

Development of Sustainable Home Décor Products Using Terracotta

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Abstract

The need for sustainable products is growing and the market for sustainable products are increasing. Terracotta earth is one such sustainable material that is easily available and priced low and is used for making endless varieties of products. Carving, shaping, molding, and finishing the terracotta to serve as utility products is an age-old craft that is being practiced in many parts of the world & many states across India. Terracotta has entered global markets and saw its drastic growth. This project focusses on utilizing this craft skill to create sustainable home décor aesthetic planters. Three different styles of aesthetic home décor indoor planters were developed using terracotta.

Keywords: Terracotta, Sustainable, Home décor, Aesthetic, Indoor planters.

INTRODUCTION

In Indian sub-landmass an extensive variety of social assortment in types of tangible social part (art and souvenir) and, intangible social part (society tunes, dance, people ceremonies and so on) are found bounteously. This people create or hand tailored art are the second biggest area after farming in terms of employment generation after liberalization in India. [1]

This traditional craft and workmanship article are made by various basic and regular unrefined substances in an exceptionally very conventional matter. The clay well kneaded, well-chosen of the right variety, is the easiest to handle to express the form observed in nature which may be of an animal or a bird or a human being, individually or collectively composed in a theme or episode chosen. [2]

The term „Terracotta“ derived from the Latin and Italian word. The Latin “Terra” means „Clod soil“ (indicates the mud) and the “Cotta” is an Italian word means „statuary“. In Assam, locally it is called ‘pora Matir shilpa’. Earthenware is viewed as one of the preliminary vehicle of well-known imaginative articulation. Earthenware objects have been arranged and utilized by people from antiquated season of mankind's set of experiences as family objects, ceremonial articles, stylish items and figures. Earthenware fulfills the innovative inclination of people and furthermore meets their homegrown and stylish necessities. Since, clay is considered as auspicious (earth = mother) terracotta objects also fulfil the ritual purpose of a community [3].

LITERATURE REVIEW

Historical Information about the Craft

Terracotta area has a brilliant verifiable past. Indian craftsmen in the memorable times are well known overall for their art work and imaginative articulation. At the time of fifteenth furthermore, sixteenth hundreds of years the Patola garment, art of Surat in Gujrat was traded in the nations of Center East (Baghdad) for the prominence.

In the Mughal period, the interest of workmanship additionally gained from the primitive ruler and Nawabs (Lords). English East India Company likewise traded a gigantic measure of art to different nations for tremendous business interest. The success of this craftsmanship and society craftsmanship in India went on till the development of English realm. The British attorney reduced the power of Nawabs which was responsible for effective fall of demand of handicrafts [4].

Evolution of the Craft

Crafted clay works are the things that is just made by the own hand of the craftsman or with the assistance of a few essential devices. It is stressing on manual activity as opposed to reliance upon apparatus help. The specialty work showing the ability and skill of the craftsman not with regards to cash but rather their psychological strength, imagination, readiness to hold the customary societies etc., the craftsman centers their own hand abilities to satisfaction the development of result from unrefined components with next to no apparatus help. This craftsmanship structure made in verifiable past and supports its stream from many ages till now. These things having social, emotional, cultural, stylish, conventional, representative qualities and customary are critical in preservation of culture. Every single workmanship in various geological district having its own unmistakable color, shade, shape, texture, geometry, variety, conceal, shape, surface and calculation [5].

Importance of the Craft

Different schools of contemplations, advocate the meaning of this art things for its social legacy and conservational values. Faculty of Ross Institute of Business, College of Michigan, Prof. C.K. Prahalad, Paul and Ruth McCracken said, "India needs to focus on the flowering of arts, science, and literature. The goal is to see India become the world's benchmark on how to cope with diversity. It can become a benchmark for the practice of universality and inclusiveness. Inclusive growth is not about subsidies. It is about creating sustainable opportunities" [6].

