
| RESEARCH ARTICLE

Harnessing Opportunities in Ceramics for Capacity Building and Economic Development in Nigeria

Sasa, Mofolorunsho John¹ ✉ Adelabu, O. S² and Akande-Adedeji, Olufunke Titilolu³

¹Department of Industrial Design, Kogi State Polytechnic, Lokoja, Kogi State.

²Department of Industrial Design, The Federal University of Technology, Akure

³Department of Art and Design, The Federal Polytechnic, Ilaro, Ogun State

Corresponding Author: Sasa, Mofolorunsho John, **E-mail:** sasajohn@gmail.com

| ABSTRACT

Ceramics play a vital role in Nigeria's socio-economic development, given the country's abundant clay deposits, rich cultural heritage, and growing demand for industrial applications. Despite its potential, the ceramics sector remains underutilized in national development strategies. This paper explores how ceramics can be harnessed for capacity building and economic development in Nigeria. Adopting a qualitative, literature-based methodology, the study examines existing research, policy documents, and case studies to identify key opportunities and challenges. Findings reveal that ceramics present diverse opportunities for skill acquisition through training programs, employment generation in industrial ceramics production, and cultural preservation through traditional and contemporary ceramic art. A case study of the Ota Industrial Ceramics Company highlights how localized ceramic industries can stimulate regional economies and enhance self-reliance. However, a significant research gap persists in addressing infrastructural inadequacies, limited government policy support, and weak industry-academia collaboration, which constrain sustainable growth. The study concludes that ceramics should be repositioned as a strategic tool for empowerment, creativity, and economic diversification in Nigeria. Strengthened investment, policy reform, and collaborative initiatives are recommended to unlock the sector's full potential.

| KEYWORDS

Ceramics, Cultural Preservation, Economic Development, Skill Acquisition.

| ARTICLE INFORMATION

ACCEPTED: 22 August 2025

PUBLISHED: 30 October 2025

DOI: 10.61424/rjbe.v3.i3.514

1. Introduction

Capacity building has increasingly become a focal point in Nigeria's quest for sustainable development. The nation faces challenges of high unemployment, limited industrial diversification, and a growing need for skills development, particularly among youth and women (National Bureau of Statistics, 2022). In this context, vocational and creative industries have been recognized as viable pathways for empowerment and socio-economic advancement (Adindu, Joseph, Azubuiké, & Tse, 2014).

Ceramics, as both a cultural practice and an industrial sector, presents unique opportunities that align with these national development needs. The rationale for considering ceramics as a developmental tool lies in its dual character. On one hand, it represents a centuries-old indigenous craft that preserves Nigeria's cultural identity and traditions (Aremu, 2020). On the other hand, it is an industrially significant field, with applications ranging from

household wares to refractory materials, building components, and advanced ceramics used in technology and engineering (Adeniyi, Olajide, Oladele, & Akinlabi, 2020; Ihekwe, Okafor, Onwualu, & Iroegbu, 2020). By bridging traditional knowledge and modern applications, ceramics holds the potential to address unemployment, promote entrepreneurship, and contribute to industrial growth (Goodwill Ceramics, 2023).

1.1 Aim and Objective of the Study:

The aim of this study is to explore how ceramics can be harnessed for capacity building and economic development in Nigeria.

Specifically, the objectives are to:

- i. Examine the opportunities within the ceramic sector for skill acquisition, employment generation, and cultural preservation;
- ii. Identify the challenges limiting the sector's growth and contribution to the national development
- iii. Propose strategic recommendations for stakeholders to maximize the sector's potential. to guide the study.

1.2 Research Questions

The following research questions are posed:

- i. What opportunities does the ceramic sector provide for skill acquisition, employment generation, and cultural preservation in Nigeria?
- ii. What are the major challenges limiting the growth of the ceramic sector and its contribution to national development?
- iii. What strategic recommendations can be proposed for stakeholders to maximize the potential of the ceramic sector in Nigeria?

