

ALTERNATIVE ENERGY SOURCES, PRODUCTION AND USE

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Agriculture is very important in Ethiopia's countryside. It makes up 51. 8% of the country's economy and provides jobs for 86% of the people. In Ethiopia, almost all of the fuel used comes from plants and trees, which is called biomass. About half of this biomass fuel is used for making a traditional food called injera. The rate at which trees are being cut down is 1. 1% every year This is causing harm to the environment and making us lose important resources. Dried cow poop is commonly used as a fuel because there is not enough fuel available. Wood and cow poop burn differently and have different levels of efficiency. The burning of fossil fuels and using a lot of firewood has created dirty air and cut down many trees, which has led to less rain and not enough food for people.

Biogas digestion was brought in to help with problems in developing countries like not enough energy, cutting down too many trees, and worries about the environment. It has advantages like making more crops and better fertilizer. However, not many people in Ethiopia use it. It is really important to study different designs and materials for biogas plants so that we can spread the technology effectively.

In this article I want to study biogas plants economically, we need to think

about the costs of the fuels we usually use, the advantages of using biogas, and the effects on the environment. This includes looking at how biogas reduces the need for fuelwood, cow dung, and chemical fertilizer, which happens when we use biodigesters.

In rural Ethiopia, people rely on fuel wood and charcoal for energy, spending significant time and effort gathering firewood. Deforestation, environmental degradation, air pollution, and high spending on firewood are prevalent issues.

Renewable energy sources offer a clean and efficient cooking fuel alternative to mitigate these challenges. Biogas technology is used in Ethiopia but faces obstacles due to the complexity of building and installing fixed-dome and portable plants.

To address these issues, research was conducted on plastic geomembrane biogas plants, which have a tube-like shape. Testing slurry production and economic viability is essential in solving the problem. This research focuses on improving biogas adoption in rural Ethiopia.

Biogas generation could be a moderately moderate handle happening over a period of a few days. The rule response taking put in anaerobic digester is continuous but simultaneous. The diverse stages of the method are solubilization (hydrolyzing stage), corrosive era (non-methanogenic stage) and methane era (methanogenic stage).

The primary step includes the solubilization of complex natural materials constituting the digester food stock. They are composed of carbohydrates, fats, protein, nitrogen compounds, salts and flotsam and jetsam. Within the second arrange, the microscopic organisms decrease the solvent natural fabric from the primary step to dissolvable basic natural corrosive. Within the third step methane microbes decrease natural corrosive essentially acidic corrosive and certain other oxidized compounds to methane and carbon dioxide.

As there may not be coinciding between the time of accessibility of new slurry and time of field application fluid slurry be legitimately put away or composted. So it is suggested to develop 2 or 3 compost pits closer to the biogas plant so as to preserve

supplements and increment edit abdicate.

No shape of biogas slurry can be productively cleared out spread on the field. Areas ought to be furrowed quickly, or on the off chance that the excrement is utilized as top-dresser, ought to be secured by soil quickly to preserve supplements.

Considering the long-term good thing about plastic film biodigester innovation both financially and naturally, it is suggested to present the single layered over ground geomembrane plastic biogas innovation to be utilized for the recipients notwithstanding of its higher gas and aged slurry generation by means of expansion instruction to advance its infiltration and dissemination into country regions. In any case, more noteworthy security safety measure amid operation and utilization of the plant and assurance from harming operators such as honed objects and rats is fundamental.

Investigate, improvement and show are basic exercises to overcome the specialized impediments and be well side by side of improvement in biogas innovation. Hence, similar studies have to be practiced within the good countries of Ethiopia by including agriculturists, making criticism from the agriculturists and letting this input serve as a establishment for the advancement of the innovation.

The government offices such as Division of Environment, Division of Horticulture and Country Advancement, Farming Expansion Center, and indeed private teach might play a leading role by the issue of advances, endowments and mindfulness creation expansion instruction administrations. This might be actualized beneath government controls and arrangements.

Reference:

Yimer, B. (2014, February 1). *Alternative energy sources to combat climate change: Biogas production using cost effective material*. Anchor Academic Publishing (aap_verlag).