SOUND AND VIBRATION OF TERENGGANU TRADITIONAL BOAT

MUHAMMAD SYAUTI BIN ABDUL RAHIM

Y OF MARITIME STUDIES AND SCIENCE MARINE
UNIVERSITY MALAYSIA TERENGGANU

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SOUND AND VIBRATION OF TERENGGANU TRADITIONAL BOAT

By

MUHAMMAD SYAUTI BIN ABDUL RAHIM

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UNIVERSITI MALAYSIA TERENGGANU

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DEPARTMENT OF MARITIME TECHNOLOGY
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE

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 **BACHELOR OF APPLIED SCIENCE (MARITIME TECHNOLOGY)**, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

Verified by:

MOHD AZLAN BIN MUSA
PENSYARAH
JABATAN TEKNOLOGI MARITIM
FAKULTI PENGAJIAN MARITIM DAN SAINS MARIN
UNIVERSITI MALAYSIA TERENGGANU
21030 KUALA TERENGGANU

.....

Principal Supervisor

Name: En. Mohd Azlan Bin Musa

Official stamp:

Date: 14/1/13

CHE WAN MOHD NOOR
PENSYARAH
JABATAN TEKNOLOGI MARITIM
FAKULTI PENGAJIAN MARITIM DAN SAINS MARIN
UNIVERSITI MALAYSIA TERENGGANU (UMT)
21030 KUALA TERENGGANU

.....

Second Supervisor (where applicable)

Name: En.Che Wan Mohd Noor B. Che Wan Othman

Official stamp:

Date: 14/1/2013

.....

Head of Department of Maritime Technology

Name: Dr. Mohamad Fadhli Bin Ahmad

Official stamp:

Date: 14/1/13

ASSOC.PROF. DR. MOHAMMAD FADHLI AHMAD
HEAD
DEPARTMENT OF MARITIME TECHNOLOGY
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE
UNIVERSITI MALAYSIA TERENGGANU (UMT)
21030 KUALA TERENGGANU

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.

Signature : .....

Name : MUHAMMAD SYAUTI BIN ABDUL RAHIM

Matrix No. : UK 20675

Date : 14/1/2013

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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.

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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 ketidak selesaan 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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