

The Impact of Climate Change on Terracotta Artisans in India: Challenges and Adaptation Strategies

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Abstract

Terracotta artisans in India, who rely on traditional clay pottery and sculpture-making, face significant challenges due to climate change. Rising temperatures, unpredictable rainfall, and increased frequency of extreme weather events are disrupting the availability of raw materials, production processes, and economic stability of the artisans. Terracotta pottery stands out as an eco-friendly material that combines traditional craftsmanship with modern sustainability practices. Its natural composition, high recyclability, energy efficiency during production, and cultural significance make it a valuable resource in promoting environmentally responsible living. This paper examines the effects of climate change on the terracotta artisan community, focusing on raw material scarcity, production difficulties, health impacts, and socio-economic challenges. It also explores adaptation strategies employed by artisans to cope with the changing climate, while proposing sustainable practices and policy measures to support their livelihoods.

Keywords:- Climate change, terracotta, artisans, India, pottery, raw material availability, adaptation strategies, sustainability.

Introduction

The Italian words "terra" (earth) and "cotta" (baked) describe ceramic objects made from terracotta clay that has been fired to create a hard, long-lasting surface. Terracotta has a long history in India, dating back thousands of years, and is a craft with cultural, artistic and practical value. Terracotta pottery in India has a rich cultural and historical heritage and is used for common household items, beautiful art and religious ceremonies. In rural areas, the art of terracotta making has often been practiced for years, supporting a large number of families. However, artisans now face additional difficulties as a result of climate change, which impacts their customs and puts their financial security at risk. This study examines how changes in weather patterns, availability of raw materials and socio-economic conditions are affecting the art of terracotta making in India.

Terracotta Artisans in India:- Terracotta Artisans in India Terracotta artisans are spread across various regions of India with notable centers in West Bengal, Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh and Odisha. The production of terracotta pottery involves obtaining clay, shaping the products by hand or with a potter's wheel, drying the objects, and then firing them in kilns. This traditional craft is not only an artistic expression but also a means of sustaining rural economies.

Review of Literature:- Bandyopadhyay. (2019). The study promotes sustainable practices and a wider acknowledgement of indigenous knowledge and rights while highlighting the urgent need to address the effects of climate change on India's most vulnerable aboriginal populations. Harvey (2015). The study highlights the need for adaptive methods that represent social values and foster creativity in heritage management, arguing for a comprehensive understanding of heritage in the context of climate change.

Khan et al. (2018). The production and marketing of terracotta products often involve local resources and traditional techniques, helping to foster sustainable development and reduce environmental impact. This research paper discusses how terracotta artisans in Bangladesh utilize locally available clay and renewable energy sources, contributing to the conservation of natural resources.

Srivastav et al. (2023). According to this study, the organization ought to look at other ways to involve and assist craftspeople from underrepresented groups, including Scheduled Castes. This could involve specialized training courses, funding, and joint ventures with governmental bodies and non-profits engaged in social and cultural conservation. Over all, the organization may continue to be a catalyst for sustainable development and cultural preservation in Gorakhpur by acknowledging and addressing the impact of sociodemographic factors on the viability and sustainability of the social enterprise of terracotta artisans.

Objective

- To explore the effect of Climate change on Terracotta artisan life.
- To know about the challenges facing by Terracotta artisans.

Methodology- This research paper is descriptive and exploratory. This study employs a secondary data analysis approach, gathering and synthesizing existing literature, reports, academic journals, government publications and articles will be analysed to assess the impact of climate change effects on Terracotta Artisans.

Discussion-

The Impact of Climate Change on Terracotta Artists:- Numerous environmental changes brought about by climate change have an impact on terracotta artisans in different ways. The availability of raw materials, production difficulties, health and safety, and economic repercussions are the four main categories into which the influence can be divided.

Availability of raw materials: Difficulty in obtaining soil Decrease in soil quality and quantity: Water bodies that supply soil reserves, such as rivers and lakes, are seeing declining water levels as a result of unpredictable rainfall patterns and more frequent droughts. Because there is less high-quality clay available, artisans are forced to either work with lower quality clay or travel further to obtain raw materials, reducing the quality of finished goods.

Effect of soil erosion: Soil erosion can remove soil deposits and topsoil due to heavy rainfall and floods. This limits the amount of soil available, especially in areas where there are significant supplies of lake bottom and river bed soil.

