

Bounthavy Sysomphone 2012: Feasibility Study on Technical and Financial Aspects of Small Hydro Power Project. Master of Engineering (Electrical Engineering),
Major Field: Electrical Engineering, Department of Electrical Engineering.
Thesis Advisor: Mr. Winai Plueksawan, Dr.Eng. 129 pages.

This thesis presents a study of the technical and Financial feasibility of small hydro power project is being held up study. Since the potential demand for electric power in the country (Laos PDR) increased due to the increase of population and economic growth, but the resources used to generate electricity is limited. The production of hydroelectric power is a great way and have an impact on the environment less, low cost and it is also renewable resources. For the medium and large hydropower projects may be faced with many problems. Therefore, small hydro projects has become an alternative to the electrical energy shortage.

The study of this project using the mathematical tools to calculate power and energy production per year. The Financial evaluation is used the same method to calculate the cost of the project, including net present value. Rate of return and benefit-cost ratio. The data used in the study comes from a survey of VASECO.LTD, a hydrological data.

Huaykapor, Laongam district, Saravan province, Lao PDR is selected for studying. The result shown that installed capacity of 5MW, the turbine type is horizontal axis (Pelton) with 2 units design head 258.92 m design discharge at 2.24 m³/s, could produce average annual energy of 21.325 GWh/year. The economic evaluation found that NPV of 2,924,057 \$US, B/C of 1.26 and IRR of 9.73%.

Student's signature

Thesis Advisor's signature