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Study On Handicrafts Market In Rajasthan

Naresh Kumar Meena
Research Scholar Department of Accounting
Jai Narin Vyas University Jodhpur
Dr. Yashpal Meena
Assistant professor Department of Accounting
Jai Narin Vyas University Jodhpur

ABSTRACT

Historically the word handicrafts meant products made mostly by hand and the market for such goods was limited to small, often underdeveloped, local areas. With new technologies and machines, however, that same market expanded and began to draw global attention. In India the revival of handicrafts soon became obvious; plentiful raw materials and low-cost labour underpinned much of the success. Rajasthan, famed for its culture and heritage, stood out by offering a wider range of items than most other states. Support from both central and state governments has also played a key role in nurturing this growth.

Keywords: Handicrafts, Machines, Geographical Areas, Expensive Labour, Natural Stone.

Introduction

Scholarly examinations have traced the contribution of Indias natural-stone export—especially that of Rajasthan—to national economic growth. Rajasthan s marble has been chemically profiled, its machinability tested, and technical data made available to plant managers and designers. Analysts have specifically mapped the poverty and working conditions that beset local artisans and have proposed policy measures to lift wages, access credit, and secure health care. A careful study of Jaisel Mers limestone and Jodh purs sandstone positions the two materials as strategic global resources whose sustainable extraction may benefit both local economies and international markets.

Handicrafts Market in India

Handicrafts refer to decorative household items crafted entirely by hand rather than through industrial machinery. In India the principal government body overseeing these crafts is the Office of the Development Commissioner, which coordinates programs and supports artisans nationwide. Operating primarily within the cottage and small-scale sectors, the handicraft industry creates steady employment, particularly for women and marginalized communities. Another advantage of handicraft production is its low initial capital requirement balanced by high value addition, making it accessible to many aspiring makers. The sector also generates significant export earnings, converting foreign currency into local job opportunities. Because the industry is so labour-intensive and dispersed across both urban and rural regions, it functions in a highly decentralised manner. India ranks among the world's leading suppliers of handicrafts, yet the countrys vast reservoir of skilled artisans and diverse production techniques still offers untapped potential. Numerous lesser-known traditions and hidden crafts await exploration; when discovered, they can further enrich the export portfolio. Today, many handicraft exports occupy prominent slots within the global lifestyle category,

reflecting changing consumer preferences and growing appreciation for authentic, handmade goods (Handicrafts, 2022).

Types of Handicrafts

From bamboo artisans produce everyday objects such as containers, boxes, baskets, and trays. Pottery has been part of Indian culture since the Indus Valley period, with its makers traditionally referred to as Kumbhars. Jute, described as the golden thread of India, remains a low-cost, eco-friendly fibre from which handicrafts are created and exported worldwide. Bones and horns from deceased animals are also fashioned into decorative goods, while metal is prized for the strength and longevity it adds. Shells frequently embell household items-parlour mirrors, cabinets, and light fixtures among them-and they similarly appear in jewellery and crockery. India has long harboured a fascination for stone; this interest is evident in monumental temples and intricate sculptures housed within forts and palaces. Wood remains equally vital, sculpted into homes, furniture, temple chariots, and ritual implements, thereby embodying many regional artistic vocabularies. Leather and clay are established handicraft sectors as well, each with its own techniques and ceremonial uses. Stone, furthermore, has signified royal patronage, its engravings and carvings serving as lasting markers of power and creativity (Bora, 2020).

Handicraft's Market in Rajasthan Granite Articles

The term granite is derived from the Latin word granum, meaning grain. Granite is a common felsic intrusive igneous rock, characterised by its phaneritic texture, which gives it a distinctly granular appearance. The rock occurs in several colours, including grey, pink, and white, depending on the minerals present. Typically, granite consists of approximately 65 percent alkali feldspar and around 20 percent quartz by volume, with the remainder made up of biotite, muscovite, and other accessory minerals. The solidification temperature of granite ranges from roughly 1215 to 1250 °C, while any substantial mineral alteration generally requires steam or water at pressures near 650 °C. Although granite exhibits strong secondary permeability due to fractures and weathering, its primary permeability remains quite low, limiting the ease with which fluids initially enter the rock mass.

