

## INDIA'S NUCLEAR PROGRAM: HOW COME IT IS NOT SEEN AS THE 'FASTEST GROWING'?

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*(Views expressed in the brief are those of the author, and do not represent those of ISSI)*



The Bulletin of Atomic Scientists recently published the Nuclear Weapons of Pakistan, 2023 report. Among other things, it also published an estimate of Pakistan's nuclear arsenal amounting to 170 warheads, as well as details of Pakistan's doctrine and delivery systems.<sup>1</sup> These estimates are exaggerated and based on dubious data and information. Over the years, there have been countless Western analyses that have dubbed Pakistan as the "fastest growing" nuclear program. Moreover, there have been questions raised over the safety and security of Pakistan's nuclear program. However, one would hardly see any Western comments or analyses over India's nuclear arsenal, its pursuit of a thermonuclear bomb, its unbridled pursuit of delivery systems and a nuclear triad, its lax nuclear safety and security record, or even the pursuit of hypersonic missiles or purchase of ballistic missile systems like the S-400. The allegedly "accidental" launch of a nuclear-capable Brahmos missile into Pakistani territory<sup>2</sup> was also treated by Western commentators and the White House as if it was business as usual. Is Pakistan indeed building up its nuclear arsenal at a fast pace or is it India that is

<sup>1</sup> Hans M. Kristensen, Matt Korda, and Eliana Johns, "Pakistan Nuclear Weapons, 2023," Bulletin of Atomic Scientists, September 11, 2023, <https://thebulletin.org/premium/2023-09/pakistan-nuclear-weapons-2023/>.

<sup>2</sup> Ghazala Yasmin Jalil, "India's 'Accidental' Missile Launch: Implications and Challenges Ahead," Issue Brief, July 6, 2022, [https://issi.org.pk/wp-content/uploads/2022/07/IB\\_Ghazala\\_July\\_6\\_2022.pdf](https://issi.org.pk/wp-content/uploads/2022/07/IB_Ghazala_July_6_2022.pdf).

## growing its nuclear arsenal and offensive capabilities at a tremendous pace but no light shines on it?

### Indian Nuclear Program

India is pursuing a triad of nuclear forces deployed on aircraft, land-based missiles, and nuclear-powered ballistic missile submarines. Its missile force is comprised of ballistic, cruise missiles, and intercontinental ballistic missiles (ICBMs) like Agni V on land, which can cover all of Pakistan, parts of China, and beyond with a range of over 5000 km. At sea, it is developing and fielding a 700 km range K-15 Sagarika submarine-launched ballistic missile (SLBM), the short-range Dhanush, and the supersonic cruise missile Brahmos. India already has two nuclear-powered submarines operational and plans to deploy another four in the next decade. It has nuclearized the Indian Ocean, taking the nuclear competition to the sea with the associated command and control issues, increased readiness of nuclear weapons, the increased risk of misperception and accidental nuclear launch. There are also indications that India is abandoning a policy of 'No First Use' (NFU) and pursuing a preemptive counterforce doctrine against Pakistan.<sup>3</sup> India is also pursuing a ballistic missile defence system – which is a mixture of indigenous and acquired systems like the Russian S-400. The latest of Indian pursuits is the hypersonic missiles, which due to their supersonic speed and maneuverability will further reduce the missile flight times between India and Pakistan.<sup>4</sup> This unchecked pursuit of nuclear triad, BMD systems, and hypersonic missiles makes nuclear deterrence unstable and tremendously increases the risk of conflict in South Asia.

