

**AMBULANCE BOAT DESIGN FOR SWAMP OPERATION AREA IN
TASIK SERAI VILLAGE, TALANG MANDAU SUB-DISTRICT,
BENGKALIS DISTRICT**

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ABSTRACT

Tasik Serai Village is one of the villages located on the island of Sumatra, precisely in Talang Muandau District, Bengkalis Regency, Riau. Tasik Serai Village has 5 hamlets, one of which is Bagan Benio Hamlet. Bagan Benio Hamlet is the farthest hamlet from the hamlets in Tasik Serai Village, because Bagan Benio Hamlet is located in the middle of a lake or swamp in Tasik Serai Village. Tasik Serai Village Bagan Benio hamlet does not yet have a health center facility or inpatient treatment facilities, causing the people of Tasik Serai Village Bagan Benio hamlet difficulties if they need long-term care or treatment. The people of Tasik Serai Village, Bagan Benio Hamlet, really need health facilities such as water ambulances to support the health of residents to carry out treatment at the nearest puskesmas or hospital. The purpose of this study was to determine the main size of the swamp Ambulance ship according to the characteristics of the swamp area in Tasik Serai Village, Bagan Benio Hamlet, Talang Mandau sub-district, to determine the 3D design, true lines plan and stability and to determine the amount of resistance, propulsion motor power and swamp Ambulance ship equipment for swamp operation areas. This research uses a qualitative descriptive method. Data collection and processing is using observation and editing and verifying. The results of this study are the main size of the ship determined by the linear regression method, with a comparison ship so as to obtain $L = 7$ meters, $B = 2.1$ meters, $H = 1$ meter and $T = 0.44$ meters. The total resistance value (RT) is 3.7 KN using numerical methods and obtained a resistance value of 3.79 KN for calculations using computational methods (maxsurf software) and a SHP value of 50.00 hp (horse power). The stability of the ambulance ship in accordance with IMO standards this design ship stability meets IMO (International Maritime Organization) regulation A. 749 (18) with angular values of conditions 1 and 2, 53.6 degrees and conditions 3 and 4, 43.6.

Keywords : *Swamp Ambulance, Water Ambulance, Design*