2. Literature Review

2.1 Concept of Capacity Building and Ceramics

Capacity building refers to the process of developing skills, competencies, and institutional frameworks that enable individuals and communities to improve their livelihoods and contribute to national development. In the Nigerian context, where unemployment and underemployment remain pressing issues, capacity building through vocational and creative industries is vital. Ceramics, with its strong cultural roots and broad industrial applications, is a viable sector for fostering self-reliance, entrepreneurship, and innovation. Scholars (Akinbogun, 2012; Adebayo, 2018) emphasize that ceramics provides both technical and cultural pathways to sustainable development.

2.2 Overview of Ceramic Opportunities in Nigeria

Nigeria possesses substantial opportunities within its ceramic sector, owing to its abundant natural resources, rich cultural traditions, and emerging industrial base. The ceramic industry encompasses a wide range of activities from traditional pottery to modern industrial production, each offering avenues for employment, cultural preservation, and economic development (Akinbogun, 2012; Aremu, 2020; Akintonde, n.d.).

2.2.1 Natural Resources

Nigeria is richly endowed with extensive clay deposits located in states such as Kogi, Ogun, Kaduna, and Plateau. These raw materials form a strong foundation for ceramic production, including earthenware, stoneware, porcelain, and industrial-grade refractories. However, the lack of systematic exploration, inadequate processing infrastructure, and limited value-chain development have hindered the full exploitation of these resources (Adindu et al., 2014). Enhancing geological surveys, promoting local beneficiation, and establishing regional ceramic clusters could strengthen the country's raw material utilization and industrial competitiveness (Adebayo, 2018).

2.2.2 Traditional Pottery

Traditional pottery has historically served as both a source of household utility and a symbol of cultural identity across Nigeria. Communities such as Gwari in Niger State, Okene in Kogi State, and Afikpo in Ebonyi State exemplify how pottery sustains rural economies and transmits indigenous knowledge. Beyond its cultural significance, traditional pottery contributes to women's empowerment and rural livelihoods through small-scale enterprise. Scholars emphasize that integrating improved technologies, such as modern kilns and glazing techniques, could enhance the quality, durability, and marketability of these products (Aremu, 2020; Oyekan, 2016).

2.2.3 Studio Ceramics

The growth of studio ceramics in Nigeria has broadened the creative and commercial dimensions of the field. Studio potters and ceramic artists now play significant roles in art education, exhibitions, and the cultural economy. Their work bridges traditional craftsmanship with contemporary design, reflecting local narratives while meeting global aesthetic standards. This hybrid approach has opened new opportunities in training, tourism, and export markets (Nwajiuba & Oyeoku, 2019). The rise of art galleries, design schools, and cultural festivals continues to foster innovation, ensuring ceramics remains both a cultural and economic asset for national development.

2.2.4 Research and Innovation

Research in ceramics within Nigerian universities and polytechnics has produced innovations in material testing, glaze technology, and composite ceramics. However, weak collaboration between research institutions and industries has limited the commercialization of ceramics for applications in electronics, healthcare, and environmental management.

3. Methodology

This study adopts a qualitative research design, focusing on a desk review of Secondary data. The method involves the systematic examination of existing literature, including books, peer-reviewed journal articles, conference proceedings, policy documents, and reports related to ceramics, capacity building, and economic development in Nigeria and comparable African contexts.

The use of a literature-based approach is appropriate for two reasons. First, the field of ceramics in Nigeria is relatively under-documented in terms of empirical industrial statistics, making secondary sources a vital foundation for identifying patterns, opportunities, and gaps. Second, qualitative desk review allows for critical synthesis of diverse perspectives, cultural, industrial, educational, and economic, thereby providing a holistic understanding of ceramics as a developmental tool.

