

132 MW RAJDHANI HYDROPOWER PROJECT



PROJECT PROFILE



**PRIVATE POWER & INFRASTRUCTURE BOARD
MINISTRY OF WATER & POWER
GOVERNMENT OF PAKISTAN
APRIL 2014**

1. INTRODUCTION

Pakistan is presently facing acute shortages of electricity while the Government of Pakistan (GoP) is targeting for substantial economic growth in the medium to long term. To combat the electricity shortage and to achieve high targets of growth all possible resources for power generation are to be used to sustain the economy. It is estimated that Pakistan would require around 2000-3000 additional Megawatts (MW) annually for the next few years. The international geopolitical situation and increasing fuel oil and LNG prices in the world have compelled Pakistan to look for additional resources for diversity and energy security of the country.

Pakistan is a water-rich country and is endowed with hydropower potential of more than **60000 MW**. The GoP is trying to facilitate and encourage private investors for promoting hydro power generation in the country and has allowed private sector to develop hydropower projects on Build-Own-Operate-Transfer (BOOT) basis. First private sector hydropower project – 84 MW has been commissioned in March 2013 whereas second private sector hydropower project -147 MW has entered into construction phase after achieving its financial close in December 2012. Other hydropower projects with accumulative capacity of about 5000 MW are at advance stages of development. 132 MW Rajdhani Hydropower Project is one of the projects ready to enter into development phase in private sector under Policy for Power Generation Projects 2002.

2. LOCATION & ACCESS TO SITE



The Rajdhani Hydropower Project is located at the downstream reaches of the Punch River, in Northern Pakistan, about 12 Km upstream of the Mangla Reservoir and is about 3 Km from Rajdhani Village, district Kotli, Azad Jammu & Kashmir.

The Project area is accessible round the year through road network of highways approachable via Dina-Mirpur-Kotli highway as well as Rawalpindi-Rawat-Kalar Sayidan road.

Distance from Islamabad : 165 Km

Distance from Mirpur : 67 Km

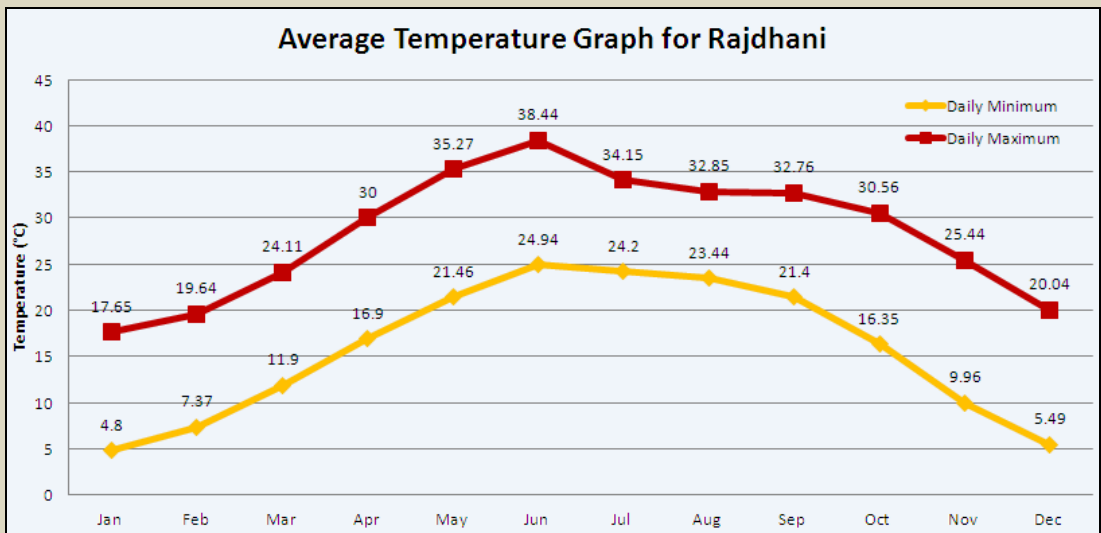
3. GENERAL TERRAIN

Punch River drains south side of Pir Panjal range and flows through Azad Kashmir in deep canyons with young easily erodible rocks and carries considerable amount of sediment load. The Punch River features relatively a flat gradient of about 0.3% in its lower part and it navigates its way through a series of meanders in between the sandstone ridges. Along the 3-Km long section of the Punch River upstream of the proposed dam location, the river passes through a relatively narrow canyon with steep slopes and average bed width of about 120m. The Project area is composed of Miocene to Pleistocene brownish sandstone (Siwalik Group) with occasional shale and siltstone layers.

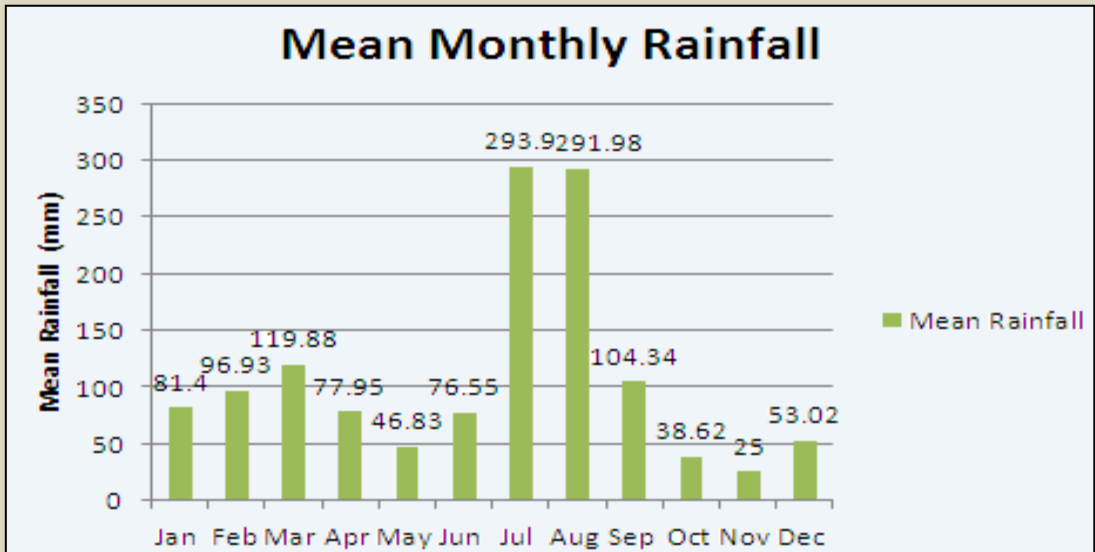
The Project geology is characterized by steep slopes and pronounced ridges, which cross countryside in SE-NW direction. Ground cover is insignificant along ridges and the rock outcrops are exposed at proposed dam location. The catchment area of proposed Rajdhani Project is about 4050 km².

4. CLIMATE

The months of November to March are the coldest (minimum temperature ranges between 5.49°C to 11.90°C) while May to June are hottest (maximum temperature ranges between 21°C to 34.15°C).



Monthly rainfall data at Kotli highlights that minimum rainfall occurs in November with an average of 25 mm whereas the maximum rainfall months are July and August with the average values of 293.90 mm and 291.98 mm respectively. Mean monthly rainfall is shown in the following graph:



5. PREVIOUS STUDIES

The Rajdhani Hydropower Project was identified by GTZ/HEPO-WAPDA and presented in their report “Comprehensive Planning of Hydropower Resources in Jhelum River Basin – Medium Hydropower Projects in Punch River Catchment”, Lahore – July 1992.

Further, a study was conducted by an investor in 2003-04 under upfront tariff regime of 1995 Hydel Policy, however that is found obsolete in terms of the requirements of 2002 Power Policy and declaration of River Poonch as the National Park by Government of AJ&K in year 2010.

