

A MOTORIZED AND MECHANICALLY OPERATED
PORTABLE SIEVE SHAKER MACHINE:
A TECHNICAL FEASIBILITY STUDY

JOHN N. CALAMIONG

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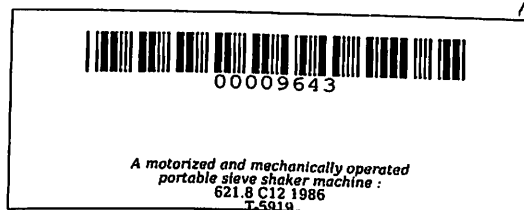
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Marikina Institute of Science and Technology
Marikina, Metro Manila

**A ⁶MOTORIZED AND MECHANICALLY OPERATED
PORTABLE SIEVE SHAKER MACHINE:
A. TECHNICAL FEASIBILITY STUDY**

**A Thesis
Presented to
the Faculty of the Graduate School
Marikina Institute of Science and Technology**

**In Partial Fulfillment
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Master of Technician Education
(Civil Technology)**



by

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ABSTRACT

The main focus of this study entitled, "A Motorized and Mechanically Operated Portable Sieve Shaker Machine; A Technical Feasibility Study," was to design, construct, test and demonstrate the functionality, and revise the parts as a result of testing. The development of this machine would contribute to better teaching of civil technology, as it would help solve the foremost problem met by most if not all vocational schools regarding the lack of instructional machine and equipment in workshop.

This technical feasibility study was limited to the design and construction of a machine utilizing locally available materials. Likewise, it was also limited to testing its functionality and efficiency. To do this the machine was subjected to testing of cement and aggregate samples. Finally, the result of testing led to the revision of some parts for the improvement of the machine performance.

The machine was conceived through readings and actual field experiences of the researcher. Design was prepared, cost estimate was done for supplies and materials, tools and equipment needed were secured, and working drawing and details of different parts and assemblies were drawn before the construction procedures. Based on this, the

machine was constructed and tried out for possible improvement and reivision. Final try-out was done after correcting the defects.

The findings of this study show that it is technically feasible for any shop instructor to design and construct the machine in order to enhance the teaching and learning process and that the machine is functional and efficient in testing samples of construction materials like cement, soil, and aggregates. Likewise it can be mass-produced because the mechanism is simple and materials are locally available. It is economical as its production cost which include the supplies and materials, labor, overhead, and operating cost amounted to five thousand seventy one pesos and forty-five centavos (P5,071.45).

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Chapter I

INTRODUCTION

This chapter discusses the origin and justification of the study, the objectives of the study, and its scope and delimitation.

A. Origin and Justification of the Study

One of the major problems that bothers administrators and vocational instructors in most of the technical and vocational institutions in the Philippines is the lack of handtools, machines, and equipment. This problem poses a great threat to the quality of would-be technicians trained in different institutions. To train a technician who is person equipped with both knowledge and skill, it is imperative to have the instructional supplies and materials, handtools, machines, and equipment available in order to carry and accomplish the technical vocational objectives. It is, therefore, the role of the administrators and the vocational teachers and trainers to find means of improvising equipment or machine which will serve as a substitute while the school cannot afford to buy new and modern machineries.

Hammon, Donally, et. al., (1972:85) noted American Vocational Educator, pointed out that: Over the centuries men have improvised jigs and devices for making work easier and more efficient. These devices are commonly known as

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