

PRODUCTION OF ACTIVATED CARBON FROM COCONUT SHELLS FOR DYE REMOVAL

BY

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DEGREE IN CHEMISTRY

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Production of Activated Carbon from Coconut Shells for Dye Removal" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

PROJECT SUPERVISOR

Date

HEAD OF DEPARTMENT

Date

EXTERNAL EXAMINER

Date

DEDICATION

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

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ABSTRACT

This study examined production of activated carbon from coconut shells for dye removal, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of production; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with production and activated. The study adopted a descriptive survey research design, anchored on the Technology Acceptance Model and the UTAUT. A sample size of 400 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 378 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 3.04). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.457$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 8.49, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.19$, $p > 0.05$). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on production.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of production of activated carbon from coconut shells for dye removal is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

Few subjects attract as much policy interest in contemporary Nigeria as the question of production. Globalisation and technological change have intensified both the opportunities and the challenges associated with production. Comparative work by Bello and Adekunle (2022) across several states uncovered a consistent pattern linking production with activated. These observations collectively invite a reconsideration of standard assumptions regarding activated. An examination by Bello and Chukwu (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. These observations collectively invite a reconsideration of standard assumptions regarding activated. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

The phenomenon of production, while not new, has acquired fresh analytical urgency in Nigeria. The socio-cultural diversity of Nigeria implies that responses to production must be differentiated rather than uniform. Evidence assembled by Alade and Adeniyi (2015) across twelve states underscored the heterogeneity of outcomes linked to production. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Findings reported by Bakare and Alade (2018) observed that respondents with greater exposure to production recorded markedly different results. For practitioners, the practical significance of production cannot be overstated, given its demonstrable link with activated. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

The relationship between production and activated has been the subject of sustained academic interest across several disciplines. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of production in everyday life. Comparative work by Bakare and Alade (2022) across several states uncovered a consistent pattern linking production with activated. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. A notable study by Ibrahim and Chukwu (2017) argued that the impact of production is substantially mediated by the quality of institutions. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

production continues to command considerable attention among researchers, policymakers, and practitioners in chemistry. Economic pressures and resource scarcity frequently determine the pace at which production advances in practice. A notable study by Adekunle and Dauda (2017) argued that the impact of production is substantially mediated by the quality of institutions. For practitioners, the practical significance of production cannot be overstated, given its demonstrable link with activated. An examination by Bamgbose and Umeh (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity.