

ABSTRACT

BIOGAS APPLICATION OF NETWORK SYSTEM OF COW'S FECES IN BUMI JAYA ANAK TUHA CENTRAL LAMPUNG

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The potential of using *Biogas* is very crucial in Indonesia, because the amount of cattle population is great enough especially in Anak Tuha Central Lampung. *Biogas* is the one of alternative fuel source has potential as substitution of fossil fuel which the supply is running low. All this time, the use of biogas is utilized much is one unit of Biogas Reactor for one breeder. In this research, it will be tested to develop the production of network system biogas, which the source of feces is from some stables to be held in a *Biodigester*, and the biogas product is used for animal husbandries. The purposes of this research are to make Biogas Reactor by the total volume 10m to the scale of breeder group with the network system, to know the level of Methane which is in Biogas and to design the gas distribution system to the society. So, the technology of network system biogas is considered to be an exceptionally beneficial thing if it is developed.

In addition, the research and data collection are conducted in Bumi Jaya Anak Tuha Central Lampung. In making reactor tank, the first step should done is to choose stainless, imperishable and available material. The volume of reactor tank must be based on the amount of feces availability as the main aw material in making biogas. The *Gas Bio* which is produced is accommodated in the *reactor dome*, then, it is distributed by usinf PVC pipe to the stove that it gets purifying process before by contributing biogas into water.

Finally, based on the result of planning *Biodigester* that is proper to the feces availability as the raw material of biogas maker is *fixed dome* type which is from cement, sand, and brick substance. The total volume of reactor is 10m, the time of assimilation process is 35 days, the total mass of volume is 180kg/day, and it has volume of gas intercept is 3m in dome shape. Biogas starts to be shaped in the ninth day. *Gas Bio* which is produced before the use is about 14.43 kg/day. The pressure of biogas in every house gets reducing that it is caused by friction of fluida gas to pipe screen. After getting purifying by using water, the content of methane CH₄ becomes greater for about 9.5%. the total cost of making biogas reactor is Rp.8.115.100,-. The maximum production of biogas is 3m/day. So, it will be equal to 1.38 kg [LPG@Rp.5.000](#) = Rp. 6.900,-. The income of one month is Rp.6.900 X

$30 = \text{Rp.}207.000,-$. The income of one year is $\text{Rp.}6.900,- \times 360 = \text{Rp.}2.484.000,-$. So, the time to get BEP is 3.26 year.

Key words: Biogas, Network System, Biogas Purifying, Biodigester.