6. SALIENT FEATURES

The tentative salient features of the Project are as under: -

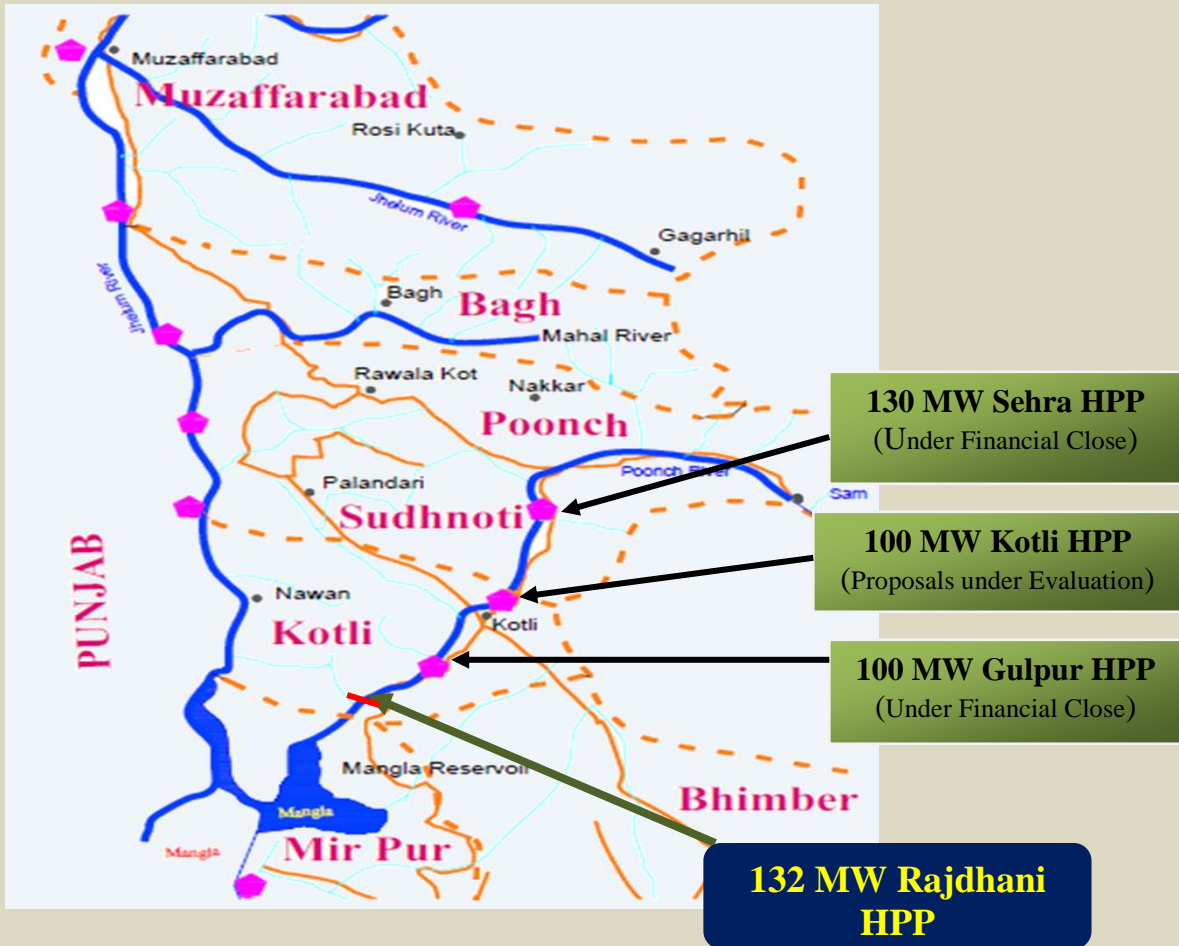
General

- Project Name : Rajdhani Hydropower Project
- River : Punch
- Location : 12 Km upstream Mangla Reservoir, District Kotli AJ&K
- Distance : 175 Km from Islamabad
67 Km from Mirpur City
- Status : Raw Site

Technical/Financial

- Capacity : 132 MW (Estimated)
- Energy : 694 GWh (Estimated)
- Project Type : Run-of-River
- Design Discharge : 201 m³/s
- Gross Head : 79 m
- Plant Factor : 60%

7. LOCATION MAP





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