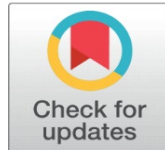
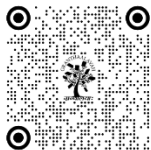


# A REVIVAL OF THE EXTINCT NAIL BLOCKS OF PADRA, VADODARA

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## ABSTRACT

Indian crafts are integral to the culture and customs of rural and tribal communities. Through the ages, crafts made in India have maintained their exclusiveness, but a lot of crafts are either extinct or on the verge of extinction due to non-diversification of product for the modern customer. One such example amongst many is the non-diversification in the motifs and colours of the Mud printing craft of Padra village. The main objective of the research was to revive indigenous nail blocks employed traditionally for mud resist printing. The blocks were revived by creating new motifs and layouts thus adding variation to prints, thereby expanding the motif vocabulary, popularizing mud resist printed fabric and reviving this dying craft tradition through traditional techniques with application of contemporary motif vocabulary and layout to open new areas of application for the craft in the global market. A case study approach was used and the information was collected from a purposely selected sample of the only surviving family of Padra, Vadodara even though they do not practice the craft, they still have the family heritage of knowledge about the craft. The researcher created new motifs and borders that were classified in two categories: Naturalistic and Geometric. Repeat layout patterns were designed using the selected motifs. Then these motifs, borders and repeat layout patterns were being evaluated through the preference schedule. The responses strongly indicated the need for intervention in this craft and that it can sustain if designs are accepted by the consumer. A consumer survey for the designed garments received good responses.

**Keywords:** Mud-Printing, Nail Block, Repeat Layout, Naturalistic and Geometric Motifs



## 1. INTRODUCTION

India is recognized for its various tribes, rich heritage and culture and gorgeous traditional textiles. Each state is famous for its distinct traditional art and craft and unique expressions of these forms. Indian crafts have been an intrinsic component of rural and tribal culture and customs from time immemorial.

Hand block printing is one of the most well-known fabric printing techniques of the Gujarat's textile industry since ancient times, be it the chintz, calico, mud-print, mata-ni-pachedi, saudagiri, etc. <sup>1</sup>

Black loamy soil with a sticky glue-like consistency was popular and widely used resist medium throughout the 1990s due to its easy availability from the nearby waterbody of Padra Village at low cost.<sup>2</sup> Mud printing went obsolete as time progressed. Mud printing was done by two communities in Padra, Vadodara district: the Bhavsar and the Bhamshakti. They solely manufactured these textiles for the Rabari community women.

These prints contain mainly two colours: black and red with particular dotted style motifs which suffice for a bandhani look-a-like prints. For the resultant effect nail blocks were used, the heads of the iron nails made the print on the fabric. There were mainly two types namely Jimi garo having only one colour and Saboriyagaro, which had two colours.

Natural dyes were used before the cold naphthol dye was introduced.<sup>3</sup> Due to the disappearance of the mud-resist printing method, tribal women began to wear garo in dotted patterns in red and black colours, which are screen printed with synthetic dyes on mill-made textiles. The present study was undertaken with the main objective to revive these prints, by first reviving the nail blocks employed and also adding to the motif vocabulary of the prints and experimenting new layouts for a wider contemporary market.

## 2. METHODOLOGY

The research employed an exploratory approach to achieve its objectives and was divided stage wise the first stage being craft documentation. A structured questionnaire was developed, and purposive sampling was used to gather data through interviews, case study, observation and discussion with craftsmen, which were carried out by visiting the Padra district of Baroda. The revival of the craft was attempted out in the second phase by standardization of Mud resist paste with reference to the traditional mud resist recipe. The print registration and consistency was standardized in relation to the nail head diameter and gap between the nails. After that in the Third phase, design development was done which consisted of the creation of new motifs, borders and layout; these were basically done into two categories : Category I Natural motifs / borders and Category II Geometric motifs/borders.

In total 60 motifs were created out of which the researcher and mentors selected 10 motifs and 10 borders from each category based on resemblance to the traditional prints and still having a potential of acceptance by the contemporary consumer. A total of 40 repeat patterns was created and preference was elicited from working professionals and field experts.

## 3. RESULT AND DISCUSSION

The findings of the study have been discussed in the following subsections.