In this way, the public authority ought to zero in on the sloppy financial area other than the coordinated area as it consolidates different cottage industry including handicraft area where the specialty laborers are ceaselessly battle to accomplish an honorable stage as indicated by their need. This handiwork area has a huge commitment in country's efficient, socio-cultural and local turn of events. This handiwork area might reinforce the neighborhood and public level economy by earning foreign exchange and create potential employment [6].

Domestic and Export Scenario of Craft

The folk craft sector played a major role in countries economy by creation of job, earning security, training, and skill enhancement. The greater part of the art business prospers because of its heavenly past practice and distinction, accessibility of talented and semi-gifted specialist, extended market, more extensive interest, reasonable value and its eco-benevolence. Some handicraft sector flourishes in a full-scale large industry like Jewellery, Baluchari sari etc. [7].

According to Volza's data on Indian exports in 2023, 1.8K metric tons of terracotta clay were sent out of India by 88 exporters to 183 buyers. The majority of India's terracotta clay is sent to the United States,

the United Kingdom, and Canada. India is the world's top exporter of terracotta clay. India, Vietnam, and China are the top 3 exporters of terracotta clay, accounting for 1,143, 679, and 272 shipments, respectively. The domestic market of crafts has been on a decline over the years [8].

Existing Schemes to Promote the Craft

Government has been extending its support to terracotta artisans with respect to subsidies, finance, exhibitions and trade shows. According to Gramudyog Vikas Yojana scheme, its objectives are to increase pottery artisans' incomes through increased production, improve their technical expertise through skill development training and modern equipment, lower production costs, and create market connections with export markets and significant buyers [9].

Ambedkar Hastshilp Vikas Yojna, supports community empowerment by organizing craftsmen into self-help organizations. The implementing agency will next put up a diagnostic study report (DSR) to suggest additional treatments for the cluster [9].

Mega cluster scheme was designed to scale up infrastructure and production chains in handicraft centers that have remained disorganized and have not kept up with modernization and other advancements, the program adopts a mega cluster-based strategy [9].

Under Marketing support and services scheme, artisans get interventions for local marketing events, such as cash support for organizing or taking part in marketing events in India [9].

Research and development scheme, conducts evaluations and studies that serve as the foundation for the plans that are developed. The program was launched to solicit opinion on the financial, social, and marketing facets of different crafts and craftsmen in the industry [9].

METHODOLOGY

Design Process

The design process consists of creating an inspiration board, mood board, color board and a material board. The inspiration for this product was taken from the mystical garden. When thinking about terracotta the first thing that struck was forest and since the product type was chosen to be indoor planter, to attract the attention it should have aesthetic designs so fantasy was taken. So mystical garden was taken as the theme and mood board and products was developed accordingly. Neon shades of pink, blue and violet was taken as fantasy colors and shades of brown was taken for forest concept.

The inspirations are drawn from various photographs, trends, magazines from WGSN, pinterest, behance and coroflot. This led to develop the kind of pattern and the type of technique to use to achieve that pattern on the fabric. Software like Adobe Illustrator and Adobe Photoshop are used for developing the basic design. The basic silhouette of the planter is quite simple as the details and intricacies are given using fabric paints.

Designer boards

3.2.1 Mood Board

“Mystical garden” was the chosen theme, which signifies the combination of reality with fantasy. Mind mapping is done for the theme and the mood board is created. The images like a human body turning into forest are added and broken texture of it is highlighted. The next image was a scary burgundy shaded leaf to have a frightening effect, next picture symbolizes an ombre night sky fantasy effect with many light flashing insects, the mushrooms in the image with neon colors have a delusion effect and finally the weird old sculptures in the middle of the forest gives a scary effect. The mood can be rightly observed from Figure 1.

