ABSTRACT

DESIGN PORTABLE BIOGAS FERMENTATION TANK FROM WATER HYACINTH

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The flow of the river in Palembang filled with water hyacinth. Utilization of water hyacinth biogas as an energy source has not been done in Palembang.Water hyacinth processing technology into biogas energy is very simple, soit is easily adopted by communities around the river Musi.Manufacture of biogas from water hyacinth biogas fermentation requires tools. Biogas fermentation tool designed using appropriate technology.This fermentation tool has three parts, namely fermentation tube, tube gas storage and portable framework. Tools fermentation biogas from water hyacinth using plastic drum 200 liter. Biogas fermentation tube sizes are: 1.84 m diameter and 98 cm length consisting of a top and bottom cleanout each had a size of 4 inches thickness 5 mm cleanout. Cleanout is useful as an inlet and outlet of chopped and waste water hyacinth. This tool is supported by a framework that is portable to be easily moved and easily in the mixing process to the formation of biogas. Size portable framework created to produce a length of 98 cm width 67 cm, height 72 cm, with a thickness of 2 mm hollow steel. High measure derived from waistline, long frame length obtained from the portable drum and frame width obtained from drum diameter. High overall framework that has been put drum is 92 cm high frame each 72 cm, height 10 cm wheels, and high frame drum to 10 cm. The cost of making tools for Rp.1.507.000 biogas fermentation. While the payback period is for 75 days. This tool produces gas that can be seen from the flames that issued from fermentation tube. By means of this fermentation, the mother-housewife no longer need to buy gas and gas scarcity headache thinking because it can be produced by fermentation using a tool made from hyacinth

Keywords: Water Hyacinth, Biogas Fermentation Equipment, Appropriate Technology, Payback Period.