Marble Handicrafts

Jaipur has long been recognized as a vibrant centre for arts and crafts. Local artisans expertly transform Makrana marble into decorative pieces through hand carving and basic tools, often adding intricate Kundan and Meenakari work. These stoneworks are sought after for homes and offices because their timeless appeal gives any space a distinctive, heritage-inspired look. Common marble products include matkas, flower vases, surahis and a wide range of utility items such as tumblers, chaukis, lamps, trays, key and napkin holders, jewellery and kumkum boxes, pen and mobile stands, plates and wall clocks. Marble painting also enjoys steady popularity; bright images of deities, animals, birds, women, musical instruments and village scenes cover surfaces and quietly enhance interiors.

Stone Carving

People have shaped pieces of natural stone by fine chiselling for thousands of years, a practice that can be traced to the Paleolithic era. In sculpture, artists scratch or tap a harder rock against a softer one-typically tufa, pumice, soapstone, chalk and similar materials-and then rub the surface with sandpaper to remove remaining rough spots. Ancient crafters first relied on bronze chisels; the switch to steel tools marked a turning point. Even today, the hammer and chisel remain basic equipment. In eastern Rajasthan-northern districts bordering Haryana and Uttar Pradesh, including Baran, Banswara, Ajmer and Alwar-the stone industry serves as the economic backbone. Granite alone claims around twenty percent of the state's production.

Stone Craft

Hard rocks such as quartzite, marble, granite, slate, and other metamorphic varieties were long favored in construction largely because they were readily available in both high quality and large quantities. In earlier periods, people were unfamiliar with fired bricks, which likely encouraged an even greater reliance on these durable stones; the results can still be seen in the ornate temples, imposing forts, and majestic palaces that punctuate the landscape. One of the most celebrated examples of this stone craftsmanship is the intricate jali work that adorns doors and windows throughout Rajasthan, earning global recognition for its artistry and precision.

Development of Handicraft Market in Rajasthan

Even the discarded fragments of granite have a purpose, as the stone-processing sector in Rajasthan underscores. The cutting, grinding, and polishing stages produce heaps of grit, slurry, and off-cuts that challenge factory owners and environmentalists alike to identify safe, sensible disposal options. Yet this same waste reveals unexpected advantages. When added to a concrete mix, the fine particles raise the mixture's viscosity, strengthening the bond between aggregates. Experimental data show that compressive and flexural strength improves noticeably, while porosity declines and water absorption drops, making pavements, blocks, and tiles more durable and resistant to weather. Overall, roughly 65 percent of quarried granite ends up as waste. Traditionally, much has gone to landfills or served as coarse fill in roads, but recent studies suggest a richer alternative: replacing natural sand with granite fines in concrete can yield both stronger structures and lower costs.

Since around 3200 BCE, stone and marble have been the preferred building materials for many industries, shaping the regions' architectural identity. Their visual legacy is particularly clear in Rajasthan, where palaces, forts, temples and a host of landmark structures stand as testaments to their durability and beauty. Rajasthan quarries supplied the same stones now seen on Indias Supreme Court, its Parliament House and even Rashtrapati Bhavan, illustrating their national significance. Export records show that the countrys rich hues crossed oceans to meet demand in France, Germany and the United States. Yet each bar and slab results from mountains of waste rock, and reckless dumping has scarred nearby valleys, polluted water sources and endangered local ecosystems. In 2002 the Supreme Court intervened, granting petitioning NGOs a sweeping ban on marble mining in order to curb that harm. Although the restriction was vital, it proved politically fragile because it stripped thousands of jobs from vulnerable communities who relied on sorting, selling or recycling quarry run-off.

