor oil, and soda ash removes the starch. The water is then squeezed out and preserved for a single day. The material is allowed to partially dry under the sun in the morning before being dipped in the solution again. The entire process is done eight times till foam is formed by rubbing the material. After that, it is cleaned with undeniable water.

- **Kasano**

Material is cleaned in this technique in a solution made from the nuts of the hard tree known as myrobalan. It was the very first mordant employed in the dyeing process. After that, the material is dried in the sun on both sides and the bigger myrobalan is removed.

- **Khariyanu**

Each facet of the cloth is printed with a face up of gum Arabic (babool tree resin) and lime, with the design outlined in white using carved wood blocks. Rekh is the name for this type of white-defined printing.

- **Kat**

To make water ferrous, a jaggery and iron waste solution is maintained in water for around 20 days. The tamarind seed dust is then added to ferrous water and heated to form kat, a thick slurry. On both sides of the cloth, kat is outlined.

- **Gach**

Gum arabic, alum, and clay are combined to make a paste that will be used as a printing resist. Gach is the name for the mixed phase. Saw powder or ground floor cow dung is applied at the published component to keep the clay from smearing. The material is then dried organically for 7-ten days after this stage.

- **Indigo dyeing**

On the fabric, indigo dyeing is used. It is then dried in the sun before being dyed with indigo for a second time, resulting in a consistently dyed fabric.

- **Vichcharnu**

The fabric is rinsed in water to remove all of the resist print and excess dye.

- **Rang**

The material is then brought to a boil with alizarin, a synthetic madder that can be used to give alum residual particles a vivid, shiny purple hue. To restore the purple coloring, alum is used as a mordant. The grey areas created by the black printing processes take on a richer color. The fabric is boiled with a special dye for other hues. The color of madder root is orange, henna is a pale yellowish green, and the color of rhubarb root is a mild brownish shade (Choudhary, 2017).

### **Transforming Ajrakh to Hand Painting**

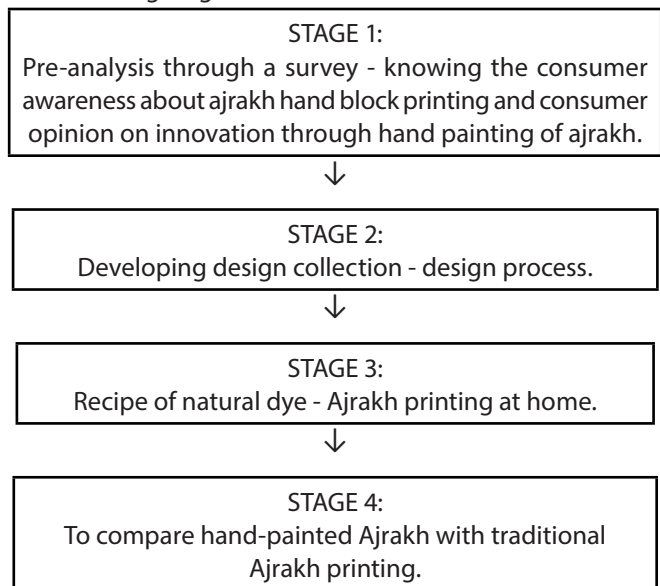
Ajrakh hand block printing is a unique technique that comprises several washing and dyeing processes. Likewise, textile hand painting is also ancient, creating its own spot among the people. It is a challenge to adopt this extraordinary technique to textile hand painting. There may be variations in the process compared to the hand-block printing method. Innovation and newness can be acquired from combining the two handicrafts of India. The abstract

prints worked with Ajrakh hand painting technique are shown in Figure 1, respectively.

The transformed technique of Ajrakh printing to hand painting is worked on a wall piece in the fabric with abstract motifs and its process is shown in Figures 2.

### **Methodology**

Understanding the ajrakh hand block printing technique and how it is adopted to create textile hand painting (its process). Based on the craftwork, and contemporary fusion of prints and silhouettes, a collection is worked and a comparison is done. The research work was carried out in the following stages :



### **Pre-Survey on Adopting Ajrakh to Hand Painting Technique**

Initially, a pilot survey was conducted among 10 people with a sample questionnaire to know their opinion on the questions; accordingly, the complex and overlapping questions were modified. 21 questions are prepared as the final questionnaire and sent to the respondents between 18 and 60 years of age. The survey was created to know the people's interest and opinion on the innovation of adopting Ajrakh hand block printing to hand painting technique and what kind of prints they prefer. If a collection is based on



**Figure 1:** Abstract prints in Ajrakh hand painting technique



Figure 2: Process of hand-painted Ajrakh with abstract print.

innovation, would they purchase it? The method of reaching target respondents is an internet-based questionnaire created and shared. The sampling technique chosen for the survey is non-probability sampling and the target size of participation is 80, including males and females. The chosen method for the survey is google forms, it comes under primary data collection methods and it could be used as both qualitative and quantitative research tools. The questionnaire consists of checkboxes, scales, multiple choices, and a grid typed for answering the given questions.