Data was thematically analysed to highlight recurring issues such as resource availability, traditional practices, industrial applications, and policy frameworks. Special attention was given to case studies that illustrate practical examples of ceramics contributing to economic development. This method ensures that the study remains both evidence-based and contextually relevant while identifying areas requiring further empirical investigation.

4. Findings and Discussion

4.1 Opportunities in Ceramics

The study highlights that ceramics offers diverse opportunities in Nigeria's socio-economic landscape. With abundant clay deposits, traditional knowledge systems, and growing demand for ceramic products, the sector can thrive across four major domains: traditional pottery, studio ceramics, industrial ceramics, and research-driven innovation. These domains not only preserve cultural heritage but also serve functional and industrial needs ranging from household wares to construction and advanced technological applications.

4.2 Link to Empowerment

Ceramics has strong potential to empower marginalized groups, especially youth and women. Training programs in pottery, tile-making, or studio practice can equip participants with entrepreneurial skills, enabling them to establish small-scale enterprises or cooperatives. For women in rural communities, ceramics offers accessible income-

generating opportunities, as pottery and small-scale ceramic production often require modest start-up costs. Youth engagement in ceramics through vocational training centres, higher education, and apprenticeships provides viable alternatives to unemployment and contributes to reducing social vices linked to joblessness.

4.3 Capacity Building Contributions

Capacity building in ceramics is evident in three key contributions. First, skill acquisition programs develop technical competencies in production, design, and innovation, thereby enhancing employability. Second, knowledge transfer from traditional artisans and academic institutions promotes cultural continuity while adapting to contemporary demands. Third, industrial ceramics, through initiatives like the Ota Industrial Ceramics Company, demonstrates how large-scale investment can build local expertise, strengthen supply chains, and reduce reliance on imported goods.

Collectively, these findings suggest that ceramics can be a catalyst for both cultural sustainability and economic diversification. However, to maximize these contributions, systemic challenges such as infrastructural deficits, limited policy frameworks, and weak research-industry collaboration must be addressed through strategic reforms and partnerships (Okoro, 2023).

4.4 Challenges Hindering the Sector

Despite the vast opportunities that ceramics presents for capacity building and economic development in Nigeria, several challenges continue to hinder the sector's growth and sustainability.

4.5 Infrastructural Deficits

A major obstacle is the lack of adequate infrastructure to support large-scale ceramic production (Valentine, 2016). Unreliable electricity supply, poor road networks for transporting raw materials and finished goods, and insufficient access to modern machinery limit the competitiveness of local ceramic industries. This has forced many producers to rely on outdated tools and manual processes, thereby reducing output and quality.

4.6 Financial Constraints

Access to finance remains a persistent barrier for both small-scale artisans and industrial investors. Many rural potters and studio practitioners lack the capital to purchase raw materials in bulk, acquire modern equipment, or expand their businesses. Similarly, large-scale ceramic industries often struggle to secure long-term financing due to the perceived risks associated with manufacturing ventures in Nigeria.

4.7 Perception and Awareness

Public perception of ceramics is another challenge. While ceramics has deep cultural roots, it is often undervalued compared to other vocational or industrial sectors. Many view it primarily as an art form rather than a viable economic driver. This perception discourages youth enrolment in ceramic-related programs and reduces government prioritization of the sector in policy and funding frameworks.

4.8 Research-Industry Gap

Although Nigerian universities and polytechnics have made significant strides in ceramic research, weak collaboration with industry limits the application of innovations. Many research findings remain within academic circles without being commercialized or scaled up for industrial use. This gap stifles the development of advanced ceramics, which could otherwise enhance Nigeria's technological competitiveness in areas such as electronics, healthcare, and environmental sustainability.

In addressing these challenges, there is a need for integrated policy support, investment in infrastructure, greater access to funding opportunities, and stronger partnerships between research institutions and the private sector. Without these interventions, the ceramic sector's contribution to capacity building and economic development will remain underutilized.