Concerns that ongoing development projects would stall or shrink drove the government to lift the earlier mining ban. To smooth operations, it had to revise policy rules and streamline permission processes. These changes quickly restored the mines productivity. With media spotlighting the issue, officials then tasked a leading Rajasthan research institute to identify safer ways to dispose of mining waste. The administration also established an R&D centre along with testing labs specifically for the marble industry (Prajwal et al. 2016).

Rajasthan-s Rajnagar and Kankroli marble has weathered numerous natural disasters and still adorns major heritage sites, including the Nau Chauki pavilions by Lake Rajsamand, the Moti Mahal and Jagdish Temple. Its reputation peaked in the late twentieth century, after which its shipments began reaching nations as distant as Japan (Garg et al. 2022).

Sustainable Processing Methods of Rajasthan's Marble Stone

Sustainable processing of Rajasthans marble requires an initial petrographic examination of the stone's morphology, followed by a detailed assessment of their physical, mechanical, and thermal characteristics to identify attributes that affect tool wear. These findings can then be coupled with a systematic variation of machining parameters-feed rate, spindle speed, and depth of cut-to establish combinations that maximize cutting efficiency while simultaneously extending tool life (Gautam, 2017).

An Environment Sustainability Index, or ESI, has been developed to provide a systematic measure of industrial eco-performance. To populate this Index, researchers undertook a case study across diverse sectors in Rajasthan, cataloguing the specific cutting tools presently in use. They gathered quantitative data including average operating hours per shift and end-of-life metrics for each tooling type. Discarded inserts were then retrieved from cooperating plants and subjected to compositional analysis using X-ray fluorescence. An industry-wide energy audit further mapped total power draw, segregation of process waste and disposal routes presently employed. Concurrently, machining powder was tested for rheological properties curve-sweep in six coolants to reveal how viscosity varied with temperature and time. On the experimental side, a cost-effective, three-axis strain-gage dynamometer was constructed to measure cutting forces on marble blanks, while a digital multi-phase meter tracked net energy consumption at the spindle. Using this instrumentation,

researchers tuned process parameters—feed rate, spindle speed, coolant flow, and depth of cut—to minimise energy per finished part.

The wear pattern observed in diamond tools results from the mineral composition of the marble slab, the condition of the cutting segments, and the parameters set during machining. To quantify this wear, the heights of each segment along the blade were measured, allowing a radial calculation of material loss. Regression and correlation analyses then linked the stones physical properties to a specific wear rate. Statistical tests verified the significance and robustness of these relationships. In this context the R-squared statistic, or coefficient of determination, indicates the proportion of variability in the wear rate that can be accounted for by the marble characteristics. Rheological tests on mixtures of marble powder with various coolant ratios were conducted using the Bingham model; when the mean yield stresses were plotted over time, the mixture with equal parts marble and water yielded the highest resistance to flow. Finally, the specific energy consumed during marble milling was calculated, providing a critical metric for optimizing production schedules and reducing costs in the natural stone sector.

To explore how machining parameters influence energy use, a Taguchi L16 orthogonal array was employed, aiming to identify settings that minimise specific cutting energy. Experiments were carried out on a Bridgeport Interact 1 MK-II 3-axis CNC milling machine, which has a maximum spindle speed of 4000 RPM. Diamond-coated end mills with diameters of 10 mm and 12 mm served as cutting tools for these trials. Throughout the tests, a three-phase digital energy meter continuously recorded power consumption. Artificial neural networks were then trained to predict specific energy, and their forecasts matched experimental values closely (Pathri, 2018).

State of Economy of Export of Sandstone from India

For decades, India has led the world in natural-stone exports, with sales second only to iron ore as a foreign-exchange earner. Its stones are prized abroad not just for eye-catching veining or colour, but also for mechanical properties such as compressive strength and low porosity that make them suitable for heavy-footfall areas. India s exporters have responded to this demand with an expanding catalogue of products, from flooring slabs to intricately carved memorials. The United Kingdom ranks among the largest importers, and although global demand has fluctuated by season or macro-economic trend, the overall import volume from many markets continues to rise. Industry observers note that progress has been bolstered by improved quarrying technology, stricter quality control and wider, eco-friendlier packaging. Forecasts point to stronger sandstone shipments to both traditional markets and emerging regions such as Southeast Asia and Eastern Europe. In response, stakeholders-government agencies, industry bodies and enterprise-are encouraged to map untapped deposits, upgrade finishing lines and promote skill development so that supply remains both ample and sustainable.

