Detailed meteorological and hydrological assessments are a crucial part of the feasibility study for the Gened-1 HPP on the Apayao-Abulug River in northern Luzon, which is an interesting site for hydropower development characterized by a large catchment area and high discharge.

**Project**

Feasibility Study – Hydrology, Sediments, Energy

**Client**

Pan Pacific Renewable Power Philippines Corporation

**Country**

Philippines

**Services**

- Review of previous assessments
- Estimation of inflow
- Flood frequency analysis
- Probable Maximum Flood (PMF) assessment
- Estimation of sediment yield and bed load transport
- Energy simulations

**Background and Objectives**

The Apayao-Abulug River in northern Luzon has not been used for any hydropower development yet.

The Gened-1 site is situated 62 km upstream of the river mouth is highly attractive.

Because of the concerns related to the of local government units, the design of the HPP was changed.

The new design is considered in the feasibility study.

It proposes the establishment of a HPP with a 105 m high dam with a power capacity of 150 MW.

**Scope of Work**

- Collection of hydro-meteorological data
- Review of previous studies
- Rainfall-Runoff-Model and its calibration
- Flood frequency analysis
- Estimation of PMF
- Estimation of potential climate change impacts
- Estimation of the sediment transport with USLE approach
- Energy simulations

**Project Impact**

State-of-the-art methods for meteorological and hydrological assessments are the base for design of the HPP and the optimization of the operation of the plant.