### Design Process

The design process begins with detailed research on the current trends of garments and prints from WGSN, which hits the brief of minimalism. After analyzing the trends, an inspiration board was prepared with a color pallet and a print inspiration board was also designed separately. A set of 25 garments were designed, and 8 garments were finalized for the summer collection of 2022 based on saleability and artisan's choice. Prints are created accordingly from the print inspiration board. The finalized garment designs are illustrated as flats using illustrator, and the prints are created with adobe illustrator.

### Recipe of Natural Dye - Ajrakh Printing At Home

Materials required for the preparation of natural dye for washing are white cotton fabric, camel dung, soda ash, and caster oil. The first resist paste is made by mixing lime and gum Arabic. The dye is prepared using rust iron, jaggery, and tamarind seed powder which gives a black color. The resist 2 paste are alum, clay and gum Arabic. Indigo is used as the

second dye and the fabric is dipped in the dye. The tools used are of different sizes of paint brushes. Initially, washing of the fabric is done to remove starch from the fabric. A mix of cow dung, soda ash, and caster oil is used to soak the fabric. The cloth is then squeezed out and dried, and the process is done 6 to 7 times. Next, prepare a 1st resist paste with lime, gum arabic and water, using a paintbrush to create a motif or print. After the 1st resist process a black dye is prepared by soaking rusted iron with jaggery in water for 15 days and mixed with tamarind seed powder to form a paste. This dye is painted on the fabric at required areas. The 2nd resist is prepared out of alum, clay and gum arabic in water, this prepared paste is painted in the fabric accordingly. Then the next step is to dye the fabric with indigo and sundry the fabric. The final process is to wash the fabric to remove the resist. The 1st resist print gives a white color and the 2nd resisted area gives a pale yellow shade to the print. To get a red tint to the 2nd resisted region alizarine is used while washing. The dyed parts with black and indigo remain the same. And finally the washed fabrics are dried under the sun.

### Comparison of Design Transformation and Traditionalism

After the garment and print finalization, a sample of the garment is stitched with a sample abstract print to understand the applicability of the transformation of ajrakh to the hand painting technique. A comparison of Ajrakh in painting and Ajrakh in printing is carried out based on the factors such as time, cost, color, design and how customization can be done. Most of the handcrafted works have their limitations and can also be rectified through the process.

## Result and Discussion

### Pre - Survey

#### Adopting Ajrakh as Hand Painting

Figure 3 shows the result of responses adopting the hand block technique to another handcraft technique. The survey findings show that 54(83%) of respondents welcome the innovation and are ready to accept the design transformation of Ajrakh hand block printing to hand painting.

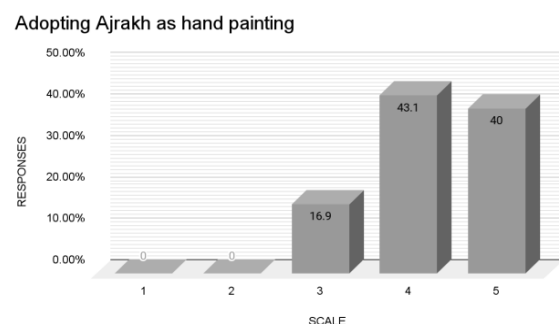


Figure 3: Adopting Ajrakh as hand painting

Type of prints

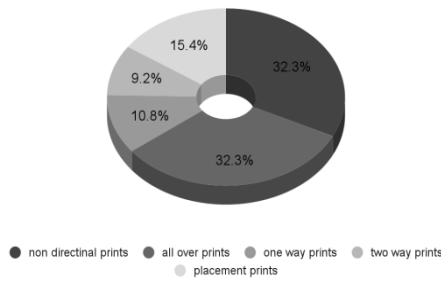


Figure 4: Type of prints

Abstract prints in garments

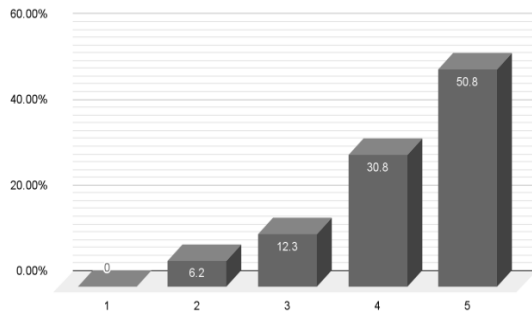


Figure 5: Abstract prints in garments

**Type of Prints**

Figure 4 shows the responses received regarding of print preference in the outfit. The finds show that an equal number of respondents choose non-directional and all over prints 32%. And the least percentage of respondents choose two-way prints 9%.