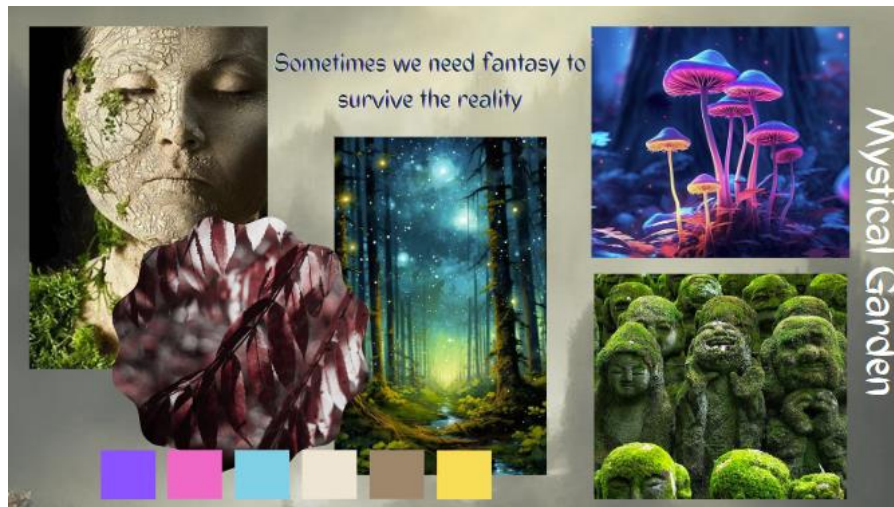


Fig. 1. Mood Board

3.2.2 Color Board

6 colors were taken from the inspiration board, pink, blue and violet which was inspired from the mushroom and brown, skin tint and yellow taken from the scary night forest image. The pantone shades and pantone numbers are clearly specified in Figure 2.



Fig. 2. Color Board

Materials

The major materials used to make the products are paint brushes, ply wood board and stool, talcum powder, metal rod, ruler, acrylic paint, ear buds, clay, and jute ropes.

Final Product Designs developed

The first design, is hanging set of planters {male and female}. It contains a hemispherical body with a head and legs attached, where it was made hanging using the help of jute ropes as shown in Figure 3. The specification sheet for the same is shown in Figure 4.

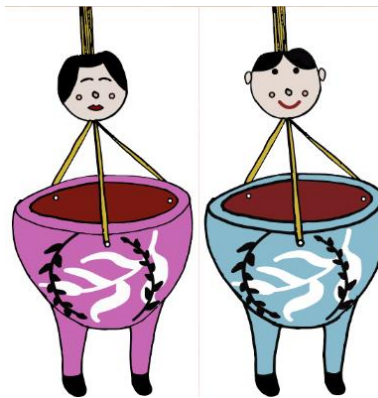


Fig. 3. Hanging home décor planter (set of two)

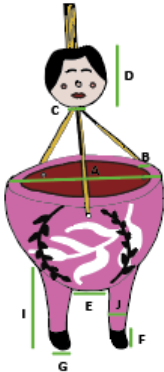
Hanging Home Decor Planter (Female)			Flat Sketch
CODE	Measurements	(In cm)	
A	Diameter of the body hemisphere(top)	10	
B	Thickness of the hemisphere	1	
C	Neck hole	2	
D	Diameter of head	4	
E	Diameter of the body hemisphere(bottom)	5	
F	Foot length	2	
G	Foot width	1	
H	Depth of the body hemisphere	8	
I	Leg length	6	
J	Leg width	2	
Special Instructions: 1. Measurements are taken in centimeter 2. White and black leafy pattern are made using acrylic paint 3. Three hole are made in the body of the product for the hanging purpose 4. Yellow jute ropes are used for the hanging purpose			

Fig. 4. Female hanging Planter

The second design, is three set of planters (hanging, and the other two seated) as shown in Figure 5. All has a hollow square body with hands and legs in different manner. The specification sheet for the same is shown in Figure 6.

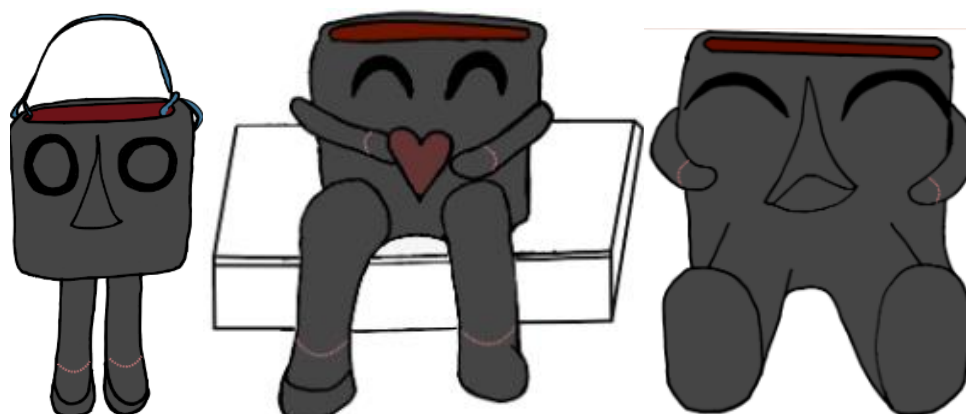


Fig. 5. Home décor planter (set of three)

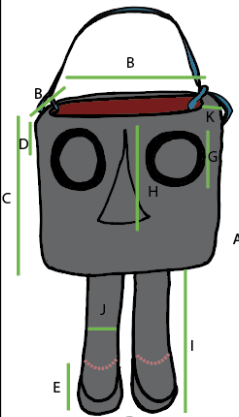
Hanging Home Decor Planter piece			Flat Sketch
CODE	Measurements	(In cm)	
A	Full length	16	
B	Length and width of the square body	8	
C	Depth of the body	8	
D	Diameter of hole	1.5	
E	Foot length	2.5	
F	Foot width	4	
G	Diameter of eye hole	3	
H	Length of nose	4	
I	Leg length	8	
J	Leg width	2	
K	Thickness of body	1	
Special Instructions: 1. Measurements are taken in centimeter 2. Yellow and green floral motifs are done using acrylic paint with the help of ear buds. 3. Two holes are made at the sides (top) of the body of the product for the hanging purpose 4. Blue jute ropes are used for the hanging purpose			

Fig. 6. Hanging Planter

The Third design, has two planter holders as shown in Figure 7. The specification sheet for the same is shown in Figure 8.



Fig. 7. Two Holder Home décor planter

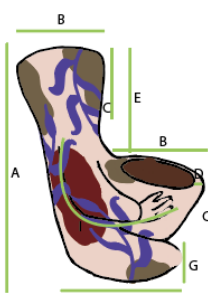
Planter with two holder (home decor)			Flat Sketch
CODE	Measurements	(In cm)	
A	Full length	16	
B	Diameter of both holding cups	6	
C	Depth of holding pots	5	
D	Thickness of the holding pots	1.5	
E	Distance between top surface to bottom pot top	8	
F	Leg length	8	
G	Leg width	2	
H	Distance between two legs	2	
I	Length of arms	8	
Special Instructions: 1. Measurements are taken in centimeter 2. The holding pots are made first then they are attached with the body of the figure 3. Using acrylic paint the mud patches(motif) are painted first and then the leafy patterns are incorporated.			

Fig. 8. Two holder planter

Production Process

3.5.1 Hanging home décor planter {set of three}

3.5.1.1 Clay sourcing

The clay was sourced according to the design requirements, as shown in Figure 9. It weighs approximately 8 Kg, was sourced from the nearby pottery cluster in Poomalur, Tiruppur, Tamil Nadu.



Fig. 9. Clay Sourcing

3.5.1.2 Clay Preparation

A large polythene sheet is been spread out and small quantity of clay is been taken and it is softened using hands, as shown in Figure 10 just like the flour dough is prepared, palm of the hands are used to soften it.



