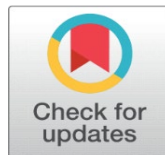
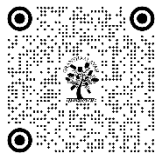


# SHIVARAPATNA STONE CRAFT IN KARNATAKA - EXPLORING THE TRANSFORMATIVE ROLE OF INNOVATION IN TRADITIONAL HANDICRAFT AND CULTURAL IDENTITY

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## ABSTRACT

Handicraft sector is one of the most sustainable product sectors, because of the consumption of untreated raw materials received unswervingly from the nature. In many developing countries like India, there are a large number of livelihoods depending on handicraft business with an anticipated 17.79 million artisans associated with the sector in the year 2022. The previous studies indicate the relation between the handicrafts and innovation is both controversial and imperative. It is suggested that the sector must undergo incremental innovation for growth and survival in the present times. On contrary there are studies which dispute, considering cultural traditions as barriers to innovation. Innovation may be introduced in the technologies aiding to create the craft. While bringing innovation within the craft techniques and product creation might hinder its cultural identity. Innovation being one of the prime keyword of the 9th goal of the SDGs, the goal of this research is to study how introducing innovation in cultural craft production affects the identity of the traditional handicraft. For the findings, rapid ethnography was performed for the exquisite Shivarapatna stone craft. The craft uses ancient knowledge of Shilpashashtra to hand-craft the intricate Hindu idol statues from granite, and the associated community and the craftsmen are situated in the Kolar district of Karnataka, India. An experiment will be conducted to diversify the stone made craft products to analyse the outcome. The representational difference of the traditional craft products and the innovative craft products are then compared and presented with images. In addition to the comparative analysis, methodology also focuses on the descriptive approach in the handicraft.

**Keywords:** Sustainable Goals, Cultural Identity, Traditional Craft Production, Indian Handicraft Sector



## 1. INTRODUCTION

During the 1900s a lot of artisans, craftsmen and artists lost their employability because of the rising industrialisation, mass manufacturing and globalisation. With the progressing years the internet and introduction to social media became a new sensation to the art and craft business, providing with the platform and reach to millions of people nationwide and worldwide [Althizer \(2021\)](#). In the book Artisan

and Handicraft Entrepreneurs, the authors discuss the importance of preserving the knowledge, skill and the asset associated with the local craft production as value to cultural and national heritage. Hence the artisan community is encouraged towards accepting sustainable business practices saving their art form and to keep it flowing in the market [Léo-Paul Dana \(2022\)](#). The local traditional skill knowledge is an asset to the country and study suggests that connecting this skill knowledge with required technology offers to greater goals like sustaining livelihoods and achieving environmental sustainability [Pandey et al. \(2007\)](#), [Dana \(1999\)](#), [Dana \(2000\)](#).

Stone craft is one of the oldest in the world, which is known even to the prehistoric men. The craft is curated with pure hand skills associated to its making, where the learning skills of the craft knowledge is passed on in the family, generation-after-generation as part of the community's tradition [Etienne-Nugue \(2009\)](#). This pure form of the stone craft knowledge is famously used to make sculpture in various part of the globe and many rich heritage sculptures of the material is mostly found in the south part of the India country in the form of engravings on the Temples [Branfoot \(2002\)](#). It is noted in studies that the teaching methods of these craft practices still follow the traditional method of teaching, which is "Guru-Sishya Parampara", where the disciple is taught about the tools and techniques of the craft making with 'hands on technique', directly from the master craftsman himself [Bocchi \(2008\)](#).

## 2. STATEMENT OF PROBLEM

Numerous illustrious studies have examined the possibility of reviving a craft by inventing and modernising its goods while retaining its distinctive characteristics. The goal of the study is to experiment and analyse the product innovation and diversification of the Shivarapatna stone craft in order to determine whether the values and essence of the particular craft are being preserved through the modernization of its creations, which is in line with SDG number 9—"Industry, Innovation, and Infrastructure." In order to achieve the aim of social and economic growth, it will also examine changes in the employability scale of the skilled tradespeople. This study's objective is to develop a sustainable economy by innovating traditional handcraft.

## 3. OBJECTIVE

The current study intends to examine Shivarapatna stone craft and closely examine how traditional crafts are made. Based on the definition provided by the Harvard business School [Catherine Cote. \(2022\)](#) the study will gather data on the contemporised innovation to the current craft products to suit the market need, fulfilling sustainable development goals for product innovation, and analyse the elements of innovative products to the traditional-ancient form of the same.

