

# LEARN ABOUT NUCLEAR WEAPONS

## *Pakistan*

The Pakistani nuclear programme gained speed after the "peaceful" nuclear test in neighboring India in 1974. For 20 years, the Abdul Quader Khan Laboratories worked to develop a uranium enrichment programme for nuclear weapons development. With the help of Canada, China, and France, towards the end of the 1980s Pakistan had gained the capacity to quickly assemble a nuclear weapon. In May 1998 after India's nuclear weapon test, Pakistan tested a series of nuclear weapons in two days to show its nuclear capacity. A. Q. Khan, the father of Pakistan's nuclear weapons, became (in)famous for running a nuclear black market, providing nuclear technology and materials to Libya, North Korea, and possibly to others.

Pakistan is not a member of the NPT and has not signed and ratified the CTBT.

It is difficult to state the exact size and composition of the Pakistani arsenal, as the government has not made any information public. The Nuclear Notebook estimates that Pakistan's nuclear arsenal holds approximately 60 warheads. This number is based on an estimate, made in 1999 by the US Defense Intelligence Agency, of 25-35 nuclear warheads. This number, combined with the fact that Pakistan had produced 40 kg plutonium and 1,100 kilo highly enriched uranium by the end of 2003, led to the estimate of 60 nuclear warheads in Pakistan's arsenal. The amount of weapon-grade uranium or plutonium needed to produce a bomb depends on the technical capacity of the producers and the desired yield.<sup>1</sup> Pakistan's nuclear warheads can be delivered by aircraft or land-based missiles.

It is not known what aircraft in Pakistan's air force that been converted for nuclear weapons delivery, but the most likely candidates are the U.S.-manufactured F-16, the Mirage V or the Chinese produced A-5. In 2005, the US announced that it would resume sales of aircraft to Pakistan, and Pakistan quickly asked for 86 F-16s.<sup>2</sup>

Pakistan has three types of ballistic missiles that are considered capable of delivering a nuclear warhead. These include the short-range Ghaznavi and Shaheen-1 and the

medium-range Ghauri. A fourth missile, Shaheen-2 (Hatf-6), is under development. All Pakistan's missile are solid-fuelled, meaning they can be launched on short notice. Pakistan is also developing a cruise missile, believed to be nuclear capable.<sup>3</sup>

### *Nuclear weapons upgrades*

It is reasonable to believe that Pakistan will continue to increase and enhance its nuclear forces in the coming years, especially if it attempts to match India's ambitious plans to deploy a nuclear triad of aircraft and land- and sea-based missiles.

In the last six years, Pakistan has deployed two new nuclear- capable ballistic missiles and is readying a third. The newest missile, Shaheen-2, is said to have a range of 2,500 kilometers, while the recently developed cruise missile, Babur, has a range of about 500 kilometers. Babur is a ground-launched cruise missile, but Pakistan has an ongoing development of air or sea-launched cruise missiles.<sup>4</sup>

### *Role of nuclear weapons in national security strategy*

Pakistan has no official nuclear doctrine, but statements and writings of the civilian and military leadership of the country give an idea of the role of Pakistan's nuclear weapons in the national security strategy. Pakistan regards its nuclear weapons as the most precious asset for the protection of national security. This is obvious in an article entitled "Pakistan's Nuclear Imperatives" by General Mirza Aslam Beg. He writes: "Oxygen is basic to life, and one does not debate its desirability, the nuclear deterrence has assumed that life-saving property for Pakistan."<sup>5</sup>

Pakistan's nuclear weapons are India-centric and have a two-fold objective - military and political: to deter a conventional attack by neighboring India, which has a much stronger military capacity; and to retaliate against a nuclear or conventional attack.<sup>6</sup> Pakistan's nuclear doctrine appears to be largely reactive to India's nuclear policies, and Islamabad uses much of the same language in declaratory policy that India does. Pakistan does not, however, have a no-first-use policy.<sup>7</sup>

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1 Norris, Robert C and Kristensen, Hans M. *Pakistan Nuclear Forces 2007*. Nuclear Notebook, Bulletin of the Atomic Scientist vol 63, Nr. 3 2007, s. 71-73,74

2 Ibid.

3 Ibid.

4 Ibid.

5 General Mirza Aslam Beg "Pakistan's Nuclear Imperatives"

<http://www.friends.org.pk/Beg/pakistan's%20nuclear%20imperatives.htm>

6 Institute of Peace and Conflict Studies

[http://www.ipcs.org/Nuclear\\_seminars2.jsp?action=showView&kValue=2377](http://www.ipcs.org/Nuclear_seminars2.jsp?action=showView&kValue=2377)

7 Nuclear Threat Initiative [http://www.nti.org/f\\_wmd411/f2i3.html](http://www.nti.org/f_wmd411/f2i3.html)