

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI, KARNATAKA**



**DESIGN OF A MODEL OF POWER GENERATION
SYSTEM USING KITES
(funded by KSCST, Bengaluru)**

A Project Report

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**BACHELOR OF ENGINEERING
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ABSTRACT

The goal of this project was to design and build a system for generating power using a kite. Most people associate wind power only with conventional wind turbines, but research has led to a yet new source of renewable energy, kite power. Kite power has the potential to be more economical than using wind turbines because kites can fly higher than turbines can operate. At higher altitudes, wind speeds and available power are increased.

In order to bring this new concept to a higher state of public awareness, a kite power demonstrator was considered ideal. The assignment therefore was to 'design a small scale kite power demonstrator'. The method called systems engineering was used for designing this kite power demonstrator.

The work here will include a way of adopting two kites to harness power by alternately changing their angle of attack. The power lines will run the turbine to generate electricity. The kite's angle of attack will be changed in such a way that the force in one of the kite will be higher which will pull the power line to its side rotating the turbine. Then the AOA (Angle of attack) will be reversed so the it gives a "churning effect". Brake lines (motor powered) will be used to control AoA.

The final design is successful in demonstrating the power developed with the setup provided. The kites were stable and could run for a long period of time if the wind was continuous. With the larger kites , the design will be successful in generating enough energy to power the brake lines and to produce excess energy. Reducing friction proved to be a challenging task during the project.

The design can be applied to generate power in small - medium scale power generation and will be more efficient if we use proper parts to reduce friction. Using of bearing V-pulleys is of great advantage to reduce friction. No other major issues were found .