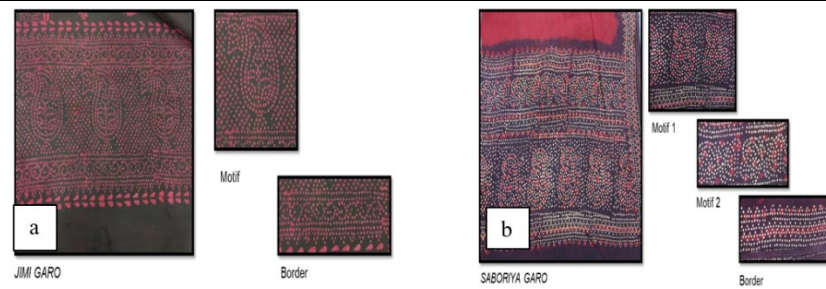
### 3.1. DOCUMENTATION OF THE CRAFT

The documentation of the traditional craft of Mud printing was executed in Padra, Vadodara. The study was conducted during the month of November 2021. In a case study with Mr. Hitesh Bhavsar, he averred that there were many artisan families however currently, there is only one artisan family who knows how the craft was done, however they are not practicing it at the present time. Mr. Hitesh Bhavsar, belongs to the family of printers and shared his insights of the traditional printing process for the benefit of the present study.

### 3.2. PROCESS OF MUD PRINTING

The mud resists paste was prepared mainly using four substances that are mud, gum, chuno and gugar. They use the Khara process on the Madarpat (Muslin) fabric which mainly employed the use of goat dung, castor oil and raw salt and finally mix, near the Gayez (Chippewa) lake they by digging one and a half feet in diameter with a depth of two and a half feet. Then fabric is dyed first in alizarin and then printing process is done on Madarpat (Muslin). The nail blocks were immersed in a mixture containing gum-chuno-gugar and then pressed on the fabric as required. This entire process is done for only single color print design. For a two-colour print design, the plain white Madarpat is first printed with a block of one print as desired and dyed in bluish-black colour.

The main difference between both the gara is that in Jimi gara motifs are in red colour and background is in a bluish-black colour whereas in Saboriya garo motifs are in off white and red colour, border and pallav are in black colour and saree bodies in the red colour as shown in Figure 1.



**Figure 1** a. Jimi Garo and b. Saboriya Garo

In a vessel the dried sarees are boiled in water to remove the resist mud. These sarees are taken out and washed in the lake water using tamarind seeds flour which was soaked in water overnight, starched and dried in sunlight. The dried sarees are then ironed.

### 3.3. REVIVAL OF THE CRAFT

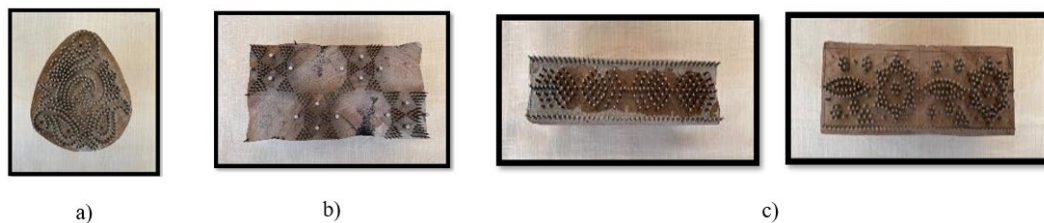
To accomplish the objective of craft revival, the mud resist paste was scientifically researched (In collaboration with Mr. Hitesh Bhavsar and currently working Bela and Dabu printer); the traditional standard mud resist recipe and the revival recipe.

Printing with the traditional paste resulted in some errors in terms of the resist print quality with the developed nail block, hence multiple sieving and addition of Gum Arabica was done till the paste reached a pouring consistency, was achieved with the above ingredients, and then the test prints were developed in colour. While the researcher was working with the artisans the paste which was created gave errors in combination with a certain colour and dot sizes were not in their perfect form. Hence, further modification was done to overcome the difficulty.

Ingredients used were mud, Bavad gum (gum arabica), Gugar, chunna (limestone) and water in Standardized traditional mud resist paste and Multani mitti (fuller's earth), bavad gum, chunna and water in Modified Multani mitti recipe.