Fig. 10. Clay Mixing

3.5.1.3 Powdering

A raised surface object like a stool is taken and a flat wooden ply wood is kept on top. Any type of talcum powder is taken and coated on the ply wood, as shown in Figure 11 and 12 respectively. The significance of this step is that the base of the product does not stick to the ply wood surface.



Fig. 11. Adding Powder



Fig. 12. Rubbing Powder

3.5.1.4 Making the base layer

Small amount of the prepared clay is taken and the desired base structure is made using the hands and scale and cutter is used to stick to the precision in the measurements specified in the specification sheet, as shown in Figure 13.



Fig. 13. Base layer making

3.5.1.5 Making the shape

Small amount of clay is taken and rolled in a tubular form and then attached to the base shape in a circular manner to get the desired shape, as shown in Figure 14.



Fig. 14. Making the shape

3.5.1.6 Finishing

The outer and the inner sides of the product are smoothed using hand with the help of water in a vertical manner, as shown in Figure 15



Fig. 15. Finishing

3.5.1.7 Design attachments

Three square boxes are made and holes are drilled out with the help of a rod on one of it and facial features, hands and legs are separately made in clay and are attached to the body, as shown in Figure 16.



Fig. 16. Design attachments

3.5.1.8 Sun drying

After the completion the product is kept for sun drying for 2 days to remove the moisture content from it.

3.5.1.7 Firing

After ensuring that all the moisture content has left the product, the product is fired in the cylindrical firing tunnel. Finally, the product is hard and ready to use.

3.5.2 Hanging home décor planter {set of two}

Same procedure of initial steps is been followed out as done for the prior one like clay sourcing, clay preparation, powdering and base preparation, in making the shape, first a hemisphere is formed for the body, three holes were made using rods for hanging purpose and the legs are attached and then finishing is done as shown in Figure 17. The head part is done separately, first two sphere of equal volume is taken and whole is made from the top till the bottom using a rod/ stick and the facial features are then made using the hands as shown in Figure 18.

The finishing steps are similar as done before like hand finishing, sun drying and firing.

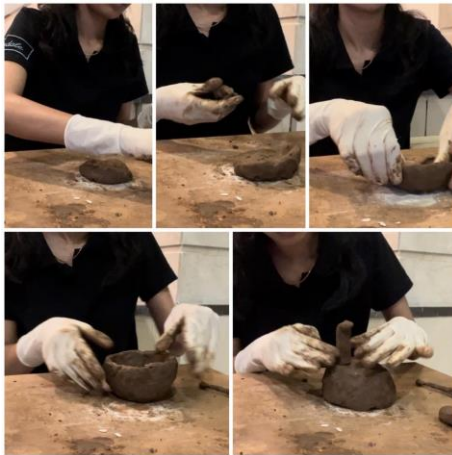


Fig. 17. Finishing



Fig. 18. Head Part

3.5.3 Two holder home décor planter

Same procedure of initial steps is been followed out as done for the prior one like clay sourcing, clay preparation, powdering and base preparation, but here in base preparation first two equal volume of clay is rolled out and kept as legs, it is followed by shape making where the legs are attached to a boarded rolled clay as the body, it is followed by finishing which is done with the help of hand and water to have a smoothening effect and two equal size pots are made which were kept on the top as head and on top on the legs. Finally, hands were attached. This can be clearly understood from Figure 19 and 20 respectively. The finishing steps are similar as done before like hand finishing, sun drying and firing.



Fig. 19. Making body



Fig. 20. Finishing the planter

3.5.4 Value addition made to the products

Painting is done to add value to the product and to get an aesthetic look. Acrylic colours are used to paint the products according to the developed mood and colour board. For the set of two hanging planters, the design was obtained from the leafy picture and the colours (neon pink and blue) was taken from the mushrooms. Also, the hanging idea and the hemisphere body was inspired from the mushrooms. This can be clearly understood from Figure 21.