## 4. RESEARCH METHODS AND METHODOLOGY

The research methodology involves the application of rapid ethnography to investigate the Shivarapatna stone craft. An experimental phase is planned to diversify the products crafted from stone, aiming to assess the resulting outcomes. The study will involve a comparative analysis, wherein the representational disparities between traditional and innovative craft products will be examined. In addition to the comparative aspect, the methodology incorporates a descriptive

approach [Hegazy & Elbana \(2022\)](#), specifically concentrating on the detailed exploration of the handicraft.

## 5. STUDY OF SHIVARAPATNA STONE CRAFT

### 5.1. OVERVIEW OF ART AND CRAFT IN KARNATAKA, INDIA

Karnataka is a region rich in culture and history. The ancient sculptures and carvings from temples are evidence of its rich cultural past, which has fascinated both rulers and regular people for as long as anybody can remember. The wide variety of State arts and crafts that now adorn former royal residences, opulent bungalows, and even modest hutments speak to the artist's talent, aesthetic sense, and decorative qualities. In Karnataka, many craft traditions have been passed down from father to son, and this continuity has aided in maintaining a wide range of handicrafts with very high levels of excellence [Baral & William \(n.d.\)](#). In the past, the nobility lavishly patronised the State's artisans. To encourage craft families to continue producing handicrafts and to assist them in marketing their products, the government has established several agencies and design institutes in the modern era. This has assisted in preserving several craft traditions so that its practitioners may serve both the native populace and the numerous visitors that travel to Karnataka [Ranjan & Ranjan \(2014\)](#).

### 5.2. ABOUT SHIVARAPATNA

The village of Shivarapatna is a significant historical location in rural Karnataka, India. Many families in Shivarapatna devote the majority of their time to carving life into stone; for some of them, it is the end all and be all. According to local lore and tales, the art of stone carving has a long history in the village that dates back at least a thousand years to the Ganga Dynasty [Uma \(2016\)](#). At that time, a travelling stone carver introduced the craft to the area, and the locals learned the trade from him. Since then, the craft has been passed down through the generations to the current Shivarapatna residents. The majority of the deities that artisans carve out of granite slabs end up in temples all around India. On occasion, they receive requests from other countries to produce specialised engineering models.

The artisans who built the Belur, Hampi, and Hoskote temples are said to be the ancestors of Shivarapatna's *Shilpi's* (sculptors). As a result, the designs share a common artisan aesthetic, making them distinct from one another.

### 5.3. PREPARATION OF THE TRADITIONAL CRAFT

Shivarapatna craftsmen specialises in making hindu mythological stone idols and sculptures. To make the labour for the craftspeople easier, the stone blocks are first divided into tiny pieces. Paint is used to sketch the design that will be carved.

The carving process goes like this: choosing the stone and making a sketch, rough dressing to remove material to obtain the basic shape, smooth/flat dressing to define the details, final polishing with water and emery paper after fitting, finishing with a variety of carbarundam stones (chane kallu), and fitting the surface.

Black and grey granite, which is readily accessible locally, is the stone used to create both people and idols for temples. According to the traits of the deity or goddess, the artist selects the stones for the idols. Since it is softer than the male stone, the grey granite is known as "*Stree Shila*" (Female Stone). The black granite is referred to by the local artisans as "*Purush Shila*" (Male Stone) in their native tongue.

Following the marking of the outline, the pattern is carved out using a hammer and chisel to get the desired form. The fundamental outside arrangement of engraving takes more than a month to finish. Detailing takes about a month once the fundamental outline is completed. The sculpture's surface roughness is then improved and smoothed utilising a grinding machine on the previously carved surface. They even out the uneven surface of the idol using sandpaper. The finished sculpture is prepared for marketing once the finishing touches are applied [Baral & William \(n.d.\)](#).

A typical three-foot statue must go through five steps of painting, polishing, cutting, carving, and chiselling, taking around three months to finish. There is little room for development or distraction due to the fierce rivalry. Because of the intense rivalry, artisans sometimes charge well below market value in order to get an advantage over their competitors and sell their goods [Dokras \(2022\)](#).

Sandstone with variable grain density, size, and gripping is used by the artisans to manufacture polishing tools. The carving requires little effort because the instruments' ergonomic form fits their hand sizes.

**Figure 1**



**Figure 1** Shivarapatna Traditional Stone Craft Tools and Making Process (Image 1-8)

#### **5.4. FURTHER TECHNICAL DETAILS OF THE CRAFT MAKING**

When working with Hard granite, the craftsperson first examines the natural pattern present in the stone they have chosen. After that, the shaping is done very meticulously with a chisel and hammers. In order to prevent heat production, water

is sprayed frequently. By rubbing it with sandpaper or a file, the stone is made smoother.

A stone slab has dimensions for the created figure marked on it. By using a hammer, extra edges are eliminated from the slab. On large slabs of stone that have been sliced vertically into smaller slabs, sketchy designs have been done. With the use of a saw, the object is removed from the slab. Using a hammer and a chisel, this slab is now shaped into the appropriate shape. A sharp chisel is used for delicate carving. To further polish, use a hammer and chisel. The stone is chemically prepared and then left in boiling water for a whole night prior to cutting. The stone's surface becomes whiter and smoother as a result. With sand or particles of carborundum, polishing is done for the ultimate finishing. Many of the carved objects have been painted. Others have fittings made of brass, seeing glasses, etc.

The stone carver draws a preliminary outline of the sculpture on the stone block before beginning to carve the image. The artisans often mist the stone with water while they work because the friction created by the continual removal of waste material causes the tools to heat up. Finishing can be done in a variety of methods, such as using sandpaper, multani-mitti, clay, oil, or cloth.

On a piece of soft or hard stone that has previously been precisely cut to size, an outline is created. After the shape's outline has been cut out, the final figure is revealed by trimming away the extraneous pieces. While this is accomplished with softer stones by chiselling the superfluous material out of the tougher stones. A sharp flat-edged iron tool is used to scrape out the same in order to do this.

## 5.5. WORKSPACE

The artist separates his workspace into 2 areas: sculpture area and showcase place in the backyard

On one side, there are raw materials, artisans at work, tools in use, and views of both finished and unfinished constructions. On the other, despite the backyard's limited size, the artist had effectively displayed his sculptures there for guests to view and buy. Craftsmen combine their modern and traditional work in this way to show that they are able to meet a variety of changing needs.

**Figure 2**



**Figure 2** Artisans Workspace (Image 1-3)

## 5.6. TRADITIONAL DETAILS OF THE CRAFT

The craft making uses the detailed knowledge of the ancient iconometry *Shilpshashtra*, *Manasara* (as mentioned in the vedas), which is 'navatala' or 'dasatala' (where *tala* means palm of hand) for every scale and detailing of the traditional figures of the handmade sculptures Acharya (1956). The idol figures are

made in nine and ten-head scale and the postures picked specific to the gratitude of the god and the goddess. In the guidelines of the Shashtras it is mentioned that the sculpture height (heads) are based on the ranking of importance of the gods and the humans, where the most important are the tallest [G. Siromoney \(1980\)](#). Previously the idols used to have a slightly curved posture and now they all stand upright. They have unique style of sculpting: male deities with robust busts and slender waists and female deities with broad shoulders and lots of ornamentation. The natural color of the stones are also used as the distinguish between the genders of the sculptures. There are a lot more details that can be visually experienced in the craft, like the different mudras, facial expressions following a specific grid, symmetry and details of the postures with the ornamentation, completing the idol and following of the rituals before finally drawing eyes of the idol (which is said to be adding life to the figures) [Siromoney & Govindaraju \(1980\)](#). The craftsmen are well versed with the technical details of the shashtra, and the learning is passed on within generations through hands-on learning technique by the eldest male member of the family. Since working with stones is a robust job, only males in the family are involved in its creations, While the womens may/may not help in drawing the details on the stones before the precision work. The idols are created following strict customs and rituals, following with Vishwakarma puja, and the work place is kept unconditionally sacred.

