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**JOHOR
INNOVATION
INVENTION
COMPETITION
AND
SYMPOSIUM
2023**



"Innovation Inspires a Society
to be Critical and Creative"

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Editors-in-Chief

**AHMAD KHUDZAIRI KHALID
NUR INTAN SYAFINAZ AHMAD**



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**Cawangan Johor
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Preface

In the name of Allah, the Almighty who gives us the enlightenment, the truth, the knowledge and with regards to Prophet Muhammad (peace be upon him) for guiding us to the straight path. We thank to Allah for giving us guidance and strength to write this e-book.

This e-book compiles the extended abstracts that submitted to Johor Innovation Invention Competition and Symposium 2023 (JIICaS2023), where JIICaS2023 is a virtual platform for all creative minds to share and present their invention and innovation. The extended abstracts are divided into two categories, which are Category A (Higher Educational Student/ Any Recognized Institutional Students in Malaysia) and Category B (Primary/ Secondary School Students / Special Education School Students in Johor). Each abstract gives a brief background on the innovation or project.

We hope that this e-book will help the readers to get to know the innovation done by the students from both categories and get some ideas to develop future innovation products.



COCO M BOARD

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ABSTRACT

Coconut trees plantations is widely seen in Malaysia. Parts of the trees are used to produce many various products and used in many ways especially in cooking. Coconut fibre becomes the waste products and contributes to environmental pollution which has been one of the global problems.

This product supports the government efforts to enhance the recycle programme which has been one of the country's agenda and help to reduce rubbish in the environment. Hence turning waste to wealth to preserve the ecosystem.

Coco-M Board, Coconut Multipurpose Board is a two in one product. Fibre from the coconut fruit is used as the main material to produce the board. The raw and blended coconut fibres are mixed together Starch flour is used as the binding agent. Starch flour solution is then poured to the mixture of coconut fibre. The mixture is then compressed and dried to a specific mould. It has a multipurpose function, one side act as a white board and another side is a bulletin board. This product can be stand upright and hung. It is portable, easy to handle and can be used in different premises for different purposes.

The product supports the Ministry of Education in implementing the 21st Century Learning. It can be one of the teaching aids in the learning dan teaching process which makes learning more interesting. Hence providing a conducive learning environment. It is cheaper from the already existing product.

Keywords: coconut fibre, starch flour, recycle, board, 21st Century Learning

1.0 INTRODUCTION

In the era of modernization, the impact and effect of the activities on the environment can endanger humans and the ecosystem. Environmental pollution has been one of the global problems.

The plantation of coconut trees is a common situation in Malaysia. Parts of the coconut trees are used to produce many various products with different purposes. Coconut fruits are usually known in Malaysian cooking and coconut fibre become waste products.

2.0 OBJECTIVE

The objective of this product is to enhance the recycling campaign by using waste materials and preserving the environment by using degradable materials. It can also prevent allergies due to the use of artificial materials. It is a safe health and environmental product. Besides that, by producing this product will enhance to use of Malaysia natural resources.

This product is hope to be one of the choices of teaching aids and tools for 21st Century Learning. The community can also have the opportunity to purchase and own multipurpose boards which can be used for different reasons.

3.0 DESCRIPTION OF INNOVATION/METHODOLOGY

Coco M Board, Coconut Multipurpose Board is invented by improving the already made product in the market. Coco M Board is made up of coconut fiber as the main material. Starch flour is used as the binding agent. The natural and blended fiber and starch solution are mixed together and then compressed to a precise mold. The product is then dried under the hot sun for several days. By using other materials such as decorative paper and white board sheet, the board is produced into a two sided board. One side is a white board and the other side is a bulletin board.

This product is a two in one product with a multipurpose function. The board can be stand upright and hung for easy usage in any type of conditions. It is a portable board and easy to be used. It is also easy to kept. The product is biodegradable because it is produced from natural resources. By combining two different types of boards, the cost of the board is cheaper from buying two different types of boards.

4.0 ADVANTAGE/IMPACT/RESULTS/NOVELTY

The product can reduce the after used rubbish in the environment which can turn waste to wealth. Hence enhance the recycle programme by producing by-product using recycle fibre. It produces a safe and biodegradable material and preserve the aesthetic value of the ecosystem. It also educates the society of using natural products and supporting the recycling campaign. The product is the first and only board product made by using coconut fibre as the main material. It gives the opportunity for the community to have a better choice of buying and using a natural, safe and environmental board. The product provides the teaching tools / aids for the 21st Century Learning, implemented by the Malaysia Ministry of Education.

5.0 CONCLUSION

Coco M Board is a invented by upgrading the already existing board by using natural resources as the main materials. It gives a new perspective to the already existing board in the market which is a two in one product. It did not use materials that can be harmful to the customers' health. It is a multipurpose board with can be used for different type of activities in different type of premises. It is a product of Malaysian identity which Malaysia can be proud of.