Production Challenges: Impact of Temperature and Humidity on Pottery-Making

Difficulties in drying and firing: Variations in temperature and humidity have an effect on the drying process, which can cause pottery to dry unevenly or crack. Additionally, high temperatures have the potential to interfere with traditional open-air firing techniques, making it more difficult to produce fired goods with the required uniformity.

Increasing kiln energy requirements: As outdoor temperatures change, the demand for controlled burning conditions increases. This may require using kilns more frequently, which would increase energy consumption—which is costly and can be harmful to the environment.

Safety and Health of Artisan

Heat Stress Concerns: Because they frequently labor in open spaces without proper protection from the heat, craftsmen are more susceptible to heat-related ailments when temperatures rise. This can worsen health problems and reduce productivity, particularly for elderly craftspeople.

Air quality problems: With changes in weather patterns, the use of conventional kilns can worsen air quality. High ambient temperatures and kiln smoke increase health hazards for craftsmen, sometimes resulting in respiratory problems.

Socio-Economic Impacts

Instability in Income: Craftsmen experience financial instability as a result of production becoming more irregular due to climate-related variables. The sustainability of the craft is at risk as decreased sales and poor income may result from delays in manufacturing or deterioration in product quality.

Migration and loss of traditional knowledge: Challenges brought about by climate may force younger generations to seek other sources of income, resulting in the loss of traditional knowledge and skills related to terracotta artistry.

Adaptation Strategies Employed by Terracotta Artisans

Improving Raw Material Sourcing and Storage

Creating alternative clay sources: To preserve the efficiency of their work, many craftsmen have started collecting clay from different geographical areas or experimenting with clay mixtures. By doing this the impact of local soil depletion can be reduced.

Clay Storage Techniques: To deal with the unpredictability of clay availability, craftsmen are using clay storage techniques to ensure that production continues during lean times by storing raw materials during times of abundance.

Innovative Production Techniques

Kiln firing and controlled drying: To ensure consistency of production despite variations in temperature and humidity, some craftsmen are using energy-efficient kilns or investing in covered drying areas.

Alternative firing methods: In areas with large populations of terracotta artisans, community-based firing facilities using contemporary, energy-efficient kilns are increasingly being used.

Diversifying Products and Markets

Investigating New Product Lines: To attract different market niches, artisans are adjusting by developing new product lines, such as eco-friendly home decor, garden items, and personalized artwork.

Expanding to e-commerce: Many terracotta artisans are using online platforms to sell their wares to reach a wider audience. This is improving their revenue potential and reducing their dependence on local sales.

Community-Based Solutions and Knowledge Sharing

Formation of artisan cooperatives: Cooperative societies provide a platform for exchange of equipment, resources and expertise. This makes it easier for artisans to access markets and invest in sustainable technologies as a group.

Workshops on climate adaptation techniques: Maintenance of crafts depends on training programs that instruct craftsmen how to modify their methods in response to changing environmental conditions.

Proposed Policy and Institutional Support for Terracotta Artisans

Government Initiatives for Artisans' Climate Resilience

Energy-efficient kiln grants: Providing financial assistance to artisans to purchase energy-efficient kilns or switch to alternative fuels can reduce production costs and environmental impacts.

Insurance scheme for climate-related losses: In case of severe weather conditions that cause disruption in production or damage to infrastructure, climate insurance specifically designed for artisans can provide a safety net.

Increasing access to raw materials

Programs for land restoration: Government efforts to rehabilitate degraded areas can contribute to the replenishment of soil reserves, thereby ensuring continued availability of raw materials.

Control of clay mining: Natural resources can be conserved while artisans' livelihoods are supported by policies that support sustainable clay sourcing, such as controlling mining operations and promoting the use of recycled clay.

Promoting Research and Development in Craft Technology

Innovation in sustainable pottery practices: To increase the resistance of crafts to climate change, research organizations can work with craftsmen to provide affordable, eco-friendly alternatives to firing, glazing, and clay treatment.

Documentation of traditional knowledge: The cultural heritage of terracotta handicrafts can be preserved by preserving traditional methods and knowledge through documentation and cultural initiatives.

Conclusion: Raw material supply, production and socio-economic sustainability are all affected by climate change, which are important issues for Indian terracotta artists. The livelihoods of these artisans depend on adaptation strategies such as broadening product lines, investing in cutting-edge technologies, and establishing cooperatives. In the face of climate change, policy initiatives that promote energy-efficient production, sustainable clay sourcing and financial sustainability can help strengthen the terracotta artisan community.

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