5. Case Study: Ota Industrial Ceramics Company

To illustrate the diverse opportunities ceramics presents for capacity building and economic development, one case study was highlighted from the industrial sphere. This underscores the role of ceramics in fostering economic productivity. Industrial ceramics, comprising products such as tiles, sanitary wares, refractories, and electrical insulators, constitute a vital growth area in Nigeria's manufacturing sector. A notable example is the Ota Industrial Ceramics Company in Ogun State, Nigeria, which illustrates the potential of leveraging local resources and technical expertise to achieve large-scale industrial output. Established to explore the abundant clay deposits within the region, the company manufactures essential construction and engineering materials, including tiles, sanitary wares, and refractory products (Akinbogun, 2012; Adindu et al., 2014).

The company's operations have significantly contributed to regional economic development by generating employment opportunities and reducing Nigeria's dependence on imported ceramic goods. Beyond production, the company provides vocational training and skills development for workers, facilitating technical knowledge transfer and capacity building within the industrial ceramics subsector (Aremu, 2020). These initiatives align with broader national objectives of industrial diversification and human capital development.

Despite its achievements, the Ota Industrial Ceramics Company faces persistent challenges. Chief among these are inconsistent power supply, high energy costs, and inadequate infrastructure, which collectively hinder optimal productivity (Adebayo, 2018). Furthermore, limited government incentives and inconsistent policy support have constrained expansion efforts. Nevertheless, the company remains a benchmark for how industrial ceramics can catalyse manufacturing growth, enhance self-reliance, and contribute to Nigeria's sustainable economic transformation (Akinbogun, 2012; Aremu, 2020).

6. Recommendations

To fully harness the potential of ceramics for capacity building and economic development in Nigeria, deliberate strategies must be pursued across multiple levels. The following recommendations are proposed:

6.1 Government Support

The government should recognize ceramics as a priority sector within Nigeria's industrial and cultural development agenda. This includes investing in infrastructure such as power supply, transport systems, and modern production facilities. Policy frameworks should be strengthened to encourage ceramic entrepreneurship, provide subsidies for local production, and reduce the reliance on imported ceramic goods.

6.2 Public-Private Partnerships (PPPs)

Collaboration between the public sector, private investors, and local communities can enhance the sustainability of ceramic ventures. PPPs can drive the establishment of ceramic industrial clusters, shared production facilities, and training centres. Such partnerships would bridge resource gaps and promote technology transfer, ensuring that the sector remains globally competitive.

6.3 Education and Curriculum Development

Ceramics should be integrated more effectively into educational curricula at technical, vocational, and higher education levels. Universities, polytechnics, and technical colleges should modernize ceramic curricula to include industrial applications, digital design, and entrepreneurship. Establishing specialized ceramic research institutes can also strengthen industry academia linkages.

6.4 Finance and Cooperatives

Access to finance remains critical for both rural artisans and industrial investors. Microfinance institutions, cooperative societies, and development banks should design ceramic-friendly loan schemes with flexible repayment plans. Encouraging the formation of ceramic cooperatives will enable artisans and small-scale producers to pool resources, access credit, and compete in larger markets.

6.5 Branding and Market Access

Effective branding and marketing strategies are essential to reposition ceramics as both a cultural and industrial product. Nigerian ceramics can be promoted through trade fairs, cultural festivals, and international exhibitions. Establishing digital marketplaces and e-commerce platforms for ceramic products will also expand market access locally and globally, while creating recognition for Nigerian craftsmanship.

Implementing these recommendations requires coordinated efforts from government agencies, private investors, educational institutions, and artisans. With such support, ceramics can transition from an underutilized sector to a key driver of empowerment, innovation, and economic diversification in Nigeria.