To reinvigorate the industry, the government could organize trade fairs and workshops that showcase contemporary technologies and update stakeholders on international pricing and practices (Charan et al., 2018).

Historically, river sand was the primary aggregate for concrete, yet over-extraction has made it scarce and expensive. As an alternative, manufactured sand produced by crushing stone now offers a viable solution. This approach turns quarry waste into a resource while helping to sustain ecological balance and provide aggregate that is often stronger than natural river sand (Singh, 2021).

Empowerment of Artisans to Trade Handicrafts in Urban Haats

In India, a substantial segment of the population relies on handicrafts for survival, making the craft sector the nation’s second-largest source of employment. Rajasthan stands at the centre of this activity, with thousands of local artisans depending almost exclusively on the sale of handmade goods. Despite the vibrant cultural heritage these crafts embody, the industry faces several pressing challenges. Chief among them is a global shift in consumer taste; many shoppers now favour mass-produced, Western-style items that flood the market at lower prices and with wider variety. Because large-scale production benefits from economies of scale and ready access to capital, individual artisans struggle to match output or to innovate new designs,

especially when financing remains scarce and trends change rapidly. Yet if they were to adopt the very machines that enable such efficiency, the unique character and authenticity of handmade products would likely be sacrificed, leaving artisans caught in a difficult bind.

Artisans intending to sell their wares in urban markets often stumble over a familiar set of barriers: steep state tariffs, expensive transport, inconsistent access to quality raw materials, and gaps in marketing, merchandising, and production management know-how. Because they master traditional crafting techniques and turn out a wide range of handmade items, the persistent overhead issues stop them from fulfilling city demand and, in turn, from earning a decent livelihood. Given this situation, the Indian Planning Commission could meaningfully steer the sector toward prosperity by introducing clear, organized vocational programmes, ensuring reliable supplies of premium materials, and extending targeted subsidies on transport, power, and credit. Added to these operational reforms, embedding the arts within the general school curriculum would raise public awareness, inspire new craft entrants, and strengthen the creative economy for generations to come (Garg and Walia, 2018).

Proposal of Global Heritage Stone Resource (GHSR) Title for Jaisalmer Golden Limestone

The stone often dubbed Yellow Stone and formally termed Jaisalmer limestone is abundantly exposed in and around the city of Jaisalmer. Seated within the Jaisalmer Formation, this rock unit dates to the Jurassic period. It is genuinely hard, compact, and exhibits low porosity, traits that give it enduring strength. Because the stone's mellow hue glows in sunlight, residents and visitors alike term the city The Golden City. A striking example of its use is the massive Jaisalmer Fort, erected in the twelfth century and now recognized as a UNESCO World Heritage Site; the fortress walls are largely built from this locally quarried limestone. Builders have prized the stone for decades, drawn to its warm color, fine texture, and reliable durability. Today it is mainly supplied as dimension stone and finds wide application in wall claddings, floor tiles, countertops, garden furniture, sculpted pieces, and even gravestones.

Yellow stone is shipped to the Middle East, Morocco, Taiwan, the United States, Europe, the United Kingdom, Australia, New Zealand, and parts of Africa. Its long history of use in Indias architectural heritage has led some scholars to propose that the golden limestone from Jaisalmer be recognized as a Global Heritage Stone Resource. At present, only around twenty-two stones worldwide hold this title. Such recognition could boost the stone's visibility, encourage its use in new projects, and expand export markets (Kaur et al., 2020).

