

# LEARN ABOUT NUCLEAR WEAPONS

## *India*

In 1974, India conducted its first nuclear test, a supposedly peaceful, non-military test. The nuclear test was met by harsh critique and sanctions from the rest of the world. India refrained from additional nuclear tests for more than 20 years, then declared itself a nuclear weapon state in 1998 after conducting a series of nuclear tests. The country has a well developed civilian and military nuclear programme, including at least ten research reactors, uranium mining, uranium enrichment, nuclear fuel production and advanced nuclear research.

India is not a member of the NPT and has neither signed nor ratified the Comprehensive Test Ban Treaty (CTBT).

The number of warheads in the Indian nuclear arsenal has not been made public by the Indian government, making an estimate difficult. In 2004, a Defense ministry official told the newspaper Defense News (possibly telling more than he was supposed to) that India in the coming 5-7 years would have between 300-400 fission and thermonuclear weapons in its arsenal. The authors of the Nuclear Notebook suggest such a large arsenal is unlikely, as India so far has produced enough weapons-grade plutonium for the production of about 100 warheads.<sup>1</sup> The Nuclear Notebook estimates that the size of the Indian arsenal is 50-60 strategic nuclear warheads.<sup>2</sup>

India's nuclear arsenal mainly consists of aircraft and bombers. The state has several different types of aircraft that could be used to deliver nuclear weapons, but it has not been made public which types are given a nuclear role. Neither is it known if nuclear weapons and bombers are stored separately or in the same facilities.<sup>3</sup> India today (April 2008) has only one type of functioning ballistic missile: the short range missile Prithvi I. The missile is liquid-fuelled but will be converted to using solid fuel to make it more accurate and faster to deploy.<sup>4</sup>

### *Nuclear weapons upgrades*

India's nuclear ambitions and its capacity are growing at a fast pace and will probably continue to do so. Indian Defense Minister Shri A. K. Antony pledged in February 2007 to take all steps to provide a "minimum deterrence capability to the armed forces commensurate with the size and geostrategic position of India in the world." He provided no details on how many nuclear warheads will be required or when India will achieve a deterrent capability.<sup>5</sup> India has previously expressed concern about nuclear and missile cooperation between China and Pakistan.<sup>6</sup>

India is developing a missile defense system that requires a significant missile warning capability. At the same time, missiles with wider range than the current Indian arsenal holds are being developed. In April 2007, the Indian Defence Research and Development Organisation (DRDO) successfully launched the Agni III medium-range ballistic missile for the first time, bringing India a significant step closer to developing an intercontinental nuclear strike capability. This missile, as well as the recently developed Agni I and II, are not yet part of the Indian arsenal. As they become operational in the next few years, the number of warheads is expected to increase.<sup>7</sup>

India is also developing at least two naval missile systems, Dhanush and Prithvi III, for the third leg of its nuclear triad. With a range of only 350 kilometers (220 miles), however, the ship carrying these types of missile would need to be close to enemy shores to reach land targets, making the ship highly vulnerable to detection and counter strike. Because the Dhanush is dual-capable, launch of the conventional version in a crisis would be very dangerous.<sup>8</sup>

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

In 1999 the Indian government published a draft nuclear policy that claims the Indian nuclear capacity is only a deterrent, to be used only as retaliation for an attack. It establishes a policy of no-first-use – that is, India asserts it will never be the first actor to use its nuclear weapons against another actor. India is to maintain only a minimum deterrent capability. The document also makes it clear that India will retaliate should deterrence not succeed. According to the 1999 doctrine, only the Prime Minister has the authority to order a nuclear attack.<sup>9</sup>

Since 1999, India has reiterated its no-first-use policy several times. Recently, however, this position seems to be shifting. In 2003, it was claimed that nuclear weapons can be used to retaliate against an attack with biological and chemical weapons, not only nuclear.<sup>10</sup> In the annual report by the Defence minister, a change can be seen in India's position on launch on warning – that is, to have nuclear weapons ready to be launched if warned about an enemy nuclear attack being on its way, in order to retaliate before being annihilated. In previous reports India disassociates itself from the launch on warning possibility, while the 2006 report does not reiterate that position. It is a significant change, considering the development of a

missile defence system that will warn India about incoming attacks and probably speed up India's capacity to retaliate.<sup>11</sup>

It is reasonable to believe that India acquired nuclear weapons for the kind of status that could lead to a permanent seat on the UN Security Council. It is no coincidence that the five permanent Security Council members (P-5) are the US, Russia, the UK, France, and China – i.e. the world's first nuclear weapon states.

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1 *Global Fissile Material Report 2007*, International Panel on Fissile Materials

[http://www.fissilematerials.org/ipfm/site\\_down/gfmr07.pdf](http://www.fissilematerials.org/ipfm/site_down/gfmr07.pdf)

2 Norris, Robert C and Kristensen, Hans M. *India Nuclear Forces 2007*. Nuclear Notebook, Bulletin of the Atomic Scientist vol 63, Nr. 4 2007, p. 74-78.

3 Ibid.

4 Ibid.

5 India Will Continue to Strive Towards Achieving Minimum Deterrence <http://mod.nic.in/>

6 <http://mod.nic.in/reports/welcome.html>

7 Norris, Robert C and Kristensen, Hans M. *India Nuclear Forces 2007*. Nuclear Notebook, Bulletin of the Atomic Scientist vol 63, Nr. 4 2007, p. 74-78

8 Ibid.

9 National Security Advisory Board, draft report

[http://www.indianembassy.org/policy/CTBT/nuclear\\_doctrine\\_aug\\_17\\_1999.html](http://www.indianembassy.org/policy/CTBT/nuclear_doctrine_aug_17_1999.html)

10 Acronym Institute <http://www.acronym.org.uk/docs/0301/doc06.htm>

11 Norris, Robert C and Kristensen, Hans M. *India Nuclear Forces 2007*. Nuclear Notebook, Bulletin of the Atomic Scientist vol 63, Nr. 4 2007, p. 74-78.