Figure 3

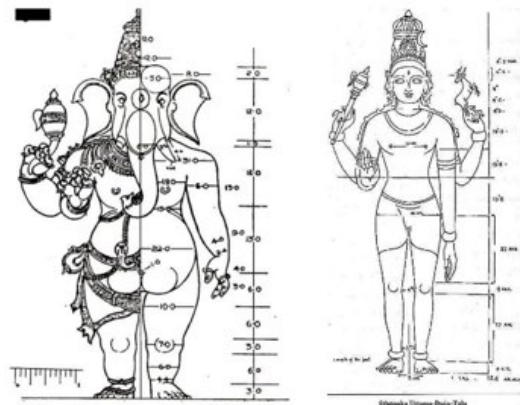


Figure 3 Shilpashastra Measurement Guidelines to Head Divisions of Sculptures

Figure 4

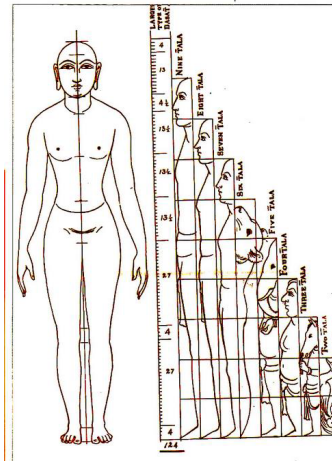
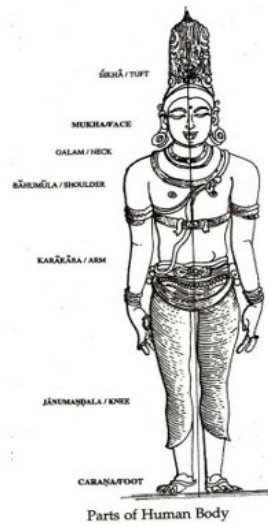


Figure 4 Uttama Dasatala and Nine Other Talas – by Shilpi Shri Siddalinga Swamy

Figure 5



(Figures in angulas)

Type of the image/Particulars	7* Tala	8 Tala	9 Tala	10 Tala
Face	12	12	12	13
Neck	03	04	04	05
Neck to the horizontal line connecting the nipples(heart)	09	10	12	13
From there to navel(belly, udara)	09	10	12	13
From navel to genitals(lower belly, vasti)	09	10	12	13
Thigh	18	21	24	26
Knee	03	04	04	05
Leg	18	21	24	26
Foot	03	04	04	05
<b>Total height in angulas</b>	<b>84</b>	<b>96</b>	<b>108</b>	<b>120</b>

(One Tala = 12 angulas)

Figure 5 One Tala Comprises of Twelve Angulas- Shilpashastric Measurements Rao (2012)

### 5.7. SIGNIFICANT DEVELOPMENTS AND INNOVATIONS IN THE CRAFT OVER THE YEARS

In the past, hindu religious sculptures, temple columns and idols were created. These days, secular sculptures and portraits are carved by sculptors. Additionally, the themes change in accordance with market need. In addition to creating idols, artisans also create temple pillars, entrances, and other products based on consumer demand. For the creation of life-size sculptures of saints and politicians, craftspeople have adapted to new types of raw materials, such as reinforced plastic. They produce metal casting procedures at their built-in foundries in addition to creating stone sculptures to fulfil market demands.

To maintain the intimacy of touch with the raw material, the artisan builds his own polishing tools to match various sculpting demands. Sandstone with variable grain density, size, and gripping is used by the artisans to manufacture polishing tools. With this they can readily access nooks and deep recesses. In contrast to sandstone, external materials like sandpaper must be treated carefully and have a short shelf life. The carving requires little effort because the instruments' ergonomic form fits their hand sizes. A typical three-foot statue must go through five steps of painting, polishing, cutting, carving, and chiselling, taking around three months to finish.

Because of the intense rivalry, artisans sometimes charge well below market value in order to get an advantage over their competitors and sell their goods. Today, the freshly constructed temples or the older ones in need of restoration continue to be the primary clients, and the stone gods, according to the sculptors, can withstand the test of time effectively. The metal artisans, known as Sthapati, are skilled in the *Shilpa-shastra*, which is outlined in the Vedas. Traditionally, they were goldsmiths, but they shifted their field of expertise in response to changing demands of the period.