Alleviating poverty in Western Rajasthan through Revival of Handicrafts Economy

In Rajasthan, a community of craft artisans still survives by hand-embroidery, weaving on traditional looms, and creating intricate appliqué or cutwork. Yet these skilled workers confront chronic hardship; many live in remote villages where electricity is sporadic and running water rare. Because pay seldom reflects the hours they invest, a growing number have abandoned craftwork to seek steadier, if less rewarding, employment. The first step toward industry revival is for government agencies and NGOs to deliver free technical training, market literacy workshops, and dependable infrastructure. Though the artisans supply the region's most distinctive goods, they remain locked into low-wage contracts with middlemen who retain most of the profit. Raw materials are seldom purchased directly from wholesalers, they lack an accurate sense of production costs, and as a result agents set the price. Seasonal income shortfalls force families to borrow from illicit lenders, trapping the artisans in a relentless cycle of debt and uncertainty.

Artisans worldwide confront shifting consumer preferences, cultural migration, inadequate technology and infrastructure, limited access to information, and transportation barriers. Sahaj Crafts, a social-enterprise led primarily by women, seeks to empower these female artisans while reducing poverty through micro-business development. Partnering with non-governmental organizations, Sahaj connects primary producers to mainstream markets using energy-efficient and sustainable practices. Collectively, similar community and government initiatives can significantly lower poverty rates while preserving invaluable cultural heritage (Mehra et al. 2019).

Proposal of Global Heritage Stone Resource (GHSR) Title for Jodhpur Sandstone

The Jodhpur Sandstone, formed during the Ediacaran and part of the Marwar Supergroup, has long been the stone of choice for a host of heritage buildings across north-western India. Within the Marwar Supergroup multiple sandstone layers are recorded, yet the Jodhpur Group stands out, its middle-band reserve supplying the bulk of the cut stone still extracted today. Petrologically, this rock is commonly termed quartz arenite. Its broad spectrum of hues results mainly from variable iron-oxide concentrations. For centuries masons have turned to Jodhpur Sandstone to raise forts, monuments, civic edifices and grand palaces alike. Evidence of quarrying in the area exceeds fifteen centuries, an uninterrupted line that architects read in the surviving fabric. Contemporary construction-such as government complexes, universities, hospitals and high-end hotels-still cites the stone, demonstrating a vigorous industry in extracting and dressing timbers across Marwar. Most quarries are concentrated near Jodhpur City and in the Nagaur-Khatu belt. Beyond India, buildings such as the Karachi Chamber of Commerce and the overlapping Municipal Corporation and Industry Buildings in Pakistan display the same characteristic warm glow of Jodhpur Sandstone.

Consequently, as detailed above, Jodhpur Sandstone meets all the standards set out by the Heritage Stone Sub-commission (HSS) for recognition as a Global Heritage Stone Resource (GHSR). Therefore, it follows that Jodhpur Sandstone can justifiably be put forward as a worthy candidate for this prestigious status (Kaur et al., 2020).

Conclusion

Indias export picture has shifted toward triple-digit growth, and Rajasthan now figures prominently in that advance. The state sits atop a rich palette of natural stones, each suited to distinctive uses, from humble flooring to grand facades. Its palaces, forts, and temples testify to how these materials have shaped both local identity and architectural ambition. While traditional quarrying and finishing methods remain in use, several firms have adopted greener techniques that cut waste and save water during marble processing. Government programmes aimed at expanding the handicraft sector promise new jobs and fair wages for many in Rajasthans rural economy. In addition, the concept of urban hats-markets that pop up in cities and showcase local talent-gives artisans quick access to buyers. With continued support, towns like Jodhpur and Jaisalmer could soon be recognised worldwide as reliable sources of exceptional stone.

Although local groups, national agencies, and even motivated individuals- along with government bodies-have repeatedly tried to reduce the pollution created by the stone handicraft sector, progress still

appears slow and limited. In the same vein, the problems artisans encounter during the extraction, production, and sale of these pieces also deserve more serious and sustained attention.

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