

THESIS

STUDIES FOR OPTIMAL SOLUTION OF MICRO HYDEL POWER
PLANT ON DOWARIAN NULLAH MUZAFFARABAD
(Azad Kashmir)



By

MUHAMMAD FAROOQ KHAN
(2003-PG-HPE-56)

MASTER DEGREE
IN
HYDRO POWER ENGINEERING

CENTRE OF EXCELLENCE IN WATER RESOURCES ENGINEERING
University of Engineering and Technology, Lahore - Pakistan

2006

ABSTRACT

Use of mini and especially micro hydroelectric power is highly encouraging to meet electricity demand of mountainous communities because of least environmental effects, greater social impact, low cost and easily managed with the use of indigenous technology. The present study was initiated to assess the performance of the Micro Hydel plant of 20kW capacity located at Dowarian Nallah/Stream to meet the energy demand of the Dowarian Village of Azad Kashmir, Pakistan. Field tour was organized to check all design parameters on site, topographic survey was undertaken, and some information about general house hold and their power pattern along with hydrological data was collected. After analyzing the data and monitoring the existing plant with topographic survey, it is concluded that an existing power plant of 20 kW capacity is not fulfilling the community power demand. So a supplemented 80 kW (2 units, each 40 kW) capacity power plant is suggested as sufficient discharge and head is available on the same site. Hopefully, this intervention will fulfill the community power demand in future. Finally, it is recommended that detailed design should be followed and be supervised by experienced professionals in future while establishing Microhydel power plant for its sustainability.