The idols now all stand straight instead of their former slightly curled position. They each have distinctive sculpting styles, with feminine goddesses having broad

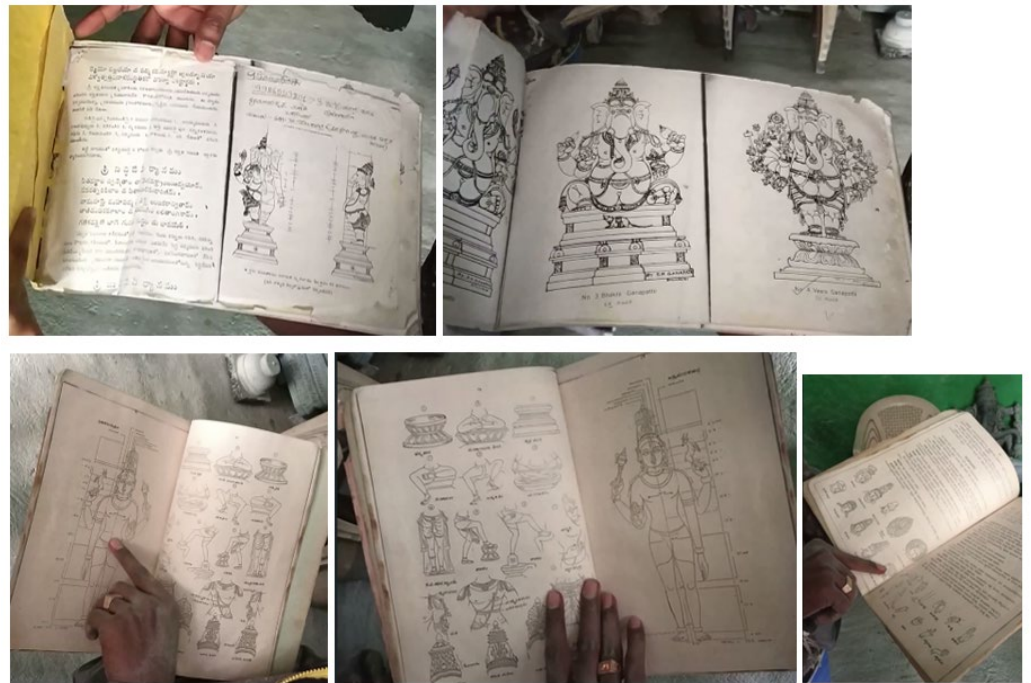
shoulders and heavy ornamentation and male deities having strong busts and narrow waists. According to one of the craftsmen surveyed, good sculptors may earn decent per month, but this is greatly influenced by seasonal demand and individual orders. Shilpi Gramme for the village was recently declared by the Karnataka State Handicrafts Development Corporation Ltd. The Shilpi Gramme will have a training facility and serve as a venue for sculptors to display their works. It is intended to inspire the next generation to uphold the family legacy of becoming sculptors or shilpkars.

## 6. PRODUCT DEVELOPMENT (EXPERIMENT)

The Harvard Business school defines product innovation as the development in the product with improvement to the present product to serve greater human needs [Cote \(2022\)](#). Also it is the need of the hour for the artisans to process innovation in the craft production to sustain their livelihood [Guha et al. \(2022\)](#).

It was observed that even till today, the craftsmen follow the guidelines of shastras, following each details from drawing till completion of the idol crafting. But with changing times, the demand of the specific traditional sculptures have seemingly reduced and the need to produce innovative products of market requirement can be seen as the need of the hour.

**Figure 6**



**Figure 6** Shilpshastra Texts Followed by the Artisans for Idol Crafting (images 1-5)

For the study, a few innovative contemporary products were designed to be crafted by the craftsmen based on the current market requirements (resembling the regular orders they receive from the current consumers);

- 1) Simple dhoop stand
- 2) Plant pot holder
- 3) Human Sculpture (their personal assigned project)



**Key observations:**

Object 1 and 2; It was observed that the considered measurements were according to the universal standard forms of measurements and not according to the Shilpashastric units. The tools and materials followed were same as that of the craft, but the significance of the followed ritualistic procedures for creating the work changed drastically. The colors of the stones didn't play role to identify object gender, there was no rituals before completion of the work, the scale of *angulas* and *talas* didn't play any significant role, neither did the silhouette of the output made any resemblance to the traditional Shivarapatna product.

