



## REDUCED ENVIRONMENTAL DEGRADATION: EXPLORING THE USE OF RICE BRANS IN PAPERMAKING

**DE LEON, XIANNE MERLYN B.**  
**ALARAS, GIAN NICOLE C.**  
**BUÑO, KRISHA MAE A.**  
**DONO, LOREN JOY G.**  
**NUEVO, CHYZLEV JANEEN L.**  
Balayan Senior High School

### ABSTRACT

Environmental degradation is a serious issue affecting the health and well-being of all life. Traditional papermaking, which relies heavily on wood, contributes to this problem through deforestation and pollution. This study investigates rice bran, an abundant agricultural byproduct, as a sustainable and biodegradable alternative for papermaking. It addresses the properties of rice bran that render it suitable for papermaking and the procedures for creating rice bran paper. It also evaluates its effectiveness in terms of ink absorption, durability, and texture. The research, conducted at Balayan Senior High School, utilized an experimental design to prepare and test rice bran-based paper. Quantitative data collection methods were employed to assess key characteristics. Results demonstrate that rice bran paper is suitable for use as paper, with progressive improvements noted across trials. Specifically, ink absorption improved from poor to good, durability increased from weak to durable, and texture became smoother. Findings indicate that modifications in processing, such as increased soaking, blending times and adding amount of water significantly enhance the quality of rice bran paper. This research highlights the potential of rice bran as an eco-friendly

\*\*\*\*\*

### Editorial Team

**Editor-in-Chief:** Alvin B. Punongbayan

**Associate Editor:** Andro M. Bautista

**Managing Editor:** Raymart O. Basco

**Web Editor:** Nikko C. Panotes

### Manuscript Editors / Reviewers:

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,  
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,  
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza

\*\*\*\*\*

# INSTABRIGHT e-GAZETTE

ISSN: 2704-3010

Volume VI, Issue IV

March 2025

Available online at <https://www.instabrightgazette.com>



\*\*\*\*\*  
papermaking material, it promotes sustainability and efficient resource use, helping to address environmental challenges.



\*\*\*\*\*

## **Editorial Team**

**Editor-in-Chief:** Alvin B. Punongbayan

**Associate Editor:** Andro M. Bautista

**Managing Editor:** Raymart O. Basco

**Web Editor:** Nikko C. Panotes

### **Manuscript Editors / Reviewers:**

Chin Wen Cong, Christopher DC. Francisco, Camille P. Alicaway, Pinky Jane A. Perez,  
Mary Jane B. Custodio, Irene H. Andino, Mark-Jhon R. Prestoza, Ma. Rhoda E. Panganiban, Rjay C. Calaguas,  
Mario A. Cudiamat, Jesson L. Hero, Albert Bulawat, Cris T. Zita, Allan M. Manaloto, Jerico N. Mendoza

\*\*\*\*\*