



Rehabilitation of 243 MW Warsak Hydropower Project

Duration	Budget	Location	Implementing Partners
2015-2022	<p>€162 million (EU contribution - €4.5mn)</p> <p>Others include AFD [€40M], KFW [€40M], EIB [€50M], GOP [€27.5M])</p>	<p>Warsak Dam is located on River Kabul, 20 KM East of the Afghan border and 30 KM North of Peshawar, Khyber Pakhtunkhwa.</p>	<p>Water and Power Development Authority (WAPDA)</p>

Rehabilitation of the Warsak Dam is a crucial step to addressing the major power shortage facing Pakistan. The associated power plant was clogged due to heavy silt and power generation was reduced to up to 100 MW - almost half its capacity.

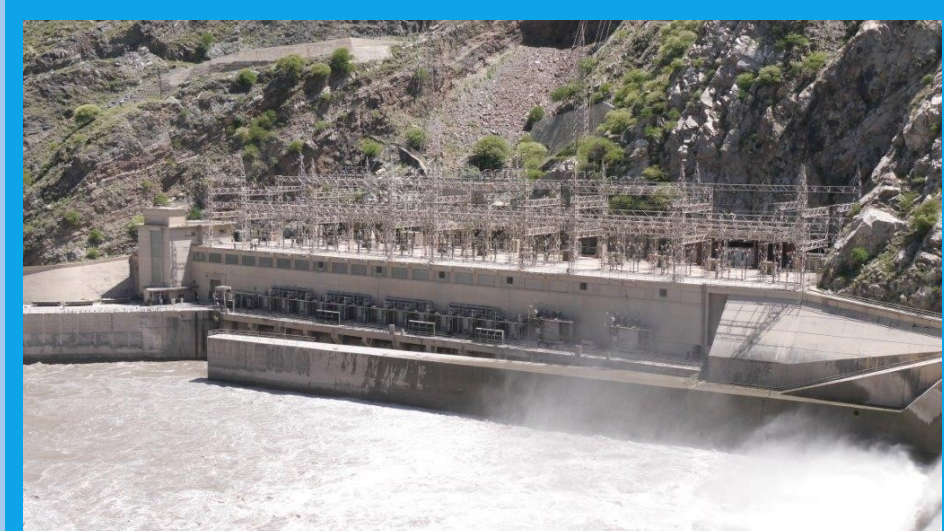
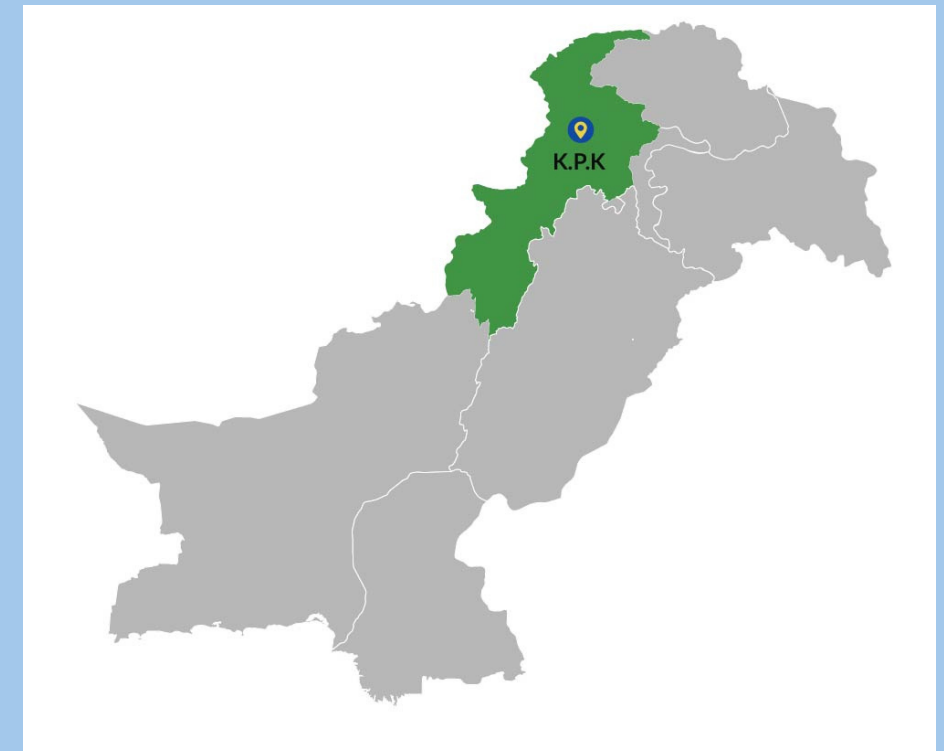
Under the European Investment Bank's (EIB) Asia Investment Facility - supporting Asia's transition to a green economy - the EU signed an agreement with Agence Française de Développement (AFD) during 2014 for upgradation of Warsak Dam to increase output from 100 to 243 MW for another 40 years.

The challenge

The Dam, constructed in 1960, contains dilapidated electromechanical equipment that has been damaged with silt. Currently, the reservoir has lost 83% of its initial storage capacity and the power station is now practically operating run-of-river. Under the present operating conditions, the maximum load shared by the power station is around 120 Mega Watt against the total installed capacity of 243 Mega Watt.

How do we address the challenge?

The project is upgrading the powerhouse, de-silting the reservoir and enhancing capacity of WAPDA on hydrology and maintenance of the equipment. The rehabilitation includes modernization of the power station to increase capacity of the water reservoir and repair of Dam structure. WAPDA will ensure that all six generating units are capable to operate efficiently and reliably for another 40 years.



View of Warsak Dam Power House

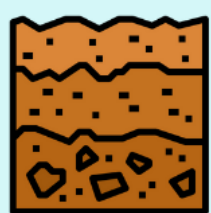


Workshop: Modernization and maintenance of workshop (image for illustration only)

What do we do?



The installed capacity of the powerhouse (243 Mega Watt) will be revived and green power production will reach to around 1000 Giga Watt hour per year.



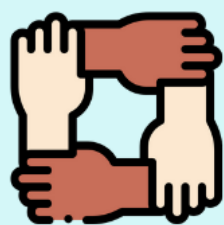
Improved Sediment Management

Technical assistance and equipment to strengthen WAPDA's operation and maintenance capacities for sediments - which is crucial for sustainability of rehabilitation measures.



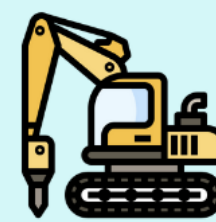
Flood Management & Protection of Water Sheds

The project aims to address climate change adaptation issues at a broader scale, such as flood management and protection of watersheds.



Community Development

Community Development mitigates security aspects and contributes to building trust between government institutions and the local population.



Enhanced Maintenance Capacity

To enhance maintenance capacity, nearly all machines will be replaced including equipment for drilling, boring, cabling etc.



What are we aiming to achieve?

Upgrade and modernize existing units of the hydropower station to maintain production of low cost hydropower and provide reliable and consistent power to the national grid for another 40 years. This would support reduction of load shedding and improve quality of life, education and health.

Support to policy

The EU's support will ensure the sustainability of the project by enhancing operational capacity through technical assistance. These measures will also enhance and strengthen WAPDA's operational and maintenance capabilities. They are also meant to help address Pakistan's climate change adoption issues such as flood management, glacier-melting monitoring and protection of watershed etc.

These measures will also help facilitate financing for environmental issues, mitigation of security issues through community development, mechanical workshop enhancement and flood/sediment management studies.

What can we learn from this project?

The project is a good example of a joint climate change action by the Government of Pakistan and several European development partners (EU, EIB, KfW, AfD).

Expected Results



Upgrade the 50-year-old installation to modern specifications and performance levels with applicable safety and environmental standards.

Clearance of reservoir silt will help add 12,500 acres of irrigated land.



Replacing electromechanical equipment and enhancing storage capacity of reservoir will increase energy production from 140 to 240 Mega Watts



Enhanced capacity on flood and sedimentation for WAPDA.

Creation of new employment opportunities during construction and operations.



Increase stability of the national grid and enhance economic activities that rely on the power sector.

EU in Pakistan

The European Union (EU) funds projects and programmes around the world in order to help addressing global and local challenges. The reduction of poverty and the respect of fundamental rights and freedoms are key objectives in this context.

In Pakistan, the EU is committed to a stable, democratic and pluralistic country that respects human rights and benefits from its full economic potential by supporting sustainable and inclusive development for all its citizens. The EU provides Pakistan with about €100 million annually in grants for development and cooperation. Among other issues, the EU supports Pakistan in its efforts to tackle poverty, increase education, promote good governance, human rights, rule of law and ensure sustainable management of natural resources. EU-funded projects are covering all of Pakistan with a special focus on Sindh and Balochistan.

The collaboration between the European Union and Pakistan is grounded in the Strategic Engagement Plan (SEP) signed in 2019. Areas of cooperation under the SEP include peace and security, democracy, rule of law, human rights, and migration but also sectors such as energy, climate change and science and technology.

The EU is one of Pakistan's largest trading partners. The EU supports Pakistan's integration into the world economy and its sustainable economic development, namely by granting it preferential access to the European single market under the GSP+ system since 2014. Under this scheme almost 80% of Pakistan's exports enter the EU duty and quota free. In 2018, Pakistani exports to the EU were worth €6.9 billion.

In order to enjoy the trade preferences under GSP+, Pakistan needs to demonstrate progress on the implementation of 27 international conventions on human rights, good governance, labour rights and environmental protection.

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