**Object 1:**

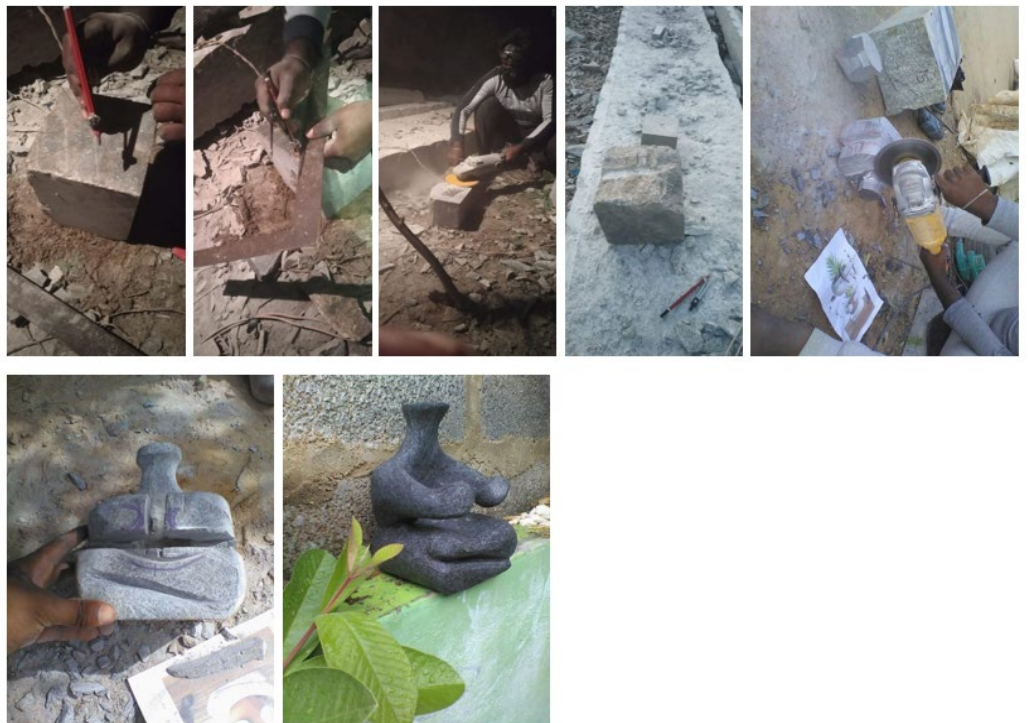
**Figure 7**



**Figure 7** Preparation of Object 1- Dhoop Stand (Images 1-4)

**Object 2:**

**Figure 8**



**Figure 8** Preparation Of Object 2- Planter Pot Holder (Image 1-7)

### Object 3:

The third object was a custom order for the craftsmen. On further enquiry it was found that the figure is of height 5 feet 8 inches approx. and a picture of the same was provided to the artisan for sculpting the figure on granite rock. For the particular, the artisan mentioned- because of practising the craft form since so many years and with his generational learning, it was not necessary for him to follow any particular unit of measurement as mentioned in Shilpashastra or any international standard units. He used his muscle memory to craft the masterpiece with his hands. The tools and techniques in its making were same as that of idols. There were no followed rituals observed in making of the statue [Figure 9](#).

**Figure 9**



**Figure 9** Custom Made Human Figure

It is observed that the final forms of the developed innovative products are absolute unique and displays no resemblance to the traditional form of the craft. If the below images ([Figure 10](#)) are considered, we may observe significant change in the formation of the shoulder blades in both the figures, which clearly implies the changed source of product preparation methods and measurements respectively.

**Figure 10**



**Figure 10** Product Innovation (left) vs the Traditional Craft Product (right)

## 7. CONCLUSION

In conclusion, while numerous studies emphasize the contribution of past knowledge to future innovations [Massis et al. \(2016\)](#), it is essential to acknowledge the potential drawbacks associated with introducing contemporary innovations into ancient knowledge systems, as it may compromise cultural identity. The analysis of the Shivarapatna stone craft serves as a case in point, revealing a significant deterioration in the cultural significance of products due to introduced innovations. The implementation of a product diversification strategy led to noticeable changes in the approach and aesthetic of the products, despite the continued use of unchanged raw materials, tools, techniques, and craftsmen. In light of the Sustainable Development Goals, particularly Goal 9 focused on product innovation, this study raises questions about the suitability of product diversification and innovation as a means to preserve traditional crafts, their associated knowledge, and cultural identity. Further scrutiny is required to assess whether this approach aligns with the overarching goal of sustaining traditional practices and their cultural heritage.

## CONFLICT OF INTERESTS

None.

## ACKNOWLEDGMENTS

None.

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