Department of Electrical and Computer Engineering
North South University

Senior Design Project

Cross-Flow Hydro Turbine: A Hydropower Design Solution for Low-Power Energy Production Aimed For the Poor

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Assistant Professor

ECE Department

Summer, 2019

Agreement Form

We take great pleasure in submitting our senior design project report on "Cross-Flow Hydro Turbine". This report is prepared as a requirement of the Capstone Design Project CSE/EEE/ETE 499 A & B which is a two semester long senior design course. This course involves multidisciplinary teams of students who build and test custom designed systems, components or engineering processes. We would like to request you to accept this report as a partial fulfillment of Bachelor of Science degree under Electrical and Computer Engineering Department of North South University.

Declared By:

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ABSTRACT

It is clear that society worldwide must start to mitigate its environmental damage instantly in order to sustain life on Earth. In this regard, researchers all over the globe are exploring new energy efficient alternatives to power everything from cell phones to cars. The energy consumption rate around the world is rising day by day. On the other hand, conventional sources of energy are being finished up rapidly. There is an uncertainty about the energy security around the world. The crisis of energy can be minimized by utilizing the renewable sources of energy in a decent way. A latest manner of renewable energy recovery is reflected by Cross-Flow Hydro Turbine (HYDRO-TURBINE). It is a floating type turbine that can float in water and produce energy. The main objective of this experiment is to produce green energy using a small water turbine and to make it floatable. Usually, hydroelectric power plants are very large in size and space consuming. It is very often not likely possible to create large dam in several places for developing countries such as Bangladesh. On the other hand, Micro Hydro Floating Turbines can be the best solution to all these obstacles. Cross-Flow Hydro Turbine generates electricity by using water flow or water tide. It floats on water and creates electricity when the turbine is rotating.