**Abstract Prints in Garments**

Figure 5 results show that 51% of responses backed the abstract prints in garments. This research is carried out by likert scale of 1-5 where 1 depicts the least liking to have abstract prints in garments and 5 depicts the most likely to have abstract prints in garments.

- Understanding the willingness to buy the garment with Ajrakh hand painting:

From Figure 6 it is observed that the maximum percentage of respondents are willing to purchase the garments with Ajrakh hand painting and 15% of the respondents choose maybe which is also a positive response.

The result from the survey depicts that 80% of the people are interested in hand printing and eventually, 51% of the people are interested in abstract motif prints. Furthermore, 83% of the respondents are willing to buy the Ajrakh hand-painted garment collection with abstract motif prints.

**Design Process**

After the interpretation of the survey on design transformation on ajrakh to hand painting, the design process is carried out by creating the inspiration and mood

Understanding the willingness to buy the garment with Ajrakh hand painting

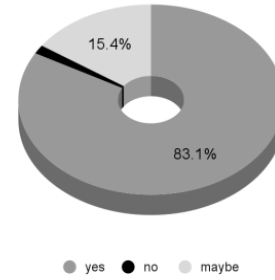


Figure 6: Understanding the willingness to buy the garment with Ajrakh hand painting

board, color pallet and print inspiration board. Fine research is done through WGSN to understand the current trends and prints. The research board is given in Figure 7.

Figure 8 is the inspiration board depicting the simpleness and minimalism with a subtle and calming colour palette. It gives a feel of summer and adds a contemporary touch. The main inspiration is from the things we encounter in our lives. Prints are inspired from the florals, shapes and textures. Most of the prints are of line art created with florals and shapes which is shown in Figure 9.

It is a textured print of lines and up on that an abstract form of dandelion floral print is created from the print inspiration. Dandelion symbolizes hope, growth and healing. It is also a sunny flower, as the collection represents the summer and the print created is shown in Figure 10. Rough illustrations of 25 garments are done and Figure 11 depicts the final 8 garments which are selected based on their saleability and a final range plan is developed.

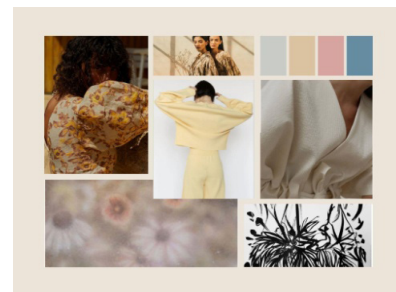


Figure 7: Research board.

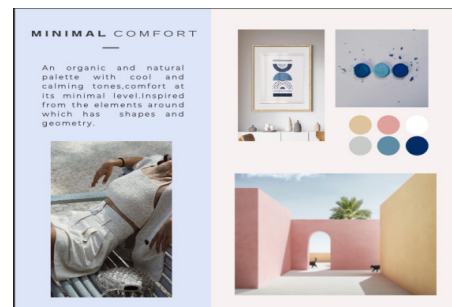


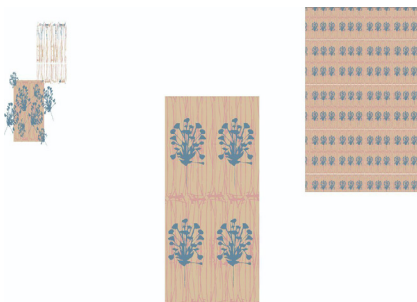
Figure 8: Inspiration and mood boards with colour palette.

**Final Collection**

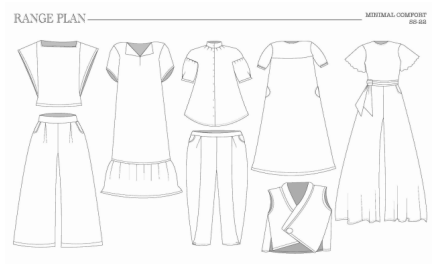
Sample prints were created from the design process, and a discussion with the artisan, industry mentor, and a few designers finalized 8 garments. The selection was based on applicability towards Ajrakh hand painting and commercialization. The silhouettes chosen are for the summer collection 2022, which defines the brand uniqueness and identity. The brand wanted to showcase a unique modernized work of Ajrakh without blemishing the traditional method. The final range collection with Ajrakh hand-painted abstract prints is shown in Figure 12.



