



UNIVERSITI TEKNOLOGI MARA
CAWANGAN TERENGGANU

MEC299

**PROPULSION SYSTEM DESIGN OF GRP PAYANG
POTONG BELAKANG**

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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

In this Final Year Project (FYP), the objective is to make a design of propulsion system for traditional boat from Malaysia. The traditional boat selected in this project is a payang boat from Terengganu. The boat that will be designed in this project will be retained in its shape but only cut at the back because it wants to be engineered. In addition, the material used in this project is also different, which was originally used to make this boat was cengal wood but was converted to glass reinforced plastic (grp).

1.2 BACKGROUND OF STUDY

The Malays who live on the coast are skilled in the ins and outs of marine activities, especially in building water transport. They can build various types of water transport whether used in rivers, lakes or in the ocean. The ability to build boats and boats was inherited from previous generations and is used until now with some modifications.

Local wisdom has extensive knowledge in boat and boat building techniques. Therefore, the shape of the boats produced are different based on needs (use) and location. Local wisdom has never formally learned how to build a boat. All this knowledge obtained through a process of training while working in stages.

For decades, it has been a tradition for local fishermen to use traditional boats to carry out their daily routines. According to studies and interviews that have been done, a traditional boat like payang takes up to 12 to 18 months to be completed by a traditional shipbuilder. Even the manufacturing cost is high. This is because traditional shipbuilding requires high quality woods such as cengal wood. A traditionally built fishing boat can cost RM300,000 to RM500,000 depending on the size, which is between 15 to 25 meters long, but the price does not include fishing equipment and engines (Nazdy Harun, 2018).

In this project the traditional ship that has been chosen is the payang. The traditional Malay open fishing boat known as perahu payang or just payang. They are mostly found along the coast of Terengganu and, to a lesser extent, Kelantan, Pahang, and Johor. During the northeast monsoon in the South China Sea, several incidents usually descend on Singapore to operate.

Perahu payang is the largest and most famous fishing boat among the fishing boats found on the coast of Timor. This type of boat is operated by using oars and two sails. This type of boat is used by fishermen in the Setiu area to the north of Pahang. There are also reports stating This boat was once used in Pangkor Island, Perak. This boat is called payang because this boat was built and comes from kampong Payang, Setiu.



Figure 1 : Example of payang boat (H. Goring Dalton, 1926)

1.3 PROBLEM STATEMENT

Traditional boats were propelled by oars and sails in antiquity. In the modern period, sailors power their boats with engines. The traditional boat in this project lacks a contemporary propulsion technology, which prevents the boat from moving. In order to drive the boat effortlessly, a modern propulsion system will be designed for this project, and software will be used to analyse the resistance that results.

1.4 OBJECTIVES

The main objectives of this project are:

1. To design a propulsion system of Payang Potong Belakang Boat.
2. To analyse the resistance of the Payang Potong Belakang boat.

1.5 SCOPE OF WORK

The scope of work of this project is to design a boat and analyse the resistance of the boat by using PolyCAD software. Other than that, general arrangement and weight estimation will be sought by using Rhinoceros software. Then, this project will run the simulation by using PolyCAD software.