

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM – 590014



PROJECT REPORT ON

“Design and Fabrication of Portable Biodiesel Extractor”

A Project report submitted to Visvesvaraya Technological University in partial fulfillment of the requirement for the award of degree of Bachelor of Engineering in Mechanical Engineering

Submitted by,

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ABSTRACT

Bio-fuels are important because they replace petroleum fuels. A number of environmental and economic benefits are claimed for bio-fuels. Using biodiesel blended diesel for automobiles can significantly reduce petroleum use and exhaust greenhouse gas emission. Currently the biodiesel production is not commercialized and achieved to the desired level.

Biodiesel is produced by chemically reacting a vegetable oil or animal fat with an alcohol such as methanol. The reaction requires a catalyst, usually a strong base, such as sodium or potassium hydroxide, and produces new chemical compounds called methyl esters. It is these esters that have come to be known as biodiesel.

Conventional biodiesel extractor needs more space. It requires continuous attention of skilful & qualified labour. Our system becomes more self dependent if a person can produce biodiesel at his own residence, hence we are developing 'Automated Portable Biodiesel Extractor' in the context that every person can't become skillful in producing biodiesel. Our project mainly concentrates on extraction of biodiesel from virgin pongamia oil. In the later stages, the extractor can be developed to measure the amount of free fatty acid containing in the oil.

In this report of the 'Design and Fabrication of Portable Biodiesel Extractor' as it applies to the design and fabrication of an semi-automated, portable biodiesel processing system will be discussed. In addition, the details of the design and performance of the biodiesel processing system are described.