

**A PRELIMINARY PROTOTYPE BUILDING AND DATA ANALYSIS OF FISH
HOUSE FOR RENEWABLE ENERGY RESEARCH**

By

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**Research Proposal submitted in partial fulfillment of
the requirements for Bachelor's Degree of Applied Science (Maritime Technology)**

**DEPARTMENT OF MARITIME TECHNOLOGY
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU
2012**



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**DECLARATION AND VERIFICATION REPORT
FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:

A Preliminary Prototype Building and Data Analysis of Fish House for Renewable Energy Research by Muhammad Zuhairi b Md Zuhir, Matric No. UK 16603 have been examined and all errors identified have been corrected. This report is submitted to the Department of Maritime Technology as partial fulfillment towards obtaining the **Bachelor Degree of Applied Science (Maritime Technology)**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.


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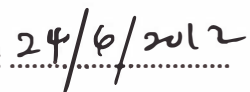
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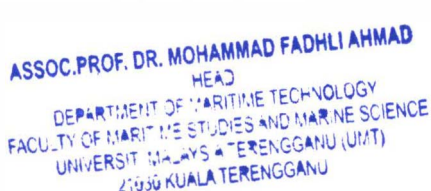
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DECLARATION

I hereby declare that this thesis entitled “A Preliminary Prototype Building and Data Analysis of Fish House for Renewable Energy Research” is my own research except as cited in the references.

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ACKNOWLEDGEMENTS

Firstly, praised to Allah SWT, the Most Gracious and Most Merciful, Who created the mankind with knowledge, wisdom and power for blessing me and give me a capability to complete this Final Year Project. In particular, the person I most wish to express my deep appreciation and extend gratitude is co-supervisor, Dr. Ahmad Faisal B Mohamad Ayob for his encourage and guidance given during this thesis be done. Also appreciation goes to my main supervisor Prof Madya Dr. Wan Mohd Norsani B Wan Nik and co-supervisor Mr. Azlan B Musa that guide me before. Their generosity, patience, tolerance and helping character nourished me and more than what I gained through the successful completion of the thesis. Besides, I am grateful to Mr. Mohd Afiq B Zakaria who shared their expertise and experiences apart of guiding and assisting me to a lot of the knowledge's during the research periods.

I am also appreciate a helping hand from staffs Department of Maritime Technology Laboratory (Makmal JTM) for giving me a opportunity to use facilities provide in the laboratory especially laboratory computer that support Arduino Software and LabView Software available there. My thanks are also extended to all my classmates, Nuriswin B Roslee, Muhammad Azmi B Kamaruddin, Mohd Aizat Zabarjat, Shahrul Munir B Bahari, Ariffuddin B Ismail, Khairul Da'i, Mohd Faiz B Roslan, Nor Suzela and Izzan Khairi. Thanks to all my friends who assisted me in different ways during this project.

Finally, I like to express my deepest gratitude for a spiritual support and emotional understanding that I received from my family that is Puan Salmah Bt Mustafa and Encik Md Zuhir B Hussin. I am thankful to that power that always inspires me to solve the difficulties that I encounter in order to complete the thesis successfully.

A PRELIMINARY PROTOTYPE BUILDING AND DATA ANALYSIS OF FISH HOUSE FOR RENEWABLE ENERGY RESEARCH

ABSTRACT

This thesis describes a preliminary prototype building and data analysis of fish house for renewable energy research. Today, the major issues of the world are undoubtedly the energy problems and global warming or familiarly known as climate change occurs due to the increase in the average temperature of the Earth's near-surface air and the oceans. There reasons why we should use the alternative energy nowadays are can decreasing the climate change, friendly user to environment, safe to use and helping the farm's owner reduce electric consumption. This study is aimed to analyze the data obtained from the solar panel used on a prototype of fish house for renewable energy research. Solar energy or solar photovoltaic (PV) electricity generation is form of renewable energy (RE) which is clean, non-depleting and does not emit any greenhouse gases (GHGs) since it generates energy directly from the sun by means of PV effects. This project includes a methodology started with the development of a preliminary design of fish house, building the actual prototype, solar panel collection, data analysis and finally discussion. The preliminary study on data collection of voltage was conducted by using Arduino and LabView as data logger. Through this paper, by considering of economical aspects, using the solar panel system to support fish farm activities is more economical rather than using the electric provided by the TNB.

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ABSTRAK

Kertas kerja ini membincangkan berkenaan prototaip awal dan analisis data kolam ikan untuk penyelidikan tenaga yang boleh diperbaharui. Hari ini, isu utama dunia adalah masalah tenaga dan pemanasan global atau lebih dikenali sebagai perubahan iklim yang berlaku disebabkan peningkatan dalam purata suhu udara yang berhampiran permukaan bumi dan lautan. Kita perlu menggunakan tenaga alternatif hari ini adalah untuk mengurangkan perubahan iklim, tenaga ini mesra kepada pengguna dan alam sekitar, selamat untuk digunakan dan dapat membantu pemilik kolam ikan bagi mengurangkan penggunaan elektrik. Kertas kerja ini bertujuan untuk menganalisis data yang diperolehi daripada panel solar yang digunakan pada prototaip kolam ikan untuk penyelidikan tenaga yang boleh diperbaharui. Tenaga solar adalah merupakan bentuk tenaga yang boleh diperbaharui yang bersih, tidak berkurangan dan tidak mengeluarkan apa-apa gas yang mampu mengancam rumah hijau kerana ia menjana tenaga secara langsung dari matahari melalui panel solar. Metodologi projek ini antaranya, bermula dengan pembangunan reka bentuk awal kolam ikan, membina prototaip sebenar, penyerapan tenaga haba oleh panel solar, analisis data dan akhirnya perbincangan yang dibuat melalui data yang diperolehi. Kajian awal terhadap pengumpulan data voltan telah dijalankan dengan menggunakan perisian Arduino dan perisian LabView sebagai penghubung data. Melalui kertas kerja ini, dengan mengambil kira aspek ekonomi, dengan menggunakan sistem panel solar bagi menyokong kepenggunaan elektrik di kolam ikan adalah lebih menjimatkan dan lebih mesra alam berbanding menggunakan elektrik yang dibekalkan oleh TNB.