### 3.4. REVIVAL AND REINTRODUCTION OF NAIL BLOCK

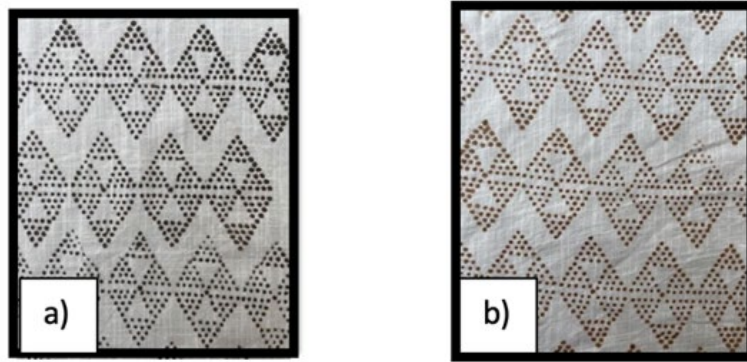
Traditionally, mud block designs were made solely using khili (metal nails) blocks. However, this practice is no longer continued. In recent times Khili is used only for small dots by artisans, researcher revived and reintroduced the use of khili blocks, not only for small dots but also for designing intricate new patterns with the use of fine (2mm) and big dot (4mm) patterns (Figure 2). This brings back an element of authenticity and uniqueness to the mud block printing process.



**Figure 2** Development of nail block a) Single motif b) All over design c) borders

### 3.5. APPLICATION OF MUD PRINT PASTE USING NAIL BLOCK

The developed mud resist pastes, were applied on the fabric using nail block to check the consistency of paste, clarity of print and to check the efficiency of the resist has been given in the figure 3.



**Figure 3** a) Traditional mud print paste and b) Modified mud print paste

### 3.6. APPLICATION OF NATURAL DYES ON MUD RESISTED FABRIC

After the mud resist was printed the fabric was exposed to sunlight for long duration and the fabric was dyed in natural colours. In traditional mud printing, the colour palette was limited to three colours i.e. Red (using alizarin dye), Black (using naphthol dye), and White (colour of the gray fabric). The artisans originally employed natural dyes and later switched to naphthol dyes.

To expand the color range and to create more vibrant and eco-friendly options. Natural dyes such as indigo, kashish, majith, black, and indigo green were experimented with. (Figure 4)



**Figure 4** a) Red and Black colour, b) Indigo colour, c) Green Colour, d) Kashish colour, e) Grey colour and f) Light green and Kashish colour

### 3.7. DESIGNING OF NEW MOTIFS, BORDERS AND LAYOUTS USING COMPUTER-AIDED DESIGN:

To expand the motif vocabulary of traditional mud blocks new motifs were created using Photoshop CC 2014 and Adobe Illustrator CS6. The new motifs/border were inspired from the traditional motifs/ border and certain elements were taken from traditional units and were designed based on two categories. The categories for designing included the following: 1. Natural motifs /borders and 2. Geometric motifs/borders



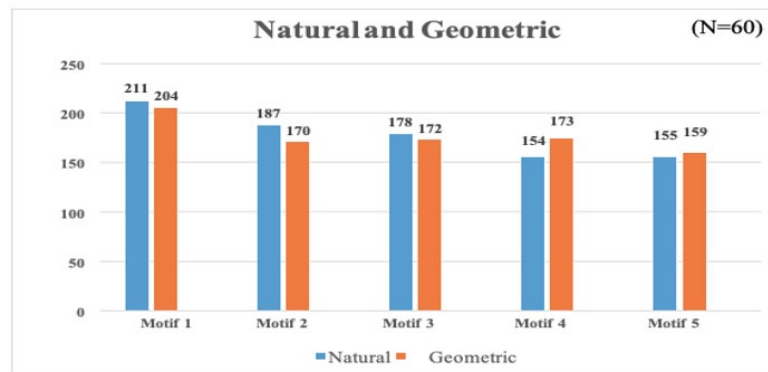
### 3.8. SELECTION OF THE MOTIFS, BORDERS AND LAYOUT

From total 60 designs, the researcher and guides selected 10 motifs and 10 borders, and four layouts of each were created. These were then displayed and an opinion was taken from stakeholders in Clothing and Textiles, working professionals and designers.

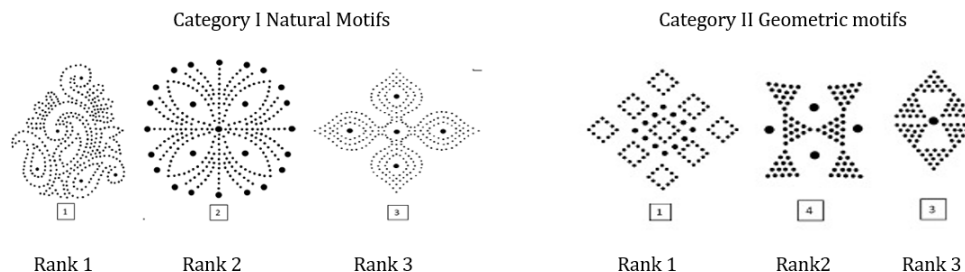
#### 3.8.1. ASSESSMENT OF CREATED MOTIFS IN CATEGORY I(NATURAL) AND CATEGORY II (GEOMETRIC)

The respondents were asked to share their preferences for motifs in each category i.e. Natural and Geometrical.

The data represented through Graph1 reveals that nearly two-third of the respondents found Motif 1 to be highly appealing i.e., 211 and 204 percent respectively in both Category Natural and Geometric followed by Motif 2 and motif 3 in natural category and in case of Geometric motifs, motifs 4 and motif 3. (Figure 5)



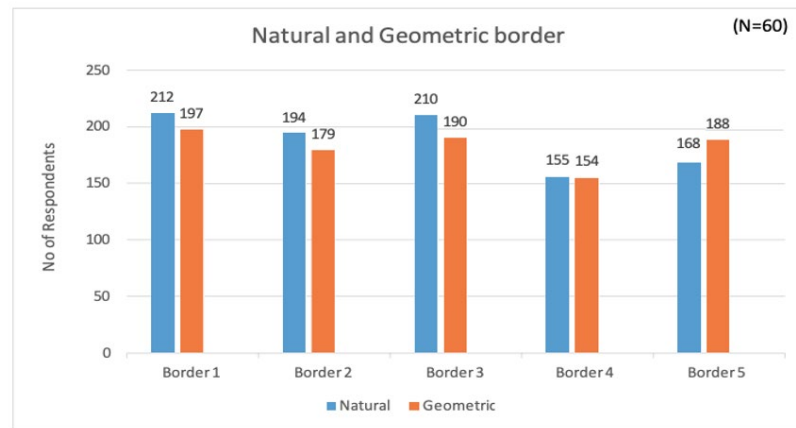
**Graph1:** Opinion regarding aesthetic appeal of Motifs in Category I (Natural Motifs) and Category II (Geometric)



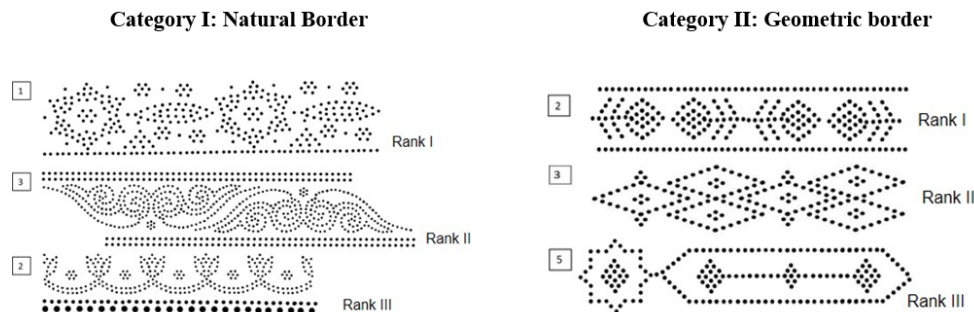
**Figure 5** Best Ranked Border in Category I (Natural) and Category II (Geometric)

#### 3.8.2. ASSESSMENT OF CREATED BORDERS IN CATEGORY I(NATURAL) AND CATEGORY II (GEOMETRIC)

The weight mean score of the Floral border is shown in Graph 2 in which Border No.1 rank I (212), Border No. III Rank II (210), Border No. II Rank III (194) got the highest Weighted Mean Scores respectively. In Category 2 (Geometric). It was found out that the respondents score highest Weighted mean score for 2nd border (197), followed by first border (190) and three border (188).(Figure 6)



