

Hydropower potential site investigation in Bhalgran using remote sensing and GIS techniques

Sajid Rashid Ahmad¹; Hasan Niaz Chaudhry^{1,2}; Shoaib Ata Razi² and Adil Quddos Khan¹

¹*Institute of Geology, University of the Punjab, Lahore*

²*Associated Consultant Engineering (ACE)*

sajidpu@yahoo.com

Abstract

The Northern hilly regions of Pakistan can be exploited for the Hydropower, which is a cost-effective and environmentally clean source of renewable energy. However, difficult and inaccessible terrain profile makes development of this potential a challenging task. In this paper a methodology has been developed to find location which offers a potential in its water resource for generating electricity. The investigations regarding feasibility of the hydropower project can be made without coming into physical contact, with the help of Satellite images and its interpretation. A stream flow of sufficient flow rates down significant slopes is necessary for sustainable electricity production. The study area selected for hydropower potential exploitation is Bhalgran, that is located at the east of Jhelum River, near Rawalakot city of Poonch district. Digital Elevation Model (DEM) was generated using the Shuttle Radar Topography Mission (SRTM) data, and point elevation data was utilized to derive natural head (H). Using the value of natural head (72m), power in megawatt (MW) was calculated which turned out to be 642MW. The results showed that the area was having enough potential for the generation of electricity.