

Potentiality of Gobar Gas Generation and Population: A Case Study of Shrirampur Tahsil, Dist- Ahmednagar, M.S

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Abstract: Gobar gas is one of the eco- friendly non-conventional energy resources which are used for domestic's purpose for rural area of India. Livestock dug (cow, buffalos) is used as raw materials. The methane gas 55%, carbon dioxide 45% is released from dung after decomposing produce energy. Conventional energy resources are limited & harmful for environmental but non- conventional energy resources are eco- friendly. Energy resources are directly or indirectly in the entire process of evolution, growth and survival and it plays avital role in the socio-economic development and human welfare of country. Energy has come to be known as a 'strategic commodity' in today's 21st century.

Keywords: Gobar gas, Non-Conventional energy, Non-Pollutant, Eco-Friendly and Rural Development.

1. Introduction

Non-conventional energy resources are necessary in today's global warming, climatic changes condition. Gobar gas is an important for domestic purpose. Non-conventional energy resource rural part India and it is replace for fire-wood, kerosene oil for cooking and other purpose. Gobar gas is mainly produces from cattle and buffalo dung. It is eco-friendly, non-polluting energy resources. India is agriculturist country and livestock rearing is supportive business in mostly rural part of India. It is estimated that about 22,425 MCM (Million Cubic Meter) gas can be generated every year in our country with plenty of animal dung. Gobar gas plant can be established above surface, below the ground. Initially only construction cost after very low maintain cost. Which is beneficial for rural people of India specially women for domestic cooking and others purpose.

2. Study Area

Shrirampur is one of tahsil out of 14 tahsils of Ahmednagar district in the state of Maharashtra. This tahsil lies between 19° 45' to 20° 30' north latitude & 74° 0' to 74° 30' east longitude of Ahmednagar district.



3. Objective

The present paper attempt to search the potentiality of Gobar gas generation and population ratio in the Shrirampur tahsil.

4. Database and Methodology

This present paper based on secondary data regarding population census of 2011. According to 2011 census Shrirampur consist 2,87,500 people out of 1,98,218 people living in rural part in 40,822 households and the data of livestock population 19th census which is collecting from Panchyatsamiti office of the Shrirampur tahsil. The simple mathematical techniques are utilized like addition, subtraction, multiplication and division are used analysing potentiality of gobar gas generation of rural part of Shrirampur.

Sr. No.	Section	No. of Villages	Cow Pop.	Buffalo Pop.	Total
1.	Shrirampur	6	6119	4081	10206
2.	Ukkalgaon	6	6692	619	7317
3.	Kuranpur	6	4810	97	4913
4.	N. Khairi	3	4387	625	5015
5.	Takalibhan	9	13767	556	14332
6.	Malunja	3	5164	302	5469
7.	Naur	7	4484	98	4589
8.	Matapur	4	8466	425	8895
Total		44	53,889	6,803	60,736

(Sources: 19th Animal census data)

5. Discussion

Gobar gas is non-conventional sources of energy in rural part. Which use for domestic purpose for cooking and other. It saves cut trees which are used for as fire-wood in rural part. Also important for female health because it give relief from Chula smoke. Generally 227 litter gobar gas is required for cooking per person per day and generally one cow provides 10 kg and Buffalo provide 15 kg dung per day. One kg. Dung produces 48.5 litre gases. According to present data, the study carried out potentiality of gobar gas generation of Shrirampur Tahsil.

Potentiality of Raw Material and Gas Generation

Livestock	Raw Material (Dung)	Per Day Available R.M.	Production of Gas
Cow (10 kg/day)	53889 x 10	598890 x 48.5	29046165
Buffalo (15 kg/day)	6803 x 15	102045 x 48.5	4949182.5
Total			33,99,53,47.5

Gas Production and Population Ratio (Generally 227 lit. Gobar gas is required for cooking/person/day)

Pop. of Study area (2011)	Gas requirement /person/day (Its)	Total Gas require/day (Its.)	Available Gas Prod. Potential (Its.)	Result
2,87,500	227	6,52,62,500	33,99,53,47.5	31,26,71,52.5

(Among total population 149760 peoples can fulfil their requirement of gas and remaining 137740 peoples are unsatisfied.)

6. Conclusion

According to present study, it indicates that potentiality of gobar gas generation in study area showing the unbalance in gobar gas generation and population ratio. But whatever potentiality of gobar gas generation if it will be achieved, then reduce in firewood's and help in stopping deforestation and also reducing use of conventional energy resources like Kerosene, LPG gas etc. And it is also helping for better female health.

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