

Design and Fabrication of Wind Mill for Pumping Water System

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Abstract: *The growing concerns over the depletion of fossil fuels, climate change, and the intensifying greenhouse effect—combined with to increasing global demand for energy and diminishing conventional resources—have highlighted the importance of adopting renewable energy solutions. Among these, wind energy stands out as one of the most practical and accessible options. Today, people are increasingly harnessing natural forces such as sunlight, wind, and flowing water to generate electricity and supply it to various power systems. In rural regions, wells and dugouts are commonly used for water supply, but access to conventional electricity is often limited. Therefore, alternative energy sources are essential for transporting water from its source to areas where it is needed. Renewable energy technologies are especially beneficial in such environments because of their flexibility and sustainability. Wind power, in particular, is abundant and well-suited for generating electricity and operating water pumps in remote locations. Historically, windmills were among the earliest tools used to harness wind energy for pumping water. Building upon this concept, our project focuses on developing a wind-powered electric water pumping system designed specifically for irrigation in off-grid rural areas*

Keywords: water pump, non-conventional, wind energy, electric power

