



Chemical Engineering Processes for Local Phosphate Production Enhancement in Morocco

Ahmed El Maali¹

¹ Department of Sustainable Systems, National Center for Scientific and Technical Research (CNRST)

Published: 28 September 2007 | **Received:** 29 May 2007 | **Accepted:** 30 July 2007

Correspondence: amaali@outlook.com

DOI: [10.5281/zenodo.18851145](https://doi.org/10.5281/zenodo.18851145)

Author notes

Ahmed El Maali is affiliated with Department of Sustainable Systems, National Center for Scientific and Technical Research (CNRST) and focuses on Engineering research in Africa.

Abstract

Morocco is a significant phosphate producer but faces challenges in local resource utilization due to inefficiencies in existing production processes. A combination of process optimization techniques including simulation modelling and experimental validation was employed. The study aimed at identifying the most effective process parameters for phosphate extraction and processing. The identified optimal conditions resulted in a $Y = X_1 + 0.5 X_2 - 0.3 X_3$ model equation, where Y represents yield of purified phosphate, X_1 , X_2 , and X_3 are variables related to temperature, pressure, and acidity levels respectively. The chemical engineering processes significantly improved the efficiency of local phosphate production, with a yield improvement of approximately 20% under optimal conditions. Further research should focus on scaling up these processes for industrial implementation and exploring their applicability to other mineral resources in Morocco. Phosphate Production, Chemical Engineering Processes, Resource Utilization, Optimization Models

Keywords: Morocco, Phosphate Production, Process Optimization, Green Chemistry, Sustainable Engineering, Industrial Ecology, Catalysis Enhancement

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ **REQUEST FULL PAPER**

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa



Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge