VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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A Project Report on

"RURAL RENEWABLE ENERGY CENTRE FOR A VILLAGE HONNATTI BASED ON BIOGAS AND WOOD GASIFIER SYSTEM"

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ABSTRACT

The economic prosperity and quality of life in a region are closely linked to the level of its per capita energy consumption. In India more than 70% of the total population inhabits rural areas and 85-90% of energy requirement is being met by bioresources. With dwindling resources, attention of planners is diverted to viable energy alternatives to meet the rural energy demand. Biogas as fuel is one such alternative, which can be obtained by anaerobic digestion of animal residues and domestic and farm wastes, abundantly available in the countryside.

This study presents the design of rural renewable energy centre (RREC) based on locally available renewable energy resources for a village Honnatti situated near Ranebennur in Karnataka state. The design and cost estimation of biogas plant & wood-gasifier based electricity generation and Distribution system for rural electrification of the village. The objective of project work is to design a **'stand alone power generation system'** for meeting energy need of rural area based on locally available renewable energy resources for a village Honnatti. The design and cost estimation of 85m^3, 5 community biogas plants utilizing cattle dung for house hold applications. The design of cost estimation of a 200KW wood gasifier based on electricity generation and distribution system for rural electrification.