

Enhancing Ceramic Body Compositions through Local Resource Utilization in South Qena

Nahla Mohamed Hamed Rashwan

Lecturer, Faculty of Applied Arts, Ceramic Department, Helwan University, 11795, Cairo, Egypt, nahla_rashwan@hotmail.com

Mohamed Selim Mohamed Selim El Kady

Lecturer, Faculty of Applied Arts, Sculpture & Architectural Formation Department, Helwan University 11795, Cairo, Egypt, m.selim.elkady@gmail.com

Abstract:

Naqada, located in Upper Egypt's South Qena Governorate, possesses a rich pottery heritage extending back to pre-dynastic times in Ancient Egyptian. This research examines the challenges confronting this historically and culturally significant craft, which produces diverse pottery forms for various uses. The craft faces numerous obstacles throughout the production process, from obtaining the raw material and processing to shaping, production, and firing. This study focuses on improving the ceramic body compositions used by Naqada workshops, which currently utilise Nile silt and Hamer stone. The research aims to optimise body preparation methods and adjust the proportions of raw materials and additives. Key objectives include enhancing plasticity for forming through the throwing wheel, improving body smoothness for product quality improvement, especially in cookware, and increasing fired product hardness at low temperatures around 800°C. Critically, the research prioritises maximising the use of locally available materials and respecting existing workshop conditions and capabilities to ensure practical and sustainable improvements for this vital craft.

Paper History:

Paper received July 25, 2025, Accepted September 8, 2025, Published online November 1, 2025

Keywords:

Naqada Pottery; Ceramic Bodies; Nile Silt; Hammer Stone; Additives

References:

- 1- Gamal Abdelmonem, M. The Effect of Cultural Industries Through the Pottery Craft on Raising the Level of National Income [Master's thesis]. Faculty of Applied Arts, Ceramic Department, Helwan University; 2022., P. 34, 52,53.
- 2- Khalifa IEA. Prehistoric Pottery During the Neolithic Era (5th Millennium BCE in the Nile Valley, Egypt): An Artistic Perspective on Additive Materials Appearing in Pottery Texture After Firing. Journal Name. 2023;24(1):1-36., P.15, doi:10.21608/jguaa.2022.130030.1241
- 3- Gouda AAA. Production Systems of Ceramic Cookware from Local Raw Materials [PhD dissertation]. Faculty of Applied Arts, Helwan University; 1999.
- 4- Ibrahim Dosoki Abdelmajid Soliman, "Properties of Some Local Clays in Upper Egypt: An Analytical Study," Journal Name 9, no. 1 (January 2025): 113-144, P.138, doi.org/10.21608/jfea.2025.404450
- 5- El-Senussi A. Pottery-Making Techniques in Egypt: Past and Present. Journal of the Egyptian Heritage Society. 2022;1(1):1-24., P.1, doi:10.21608/mgtm.2023.279470
- 6- Okewu J. Manual Potter's Wheel Efficiency in Ceramics Production in Nigeria. IOSR Journal of Humanities and Social Science. 2014;19(2):01-05, doi:10.9790/0837-19250105
- 7- C.B. Carter, M.G. Norton, Ceramic Materials: Science and Engineering, Springer Science+Business Media, New York, USA (2007), P.19-20.
- 8- H. Awaji, S.-M. Choi, Thermal shock tests and thermal shock parameters for ceramics, J. Korean Ceram. Soc., 49(4) (2012), P. 385-391, DOI: 10.4191/kcers.2012.49.4.385
- 9- Net 1: Digitalfire Corporation, Wood ash composition and ceramic applications, (2025) [Accessed: June 2025], Available from: https://digitalfire.com/material/wood+ash
- 10- Net 2: Digitalfire Corporation, Ball clay properties and uses, (2025) [Accessed: June 2025], Available from: https://digitalfire.com/material/ball+clay
- 11- Net 3: Digitalfire Corporation, Talc in ceramic formulations, (2025) [Accessed: June 2025], Available from: https://digitalfire.com/material/talc
- 12- Net 4: Imerys, Talc Imerys, (2024) [Accessed: June 2024], Available from:

https://www.imerys.com/minerals/talc

Nahla Rashwan, Mohamed El Kady (2025), Enhancing Ceramic Body Compositions through CITATION Local Resource Utilization in South Qena, International Design Journal, Vol. 15 No. 6, (November 2025) pp 217-224