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**On behalf of Ministry of Energy and Water Resources of
Republic of Tajikistan**



INVESTMENT PROJECT

Construction of Nurobod -1 Hydro Power Plant

CENTRAL ASIA GROUP INC.

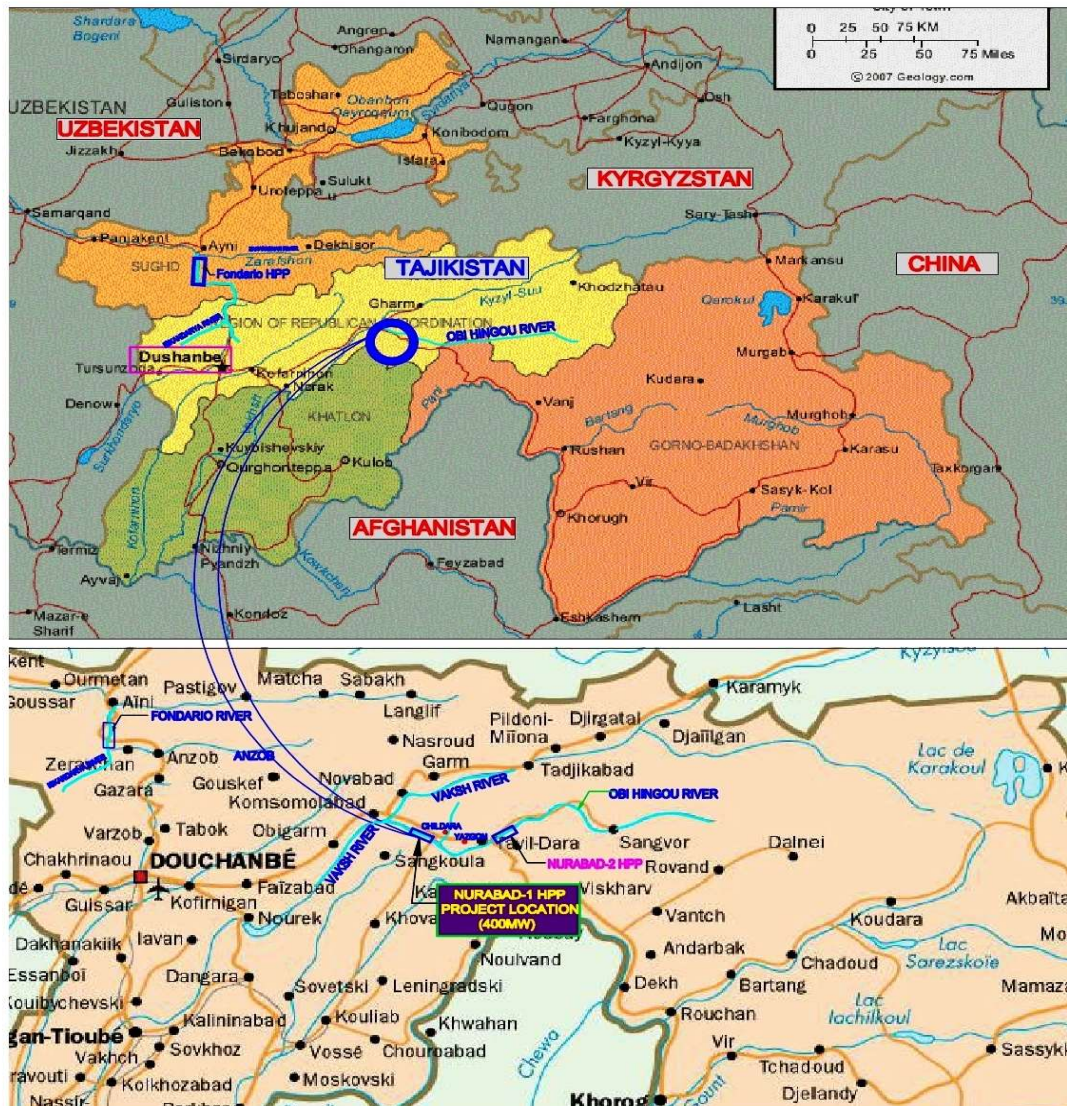
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Nurobad-1 Hydro Power Project

Location

The proposed Nurabad-1 Hydro Power Project lies in Tavildara District of the Region of Central Republican subordination, Tajikistan. This is one of the two projects envisaged for harnessing the Hydro Power Potential of River Obihingou. Nurabad-2 HPP is the upstream power scheme and Nurabad-1 is the downstream power scheme. The Nurabad-1 HPP is located 150kms from Dushanbe, the capital city of the Country. The Project lies between the latitude from $38^{\circ} 43' 56''$ N to $38^{\circ} 51' 05''$ N and longitudes from $70^{\circ} 08' 00''$ E to $70^{\circ} 21' 30''$ E.



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Physical Features:

The river Obihingou originates from the large Garmo glacier at an elevation of about 3040 m. above MSL. The river Obihingou is a major tributary to the river Vakhsh. The river drops from EL 3040 m. to about 1140 m. (drop of 1900 m.) in its course length of about 198 km. upto its confluence with river Vakhsh. The overall gradient of the river is 1%. The catchment area of river up to confluence with Vakhsh is 6530 sq. kms.

The average gradient of the river in the reaches of Nurabad-1 project area is 1.25%. The topography of the area is generally favorable for implementation of the Hydro Power Project. The various project components are located on the right bank of the river.

Climate and Hydrology:

In general, the climate is continental, subtropical, and semiarid. The climate changes drastically according to the elevation. The average annual rain precipitation of the catchment is around 943 mm. The Annual rain precipitation is given in **Table 3-1**

Table 3-1

Year	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Annual Rainfall in mm	982	1119.30	842.50	771.50	1104.30	943.40	855	1327.90	1031.10	914.50

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998
Annual Rainfall in mm	1000.40	1394.10	1106.50	1265.40	999.40	619.30	182.40	186.60	1266.10

The maximum snow cover depth observed is 77 cm. The average annual water yield including flow from snowmelt upto dam site is 6074 Mcum. The annual average temperature is about 16° to 17° C. The absolute maximum temperature recorded is 48°C in July and the absolute minimum temperature recorded is -49°C in month of January. The daily average temperature is about -7°C in winter months and 18°C in summer months.