

SUSTAINABLE IRRIGATION USING WINDMILL PUMP

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ABSTRACT

In Malaysia, about 22% of land is utilized for agriculture and irrigation has been directly linked to the nation's rice industry. More than 80% of the country's water demand (12 billion cubic m/year) is accounted for by irrigation uses. With that, the rice or paddy plantation industry contribution to the impact on the environment is major and drastic. Despite that, there are only few measures to provide a better sustainability in paddy irrigations.

This study aims to irrigate a paddy plantation by using a sustainable method. Thus, to achieve further development in this study of sustainability, the use of alternative energy in the form of windmill pump is used to improve performance in a specific location in Malaysia. The basic overview to this project is to increase and sustain rice productivity and therefore will have to reduce its water consumption and this needs to be achieved at lower cost and resource utilization.

Sustainability measures in a paddy irrigation scheme is researched and proposed in the design of the irrigation system. This project shows the design of a paddy irrigation scheme. The application of this project into the true practical application in Malaysia does not display an optimized solution especially with the low wind speed. However the conducting of this project may contribute to future research on the same sustainable measures.