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TREATMENT OF DAIRY WASTEWATER AND BIOELECTRICITY GENERATION USING MEMBRANELESS MICROBIAL FUEL CELL

Sanjay S

Assistant professor Department of Civil Engineering,
Alva's Institute of Engineering and Technology

Sowmyashree D

UG Scholar, Department of Civil Engineering,
Alva's Institute of Engineering and Technology

Udayashankara T H

Professor Department of Environmental Engineering,
JSS Science and Technology University, Mysore

ABSTRACT

Energy need has been increasing worldwide exponentially. At present global energy requirements are mostly dependent on the fossil fuels, which eventually lead to foreseeable depletion of limited fossil energy sources. In this context, regeneration of the electricity with dairy wastewater is one of the better possibilities. Now a days, countries like India in progressing towards harnessing new energy sources. Microbial fuel cells (MFCs) have been thoroughly investigated by many researchers in the past and concluded that MFCs could be applied for the treatment of liquid waste streams and also in generation of electricity.

From a variety of materials, including complex organic waste and renewable biomass. These sources provide MFCs with a great advantage over chemical fuel cells that can utilize only purified reactive fuels (e.g., hydrogen). A developing primary application of MFCs is its use in wastewater treatment coupled with electricity generation, although further technical developments are necessary for its practical use.

The aim of this study was to test a novel MFC design for dairy wastewater treatment and simultaneous electricity production. The hypothesis of the design was to bring MFCs closer to large scale industrialization. As such the materials and mechanics of the design were conceived with the consideration of the needs of large scale wastewater treatment plants. Higher percentage of COD and BOD removal and significant electricity generation using MFC can be achieved. Thus the combination of wastewater treatment along with the electricity production may help in saving of millions of rupees.

H.Q.D.

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RS & GIS BASED SITE SUITABILITY ANALYSIS FOR THE DISPOSAL OF SOLID WASTE FOR MOOBBIDRI AND KARKALA REGION

Sanjay.S

Assistant professor, Department of civil Engineering,
 Alva's Institute of Engineering and Technology, Moodbidri

Nalina M.E

UG Scholar, Department of Civil engineering
 Alva's Institute Of Engineering and Technology, Moodbidri

H. Ajith Hebbar

Associate Professor, Department of civil Engineering,
 Alva's Institute of Engineering and Technology, Moodbidri

ABSTRACT

The main objective of our study is to prepare a suitable location for dumping solid waste generated from Karkala and Moodbidri Municipal area. Solid waste management is a global environmental problem in today's world. There is an increase in commercial, residential and infrastructure development due to the population growth and this has negative impact on the environment. Urban solid waste management is considered as one of the most serious environmental problems confronting municipal authorities in developing countries. The base map of the study area has been prepared from Survey of India Topographical maps and converted into digital format. Geology, geomorphology, soil and land use maps of the study area are prepared from Indian Remote Sensing Satellite (Resourcesat) imagery.

Keywords: Solid waste, GIS, Remote Sensing, Moodbidri.

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1. INTRODUCTION

Waste can be defined as any substance or material which is not useful to human beings. Municipal solid waste is defined to include refuse from households, solid waste from industries, commercial and hospitals, market waste and street sweepings. The first goal of Municipal Solid Waste Management (MSWM) is to protect the health of people, particularly

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Nalina M.E

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