

Project Report Submitted To The

**Visvesvaraya Technological University, Belgaum-
590018**



Entitled

Aerodynamic Composite Vertical Wind Mill

*In Partial Fulfilment Of Requirement For The Award Of The Degree Of Bachelor Of Engineering
Of The Visvesvaraya Technological University, Belgaum, Karnataka.*

Submitted By:

Mr. MOINUDDIN .M. KARIKAZI

2HN11ME056

Mr. BHARAMAGOUDA .S. PATIL

2HN11ME012

Mr. AMUL .B. DODDAMANI

2HN11ME008

Mr. CHETAN .V. ROKHADE

2HN12ME403

Under The Guidance Of

Prof. S. N. Topannavar

Prof. M.R.Ingalagi



S.J.P.N Trust's

**HIRASUGAR INSTITUTE OF TECHNOLOGY,
NIDASOSHI-591236**

Department of Mechanical Engineering

2014-2015

ABSTRACT

We know that there is enough wind globally to satisfy much, or even most, of humanity's energy requirements – if it could be harvested effectively and on a large scale. Vertical axis wind turbines (VAWTs), which may be as efficient as current horizontal axis systems, might be practical, simpler and significantly cheaper to build maintain than horizontal axis wind turbines (HAWTs). They also have other inherent advantages, such as they are always facing the wind, which might make them a significant player in our quest for cheaper, cleaner renewable sources of electricity. VAWTs might even critical in mitigating grid interconnect stability and reliability issue currently facing electricity producers and suppliers. Additionally, cheap VAWT's may provide an alternative to the rain forest destruction for the growing of bio-fuel crops.

Vertical-axis wind turbines (VAWTs) are a type of wind turbine where the main rotor shaft is set vertically. Among the advantages of this arrangement are that generators and gearboxes can be placed close to the ground, and that VAWTs do not need to be pointed into the wind. Major drawbacks for the early designs (Savonius, Darrieus, and cycloturbine) included the pulsatory torque that can be produced during each revolution and the huge bending moments on the blades.

In this project we attempt to design and fabricate a Savonius Vertical Axis Wind Turbine.