DESIGN OF A MICRO-HYDRO POWER SCHEME FOR A RURAL AREA DEVELOPMENT

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ABSTRACT

Water power can be harnessed in many ways and also on a large or small scale. Micro-hydro power is the small-scale harnessing of energy from falling water such as from a local river to power a village in a rural area away from the National Electricity Grids. Rural electrification is highly desired by rural communities and by doing so we could light the rural areas and poverty can be abolished. Slim River at Slim River Town in Perak, Malaysia was chosen as our project site. Topographic analysis for the site was carried out and the necessary civil works were designed accordingly, from the flow rate and head available from the penstock, a suitable turbine – Kaplan Turbine – was chosen and low cost drive system with dual application capability was designed. This scheme at Sungai Slim will provide electricity to a nearby village at the rate of 60kW at night and in the day time the rotary motion of its turbine will directly be used to drive mechanical applications for the villages' rural cottage industry