ABSTRACT

In this project work, A Horizontal Axis Hydro Turbine (HAHT) was fabricated. THAWT is a variant of Darrieus Turbine. Horizontal Axis Water Turbine is a turbine which harnesses electrical energy at the expense of water kinetic energy. As the name suggests it has a horizontal axis of rotation. Due to this they can be installed directly inside the water body, beneath the flow. These turbines do not require any head and are also known as zero head or very low head water turbines. This Project aims at the fabrication of such a Horizontal Axis Hydro Turbine and testing its electrical power generation. The HAHT was manufactured using galvanized iron blades of NACA 0018 hydrofoil blade profile. The actual performance of the turbine could be estimated in the laboratory testing. The turbine was tested in a laboratory using a generator with the help of a motor. Hydro-kinetic energy has a very crucial task to perform in the near future as far as sustainable energy harnessing is concerned. The need for harnessing more green energy is need of the current era and the future decades to come.

Keywords: Horizontal Axis Hydro Turbine, hydrofoil, kinetic energy, green energy, zero head, etc.