FEASIBILITY STUDY OF BIOGAS PRODUCTION FROM ANIMAL WASTES IN DAKSHINA KANNADA DISTRICT

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ABSTRACT:
Biogas is a fuel which is produced from organic wastes like agriculture crop wastes, cow dung, plant wastes food waste etc. Biogas is renewable source of energy and also eco-friendly which does not cause any pollution. It has played significant role in the area of agricultural productivity, electricity generation, factory production etc. It is a source of energy which is renewable as well as a low maintenance cost. Gobar gas is one of the types of Biogas. Gobar gas is generated by the decomposition of cow dung which is used by the people for lighting, cooking etc. Gobar gas also showed prominent role in increasing agricultural productivity as it is renewable as well as a slow maintenance. Government and many non-profit organizations are promoting the installation of Gobar gas plants in villages in order to reduce the fuel costs and to slow down the deforestation caused by gathering firewood for cooking. So the study is conducted to do the economic analysis of Gobar gas plants. Many researches on biogas have conducted and proved that biogas can obtain from animal wastes and food wastes through anaerobic digestion processes. Food wastage is one of the serious dimensions in the world, even though the Indian government has taken several steps to tackle the problem, it cannot be completely avoided. Hence food wastage can also be efficiently used for extracting biogas which is used by the people for lighting, cooking etc. The study will be conducted in Dakshina Kannada and the information will be collected through questionnaires to get the better result.

INTRODUCTION:
Gobar gas is the technology which is used to produce the methane gas from cow dung and other wastes and it is used as a fuel for various purposes. In India, this method is popular since last decade. Gobar gas is unpolluted and cheap source of energy. It consists of 55-70% methane which is burnable. Gobar gas is produced from cattle dung. The process of converting cattle dung to Gobar gas is called as anaerobic breakdown or digestion which is done with the help of methanogen bacteria. Gobar gas is made up of 50-70% of methane, 30-40% of carbon dioxide, nitrogen, sulphide and hydrogen. Gobar gas is a storable form of energy which is more efficient and economical. It is the type of energy which does not pollute environment. It is the smokeless method of bio energy which helps to control pollution and other diseases. Gobar gas plants are very common in countries like India and China. In India, it is mainly generated by using cow dung (Goober). In order to make this method popular, the Government of India has taken the help of various organisations in rural areas like Khadi and Village Industries Commission, Department of Non-Conventional Energy Resources and Council of Scientific and Industrial Research (C.S.I.R.) etc. Government has even announced a subsidy of 60% of total cost. In India, so far 12.40 lakh biogas plants including 500 community Gobar-gas plants have been installed under National Programme on Biogas Development. In coming years. In future, necessity for the gas will be high and estimation showed that Biogas can cover around 6% of the global primary need of energy supply, or one quarter of the current consumption of fossil methane gas.

Statement of the problem:
Dakshina Kannada is one of the districts in Karnataka, which has more number of villages. The people in village are engaged in agriculture, animal husbandry, fishing and so on. In animal husbandry more quantity of wastages generates per day and if these wastages are not disposed properly, it generates unpleasant odour and many diseases. Further the use of firewood in cooking and heating emits smoke which may cause several health problems among rural women. To solve all these kinds problems there are many solutions. One good solution is Gobar gas, which is produced from cattle dungs.

Objectives of the project
- To estimate the installation and operational cost of Gobar gas plants.
- To do the valuation of output (manure and fuel) and inputs and find out the break-even of Gobar gas plants.
- To identify the benefits of Gobar gas from the view point of households and society as a whole.

Area of research:
The Gobar gas would not only help in disposing the animal wastes in most eco-friendly manner but also in producing bio gas which can be used for many purposes like heating, electricity, agricultural purposes and so on. With this background the proposed study is to make the economic analysis of Gobar gas plants in selected villages of Dakshina Kannada district. For the study we have taken the following villages. That is Kalpane, Vagga, puttur, Sulya, vittal.

Methodology:
The data and information for this study will be collected from the households who already installed Gobar gas plant, using structured questionnaire. The information about cost of installation, operations and maintenance will be collected. The benefits of bio gas plant will be identified and estimated in monetary terms. Economic analysis will be done by including both social and economic cost benefit. Beside descriptive and inferential statistics will also be used to analyse the collected data.

Advantages of economic analysis under Gobar Gas Plant:

- To determine if an investment is sound verifying whether its benefits outweigh the costs, and by how much.
- CBA is used to express benefits and costs (both social and economic) in monetary terms.

Outcome of the project:

- To create an awareness among rural people about the advantages of Gobar gas plant.
- To give detailed framework of cost benefit analysis for Gobar gas plants.
- To know how best the productivity of various resources at the household level will be increased.