

UNIVERSITI TEKNOLOGI MARA

**FABRICATION OF
MINI
HYDROELECTRIC
GENERATOR**

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Dissertation submitted in partial fulfillment
of the requirements for the degree of
Diploma
(Mechanical Engineering)

College of Engineering

March 2022

ABSTRACT

Hydroelectric is a renewable energy that converts the kinetic energy of flowing water into electricity. Today, hydropower accounts for approximately 16% of global electricity production. Although electricity is essential for daily life, there are still places where it is unavailable, such as for people living in rural areas. Currently, 940 million people (13 percent of the world's population) do not have access to electricity. Therefore, the objective of this project is to design and analyze a mini power generator that reduces the cost and size to make it more versatile and easier to use by anyone. The methodologies used are by searching the existing product and study on how it works. After finding on how it works and what formula to use, three concept designs were made. Then, one of the concept designs is chosen. The concept is designed in Solidwork. The expected result is the project being able to generate electricity.

ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my diploma and for completing this long and challenging journey successfully. My gratitude and thanks go to my supervisor, Mr. Zeno Michael. Finally, this dissertation is dedicated to my father and mother for the vision and determination to educate me. This piece of victory is dedicated to both of you. Alhamdulillah.

TABLE OF CONTENTS

	Page
CONFIRMATION BY SUPERVISOR	ii
AUTHOR'S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER ONE : INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	2
1.3 Objectives	2
1.4 Scope of Work	3
1.5 Significance of Study	3
CHAPTER TWO : LITERATURE REVIEW	6
2.1 Introduction	6
2.2 Dynamo	7
2.3 Power Bank	8
2.4 Mini Hydroelectric Power Plant	9
2.5 Product Design Specification Base on Literature Review	10
CHAPTER THREE : METHODOLOGY	11
3.1 Introduction	11
3.2 Prototype drawing and bill of material, BOM	11
3.3 Calculation and Computational Analysis	19
3.4 Fabrication Process	33
3.5 Final fabricated working prototype	38

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Renewable energy is defined as energy generated by natural processes that are constantly replenished. Sunlight, geothermal heat, wind, tides, water, and various forms of biomass are all examples. This energy is never depleted and is constantly replenished.

Hydroelectric power is one of the renewable energies. It uses the natural energy of the flowing water to generate clean, fast, and flexible electricity by converting the water's kinetic energy into electricity. Usually, the hydroelectric power plant is an impoundment facility that is typically a large hydropower system. It makes use of a dam to save water in a reservoir that launches the water for it to waft via a turbine inflicting it to spin and convey electricity.

Electricity is an important aspect of economic growth as well as improvement in people living standards. The increasing demand for electrical energy, the environmental effects of fossil fuel use, and the fear of running out of fossil fuels are the main factors driving us to focus on hydropower as a source of renewable technology.

Malaysia does not let this opportunity go to waste and utilizes its hydro potential to its utmost with 5456 MW installed. This country receives high rain volume per year thus the use of hydropower is important.