

BASIC FACTS ABOUT THE KAFUE GORGE LOWER HYDROPOWER DEVELOPMENT, ZAMBIA

Kafue River Basin is the major sub-catchment of the Zambezi River basin and lies entirely within Zambia. It covers 20% of Zambia's land area, is home to almost half of the country's population, and has a large concentration of mining, industrial and agricultural activities.

The Kafue River originates in northwest Zambia, flows south to the Itezhi-tezhi storage reservoir, then turns east and passes through the Kafue Flats. Downstream of Kasaka the river drops steeply (600m over 28km) into the Kafue Gorge, after which the Kafue River joins the Zambezi River.

At present, the Kafue Gorge Upper hydropower station is the only hydropower facility on the Kafue River. It is a 900 MW power station built in two phases from 1967 to 1972 (600 MW) and 1976 to 1978 (300 MW), with a reservoir area of about 805 km² at maximum retention of 977 masl, representing 770 million cubic meters of live storage. The power station is now being refurbished and will be uprated to 990 MW once completed in December 2008.

The Itezhi-tezhi storage reservoir was built from 1973 to 1976 to ensure steady flows into Kafue Gorge Upper. It is approximately 400 km² at maximum retention level of 1030.5 masl representing 6 billion cubic metres of storage. The reservoir was built with 750 million cubic metres storage capacities to allow for extra water releases. It maintains a minimum flow release of 40 m³/s plus a discharge of greater than 300 m³/s over four weeks (a "freshet") usually in March of a dry year. It takes up to two months for water to pass through the Kafue Flats, which is an important area for cattle grazing, floodplain agriculture and traditional fisheries.

At the time of development of Kafue Gorge Upper and Itezhi-tezhi, the potential was identified to construct an 80 MW (now 120 MW) hydropower station at Itezhi-tezhi, and a 450 MW (now 750 MW) hydropower station at Kafue Gorge Lower.

The Kafue Gorge Lower hydropower project would be approximately 2.5 km (now 7 km) downstream of Kafue Gorge Upper, and 65 km upstream of the confluence of the Kafue River with the Zambezi River. The Kafue River meets the Zambezi River downstream of the 1266 MW (now 1410 MW) Kariba Dam and upstream of the 2075 MW Cahora Bassa Dam.