Fig. 21. Inspiration of gender planter

For the set of three planters the design was obtained from the images where scary sculptures are seen in the middle of the forest and the colour brown was taken from the bark of the tree. The yellow dotted designs were inspired from the sparkles in the middle of the forest. This can be clearly understood from Figure 22.



Fig. 22. Inspiration of planter

For the planter with two holders the broken patches were inspired from the dry human skin picture and the skin tint was too obtained from the same. The leafy design patches were inspired from the leafy picture the purple colour was obtained from the mushroom image. This can be clearly understood from Figure 23.



Fig. 23. Inspiration of two holder planter

3.6 Costing

The costing of the home décor products is shown in Table 1. The price ranges from ₹250 to ₹950.

Table 1 Cost sheet of the developed products

S.NO	PARTICULARS	AMOUNT in ₹ (Hanging Home Decor Planter)	AMOUNT in ₹ (Home Decor Planter Set of three)	AMOUNT in ₹ (Home Decor Planter with two holders)
	Hanging Home Decor Planter			
1.	Raw materials (clay)	30	30	40
2.	Paint	40	20	60
3.	Jute rope	20	15	-
4.	Miscellaneous materials	30	30	30
5.	Labour	100	120	120
6.	Firing cost	40	40	40
7.	Overheads	30	30	30
	SUB TOTAL	290	285	320
8.	Profit @ 10%	29	28.5	32
9.	COST of one plant hanger	319	313.5	352
	TOTAL COST	638 (319*2)	940.5 (313.5*3)	352

Developed products

The developed products namely hanging home décor planter, planter set of three and home décor planter with two holders are shown in Figure 24, 25 and 26 respectively.



Fig. 24. Hanging Home Decor Planter



Fig. 25. Planter set of three



Fig 26 Home Decor Planter with two holders

4. Results and Discussion

4.1 Consumer survey on consumer behaviour of purchasing terracotta

A survey was conducted using google forms. The survey to understand the behaviour of purchasing terracotta was conducted based on consumer opinion and consumer behaviour of purchasing on terracotta home decor planters. The questions that were asked are: Name, gender, age, profession, do you grow indoor plants, are you interested in purchasing terracotta home decor planters? Do you prefer similar themed set planters? Do you like the planter which hangs or without hanging? Which of these designs do you prefer? (images were given), What price range do you prefer for each of the products?

4.2 Discussion

The interpretation from the following survey is that mostly indoor planters was attracted by students and home makers rather than working people so, the target market is students and home makers. Majority of the people grow indoor planters in their houses and only a very few do not. But almost everyone is interested to grow plants in terracotta planters. Many prefer dynamic designs and similar themed set designs. Majority of the people prefer the planters in both hanging and non-hangable forms, so combination of both can be of a great demand. Many loved the Hanging home décor planter (set of two hangable male and female design) the most, so the production should be more for this design and followed by the two-holder planter design and sculpted planter set. Majority of the people prefer spending range of ₹450-500 and ₹500-1,000 on each product.

5. Conclusion

Craft review and development of products provided a great knowledge on the nature, techniques, procedures, processes & advancements in terracotta were acquired. By going through the history of the craft & how it is practiced in different parts of the world, knowledge on different techniques being practiced, price ranges in different places, intricate design techniques, domestic & export scenario were all acquired which served as a base for the product development. The terracotta craft is native to many parts in India & each of these places have their own diversity when it comes to products. By using modern tools & design techniques along with traditional practices Innovative & creative products can be made from terracotta.

The entire experience in developing the products from learning the craft, developing the designs,

preparing the clay, building structures, finishing to photoshoot & presentation were a great learning. The products were developed keeping in mind both functionality & aesthetic factors.

The results also conclude that people are now getting more aware of handcrafted and sustainable products that they know the worth and the cost going into it.

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