Techno Economic Analysis of RC Boat Trash Collector

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ABSTRACT

Handling organic and inorganic waste in Indonesia has not yet found the right solution for handling it, and there is also a lack of awareness among the people themselves who throw rubbish into rivers. If this continues, more losses will be caused, such as river pollution which will cause water erosion and flooding, damage the ecosystem in the river, and can accelerate the spread of pests and diseases. This research aims to determine the advantages and disadvantages obtained in using the RC Boat Trash Collector as a tool for cleaning rubbish in rivers that are difficult to reach by excavators or rivers in residential areas. The analytical methods used for this research are the net present value (NPV), payback period (PP), benefit cost ratio (B/C), and return of investment (ROI) methods. Based on economic analysis, it was found that the investment costs for an RC Boat Trash Collector were cheaper than using an Excavator, saving Rp. 176,113,845. Calculation of investment feasibility shows an NPV of IDR 10,400,086.5873 rupiah, PP 5 months, BCR 9,997, ROI 1.94% (per year).

Keywords: *RC Boat Trash Collector*, *Garbage*, *River*, *Tekno Economic*, *Solar cell*