7. Conclusion

Ceramics represents a vital but underutilized sector in Nigeria's quest for capacity building and economic diversification. With abundant natural clay deposits, rich indigenous traditions, and growing demand for industrial applications, ceramics provides opportunities for skill acquisition, employment creation, cultural preservation, and technological innovation. The findings of this study reveal that ceramics can play a transformative role in empowering youth and women, stimulating rural development, and strengthening local industries.

However, challenges such as inadequate infrastructure, financial constraints, weak industry–research collaboration, and limited public perception continue to hinder its full potential. Addressing these gaps requires deliberate government intervention, strategic public–private partnerships, improved educational curricula, and innovative financing models. Additionally, branding and market development are crucial to reposition Nigerian ceramics as both a cultural asset and an industrial resource with global relevance.

Nationally, the effective harnessing of ceramics will not only contribute to reducing unemployment but also enhance Nigeria's self-reliance, cultural identity, and industrial competitiveness. If strategically supported, the ceramics sector can serve as a cornerstone for sustainable development, aligning with broader national goals of economic diversification and inclusive growth.

References

- [1] Adebayo, T. (2018). *Ceramics and sustainable development in Nigeria*. *Journal of Applied Arts and Design*, 14(2), 45–58.
- [2] Adeniyi, F. I., Olajide, J. O., Oladele, I. O., & Akinlabi, E. T. (2020). *Characterization of raw and thermally treated Nigerian kaolin clays*. *SN Applied Sciences*, 2(11), 1–13. <https://doi.org/10.1007/s42452-020-2610-x>
- [3] Adindu, C. I., Joseph, M., Azubuike, T. C., & Tse, D. T. (2014). *Exploring ceramic raw materials in Nigeria and their contribution to national development*. *American Journal of Engineering Research*, 3(9), 127–134.
- [4] Adindu, P., Eze, C., & Nwosu, O. (2014). *Developmental potentials of Nigerian clay resources*. *Nigerian Journal of Industrial Technology*, 8(1), 22–33.
- [5] Akinbogun, T. L. (2012). *Industrial ceramics and economic growth in Nigeria*. *Journal of Environmental Design*, 6(1), 12–20.
- [6] Akintonde, M. A. (n.d.). *Repositioning ceramic professionalism in art training in Nigeria*. CORE Repository.
- [7] Aremu, M. A. (2020). *Technology and craftsmanship in modern Nigerian ceramics*. *African Arts Review*, 11(3), 67–79.
- [8] Aremu, P. S. O. (2020). *Indigenous pottery practices and cultural identity in Nigeria*. *Nigerian Journal of Ceramics*, 26(1), 45–60.
- [9] Goodwill Ceramics. (2023). *About us*. Goodwill Ceramic Tiles Production Nigeria Ltd. <https://goodwillceramics.com.ng>
- [10] Ihekwe, G. O., Okafor, O. C., Onwualu, A. P., & Iroegbu, A. O. (2020). *Characterization of certain Nigerian clay minerals for water purification and other applications*. *Scientific Reports*, 10(1), 1–12. <https://doi.org/10.1038/s41598-020-70925-4>
- [11] National Bureau of Statistics (NBS). (2022). *Labour force statistics: Unemployment and underemployment report*. Federal Republic of Nigeria.
- [12] Nwajuba, C., & Oyeoku, E. (2019). *Studio ceramics and creative enterprise in Nigeria*. *Journal of Contemporary African Art*, 9(1), 50–62.
- [13] Okoro, M. N. (2023). *Breaking away from conventions in ceramic production*. *Chitrolekha: Indian Journal of Art, Architecture & Design*, 7(2). <https://chitrolekha.com>
- [14] Oyekan, V. (2016). *Traditional pottery practices and modern adaptation in Nigeria*. *Nigerian Cultural Heritage Studies*, 7(2), 33–48.
- [15] Valentine, O. (2016). *Addressing the ceramics studio equipment challenge in Nigeria: Utilizing re-used materials for the production of a ball mill jar*. *EJOTMAS: Ekpoma Journal of Theatre and Media Arts*.