

**SOUND AND VIBRATION OF TERENGGANU  
TRADITIONAL BOAT**

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**SCHOOL OF MARITIME STUDIES AND SCIENCE MARINE  
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**SOUND AND VIBRATION OF TERENGGANU TRADITIONAL BOAT**

**By**

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**A thesis submitted in partial fulfilment of  
the requirement for the award of degree of  
Bachelor of Applied Science (Maritime Technology)**

**Department of Maritime Technology  
FACULTY OF MARINE SCIENCE AND MARITIME STUDY  
UNIVERSITI MALAYSIA TERENGGANU  
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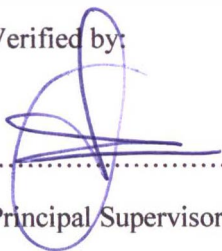


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**DECLARATION AND VERIFICATION REPORT  
FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:  
**SOUND AND VIBRATION OF TERENGGANU TRADITIONAL BOAT** by  
**MUHAMMAD SYAUTI BIN ABDUL RAHIM**, Matric No. **UK 20675** 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  
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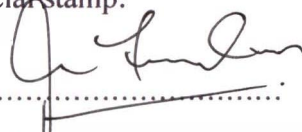


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## DECLARATION

I hereby declaration that this thesis entitled Sound and Vibration of Terengganu Traditional Boat of my own research except as cited in the references.

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## **SOUND AND VIBRATION OF TERENGGANU TRADITIONAL BOAT**

### **ABSTRACT**

Traditional boats were still the main transport to cross from Seberang Takir and Pulau Duyong to Kuala Terengganu. However, nowadays due to less response from people, traditional boats currently being elevated as a boat tours but still maintaining the traditional design which was based on wood. However, since the boat was constructed from wood and has been already used for a long time, noise and vibration becomes the factor that cause discomfort to passengers. Noise and vibration also factors that can disrupt passengers' concentration and more worse, it can cause harmful effects on passenger's health. Noise also comes from a strong vibration on traditional boats. The passengers of traditional boat were more susceptible to the distraction due to an increase in noise. This thesis was focused on determining the noise and vibration in the traditional boats in Kuala Terengganu and mainly to find solution to reduce the noise and vibration. Data for noise and vibration were taken by using a Sound Level Meter and Vibration Meter. Next, data were analyzed based on the basis of experiments which were usage of dampers and application of enclosure on the main engine. From the results of field work, found that the sound pressure level of 95 dB was considered as unsafe levels to human. Results also show that the usage of damper can reduce vibration and the application of enclosure can reduces noise in the main engine.

## SOUND AND VIBRATION OF TERENGGANU TRADITIONAL BOAT

### Abstrak

Bot tradisional masih menjadi pengangkutan utama dari seberang takir dan pulau duyong untuk ke Kuala Terengganu. Walaubagaimanapun, sambutan orang ramai terhadap perkhidmatan bot tradisional semakin berkurangan. Oleh yang demikian, pada masa kini bot tradisional telah dinaik taraf menjadi bot pelancongan namun masih mengekalkan ciri-ciri binaan tradisional yang berasaskan kayu. Bagaimanapun disebabkan binaannya dari kayu dan telah lama digunakan, kebisingan dan getaran menjadi faktor ketidakselesaan penumpang. Kebisingan dan getaran juga merupakan gangguan yang dapat mempengaruhi tumpuan dan lebih teruk, ia mampu memberi kemudaratan kepada kesihatan penumpang. Kebisingan juga datangnya dari getaran yang kuat pada bot tradisional. Penumpang bot tradisional lebih terpengaruh dan terganggu disebabkan adanya peningkatan kebisingan. Tesis ini bertujuan untuk menentukan kebisingan dan getaran pada bot tradisional di Kuala Terengganu dan seterusnya mencari jalan penyelesaian untuk mengurangkan kebisingan dan getaran ini. Seterusnya data dianalisa berdasarkan eksperimen yang dijalankan iaitu penggunaan damper dan pemasangan enclosure pada enjin utama. Hasil daripada kerja lapangan yang telah dijalankan, didapati nilai peningkatan tekanan bunyi sebesar 95 dB dianggap sebagai paras yang kurang selamat. Data bunyi dan getaran diambil menggunakan Sound Level Meter dan Vibration Meter. Keputusan juga menunjukkan penggunaan enclosure dapat mengurangkan bunyi bising dan penggunaan damper boleh mengurangkan getaran pada enjin utama.



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