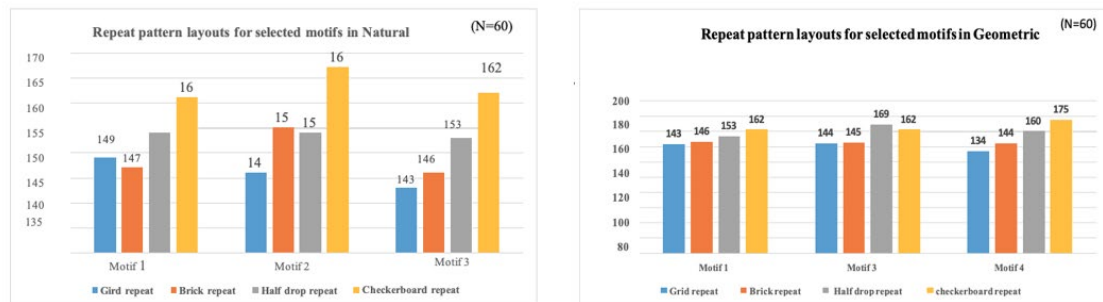
**Graph 2** Opinion regarding aesthetic appeal of borders in Category I (Natural Motifs) and Category II (Geometric)



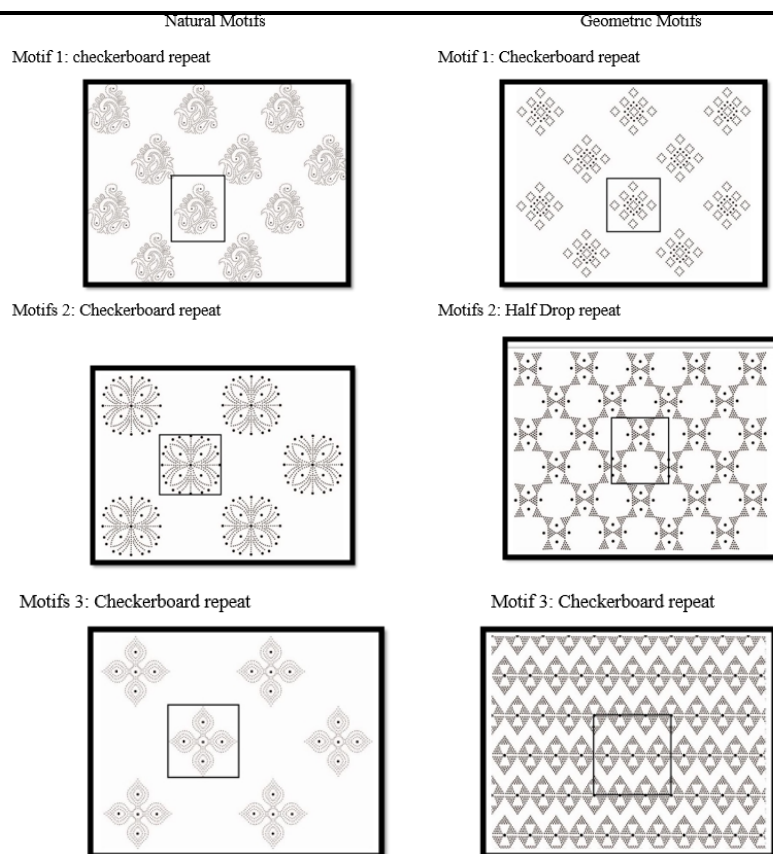
**Figure 6** Best Ranked Border in Category I (Natural) and Category II (Geometric)

### 3.8.3. DEVELOPMENT OF REPEAT PATTERN LAYOUTS FOR SELECTED MOTIFS IN CATEGORY I (NATURAL) AND CATEGORY II (GEOMETRIC)

In the present study total 24 pattern layouts were created based on four different repeat patterns (Gird, Brick, Half drop, and Checker board repeat patterns). All the developed design layouts were evaluated by respondents and their preferential choices for pattern layouts of designs are presented. The findings reflected in Graph 3 that the majority of respondents preferred the checkerboard repeats pattern layouts for Natural Motif 1,2, 3 and Geometrical Motif 1 and 2. Only for Geometric Motif 2 Half drop repeats was preferred. (Figure 7)



**Graph 3** Opinion regarding aesthetic appeal of Repeat pattern layouts in Category I (Natural Motifs) and Category II (Geometric motifs)



**Figure 7** Best Preferred repeat pattern layouts in selected natural and geometric motifs

## 4. CONCLUSION

The documentation of the traditional process and its scientific standardization of the mud resist recipe was done. To revive the craft new designed motifs, borders, were created, inspired from the traditional motifs/ border which were designed based on two categories; Natural and Geometrical motifs and borders. Four repeat layouts were made for each selected motif and border. Feedback was elicited from the end consumer, through a google form and display. The work received positive feedback, with scores in the highly appealing and attractive categories, for the developed motifs and layouts and also for new fabric and colours using Natural Dyes.

## CONFLICT OF INTERESTS

None.

## ACKNOWLEDGMENTS

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