



A.Q. Khan, father of Pakistan's atomic weapons program, passed away

Abdul Qadeer Khan, a Pakistani nuclear physicist and metallurgical engineer, was colloquially known as the "father of Pakistan's atomic weapons program". He migrated from India to Pakistan in 1952, and was educated in Western European technical universities where he pioneered studies in phase transitions of metallic alloys, uranium metallurgy and isotope separation based on gas centrifuges.



After he worked for Urenco Group in the Netherlands in the 1970s, Khan joined in 1974 his nation's clandestine efforts to develop atomic weapons and founded the Khan Research laboratories in 1976 and was both its chief scientist and director for many years.

Responding to a 4-years-prison sentence by a Dutch court in 1979 on suspicion of nuclear espionage, the appeal court overturned the first sentence after Khan successfully argued that the technical information requested by Khan was commonly found and taught in undergraduate and doctoral physics at the university.

In 1990, the United States alleged that highly sensitive information was being exported to North Korea in exchange for rocket engines. Between 1987 and 1989, Khan secretly leaked knowledge of centrifuges to Iran without notifying the Pakistan Government, although this issue is a subject of political controversy.

Starting in 2001, Khan served as an adviser on science and technology in the Musharraf administration.

In 2003, the EU pressured Iran to accept tougher inspections of its nuclear program and the International Atomic Energy Agency (IAEA) revealed an enrichment facility in the city of Natanz, Iran, utilising gas centrifuges based on the designs and methods used by Urenco Group. The IAEA inspectors quickly identified the centrifuges as *P-1* types, which had been obtained "from a foreign intermediary in 1989", and the Iranian negotiators turned over the names of their suppliers, which identified Khan as one of them.

In 2003, Libya negotiated with the United States to roll back its nuclear program to have economic sanctions lifted, and shipped centrifuges to the United States that were identified as *P-1* models by the American inspectors.

The Bush administration reportedly turned over evidence of a nuclear proliferation network that implicated Khan's role to the Musharraf administration. Khan was dismissed from his post on 31 January 2004. Khan confessed publicly to running a proliferation ring, and transferring technology to Iran between 1989 and 1991, and to North Korea and Libya between 1991 and 1997.

On 5 February 2004, President Pervez Musharraf issued a pardon to Khan as he feared that the issue would be politicised by his political rivals. Several years later, Khan labelled Musharraf as the "*Big Boss*" for proliferation deals, and also implicated Benazir Bhutto's administration in proliferation matters, pointing to the fact as she had issued "clear directions in this regard."

It is alleged that Khan established an international network of private suppliers and intermediaries providing necessary nuclear and missile-related technologies to customers willing to pay for them. They avoided scrutiny by setting up front companies in jurisdictions with poor corporate transparency, falsifying trade documents, exploiting opportunities for corruption in their business dealings, hiding payments and relying on intermediaries and accounts at banks with lax money laundering measures to handle their financial transactions.

The UN Resolution 1540 in 2004 was a response to concerns over terrorist groups' ability to acquire and use weapons of mass destruction (WMD) and an effort to tackle gaps in non-proliferation policy. The Resolution requires States to adopt appropriate effective measures to prevent non-state actors from acquiring WMD and to prohibit the financing of such trade.

In August 2021, Khan was admitted to Khan Research Laboratories Hospital after testing positive for COVID-19. He died on 10 October 2021, at the age of 85 after being transferred to a hospital in Islamabad with lung problems.