**Figure 9:** Prints inspiration board.



**Figure 10:** sample print from the inspiration



**Figure 11:** Flat sketch of range plan



**Figure 12:** Final range collection with Ajrakh hand-painted abstract prints

**Table 1:** Comparison of Ajrakh on Traditional and Innovative methods

S.no	Attribute	Ajrakh in hand painting	Ajrakh in block printing
1	Time	Less	Comparatively more
2	Cost-effectiveness.	High	Low
3	Design and Motif	Experimental	Traditional
4	Color	Wide range	Limited

**Comparison on Traditional And Innovative Methods**

Table 1 shows the comparative study of Ajrakh in hand painting and Ajrakh in traditional methods. The traditional method’s time consumption is higher than the innovative method’s. In the traditional method, a new design block is carved and soaked in oil for 6 months before using. The cost-effectiveness of the innovative method is high compared to the traditional method. The motifs that are carved in the wooden block are an expensive process. In an innovative method, new motifs and prints can be experimented with and bring a lot more contemporary modern designs that add newness to the craft compared to the traditional method, where only traditional motifs can be used. In the traditional method to retain traditional, limited colors are used and in the innovative method, new colors can experiment with accordingly.

**Limitations:** Both techniques have their own limitations to the patterns and colors. The main limitation is that if a garment or fabric has more blank space it may cause patchy pigmentation in some areas of the fabric or garment. To overcome this mostly overall prints are done.

**Conclusion**

Indian handicraft is a unique culture of our nation that carries high heritage and more of tradition. This uniqueness is taken more seriously and creates innovation and newness to the craft. Ajrakh hand block printing is one of the ancient craft works done in the natives of Gujarat, India by the katri community in kutch. These days traditional Ajrakh is overdone in the market and the craft needs some innovative uplift. So, the idea of adopting Ajrakh to another handicraft such as hand painting is an innovative approach as well as an efficient technique. The consumer welcomes the technique of hand painting.

**References**

Chattopadhyaya, K. (1970). Indian Handicrafts. Delhi: Allied publishers.

Choudhary A.S. (2017). Ajrak printing: a testimony to ancient indian arts and crafts traditions. International Journal Of Advance Research And Innovative Ideas In Education, 3(2), 5893-5896.

Crafts and Design | United Nations Educational, Scientific and Cultural Organization. Unesco.org, 1997. [Online]. Available:<http://www.unesco.org/new/en/culture/themes/creativity/creative-industries/crafts-and-design/>.

Crafts and Design | United Nations Educational, Scientific and Cultural Organization”, Unesco.org, 1997. [Online].

- Available:<http://www.unesco.org/new/en/culture/themes/creativity/creative-industries/crafts-and-design/>. .
- Edwards, E. (2007) Cloth and Community: The Local Trade in Resist-Dyed and Block-Printed Textiles in Kachchh District, Gujarat, *Textile History*, 38:2, 179-197, DOI: 10.1179/004049607X229151
- Ganguly, D., & Amrita, M. (2013). A brief study on block printing process in India. *Man-Made Textiles in India*, 41(6), 2-13.
- Ghouse, S. M. (2012). Indian handicraft industry: problems and strategies. *International Journal of Management Research and Reviews*, 2(7), 1183.
- Gillow, J, "Africa Textile", 2005
- Hann, M. A. (2005). *Patterns of culture: Techniques of decoration and coloration*. University of Leeds.
- Irwin, R. L. (1956). A dying what?. *Communication Quarterly*, 4(1), 7-8.
- Kolay, S. (2016). Cultural heritage preservation of traditional Indian art through virtual new-media. *Procedia-Social and Behavioral Sciences*, 225, 309-320. Available: 10.1016/j.sbspro.2016.06.030.
- Rao, R. V. (1979). *Small industries and the developing economy in India*. Concept Publishing Company.
- Ronald, E., & Dunning, D.G. (2007). *Ajrakh : patterns & borders : Anokhi Museum of Hand Printing*.
- Subramanyan, K. G. (1974). *Indian Art by Philip Rawson*. Leonardo, 7(1), 78-78.
- Tyagi, A. (2008). *Let's Know Handicrafts of India*. Star Publications (1st ed).
- Vats, N. (2019). *Block Printing In Barmer*. Laxmi book publication.