With India developing nuclear weapons and pursuing massive conventional buildup, why is it not a problem for the U.S. and other Western states? Washington even gave India a Countering America's Adversaries Through Sanctions Act (CAATSA) waiver for purchasing S-400 systems from Russia. Under CAATSA countries can face financial penalties for significant transactions with specific Russian entities. What is more, the U.S. negotiated a nuclear deal with India in 2008 meant for civil nuclear cooperation and is even campaigning for Indian membership to the Nuclear Suppliers Group (NSG). It is ironic given the fact that India diverted nuclear fuel from Canadian reactors provided under the

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<sup>3</sup> See Christopher Clary and Vipin Narang, "India's Counterforce Temptations: Strategic Dilemmas, Doctrine, and Capabilities," *International Security* 43, 3 (Winter 2018/19): 7–52, and Ghazala Yasmin Jalil "Shifting Indian Nuclear Doctrine: Implications for South Asian Nuclear Deterrence," in Malik Qasim Mustafa (ed) *Emerging Threats and Shifting Doctrines: Challenges to Strategic Stability in South Asia* (Islamabad, Institute of Strategic Studies, 2023).

<sup>4</sup> For details see Ghazala Yasmin Jalil, "Hypersonic Missile Race: Implications for Regional and Global Security" Issue Brief, October 2, 2020, <https://issi.org.pk/issue-brief-on-hypersonic-missile-race-implications-for-regional-and-global-security/>.

"Atoms for Peace" initiative to conduct its first nuclear test in 1974. The NSG was created in response to Indian proliferation.

In addition, Indian nuclear warhead estimates are deflated. In 2022, as per Bulletin of Atomic Scientists, "India is estimated to have produced approximately 700 kilograms (plus or minus about 150 kilograms) of weapon-grade plutonium, sufficient for 138 to 213 nuclear warheads (International Panel on Fissile Materials 2022)."<sup>5</sup> Current estimates put India's weapons at 164 warheads.<sup>6</sup> However, these are grossly deflated estimates. India has 4 reprocessing plants that are outside IAEA safeguards. The spent fuel from these reactors can be reprocessed to produce weapon-grade plutonium. India reportedly used such fuel for one of its nuclear weapon tests in 1998.<sup>7</sup> India could have separated 5.67-7.839 tons of weapons-grade plutonium, enough for over a hundred warheads. As per a modest estimate, each reprocessing plant can produce 140 kg of weapons-grade plutonium each year sufficient for at least 28 weapons per year.<sup>8</sup> Thus, India actually may have produced a much larger number of warheads than current Western estimates.

## World nuclear forces, January 2023

Country	Deployed warheads <sup>a</sup>	Stored warheads <sup>b</sup>	Total stockpile <sup>c</sup>		Total inventory <sup>d</sup>	
	2023	2023	2022	2023	2022	2023
 United States	1 770	1 938	3 708	<b>3 708</b>	5 428	<b>5 244</b>
 Russia	1 674	2 815	4 477	<b>4 489</b>	5 977	<b>5 889</b>
 United Kingdom	120	105	225 <sup>e</sup>	<b>225</b>	225	<b>225<sup>f</sup></b>
 France	280	10	290	<b>290</b>	290	<b>290</b>
 China	–	410	350	<b>410</b>	350	<b>410</b>
 India	–	164	160	<b>164</b>	160	<b>164</b>
 Pakistan	–	170	165	<b>170</b>	165	<b>170</b>
 North Korea	–	30	25	<b>30<sup>g</sup></b>	25	<b>30<sup>g</sup></b>
 Israel	–	90	90	<b>90</b>	90	<b>90</b>
<b>Total</b>	<b>3 844</b>	<b>5 732</b>	9 490	<b>9 576</b>	12 710	<b>12 512</b>

**Source:** "World Nuclear Forces," *SIPRI Yearbook 2023*, <https://www.sipri.org/media/press-release/2023/states-invest-nuclear-arsenals-geopolitical-relations-deteriorate-new-sipri-yearbook-out-now>.

- 5 Hans M. Kristensen, and Matt Korda, "Nuclear Notebook: How many Nuclear Weapons does India have in 2022?" Bulletin of Atomic Scientists, July 11, 2022, <https://thebulletin.org/premium/2022-07/nuclear-notebook-how-many-nuclear-weapons-does-india-have-in-2022/>.
- 6 Kristensen, Korda, and Johns, "Pakistan Nuclear Weapons, 2023."
- 7 George Perkovich, *India's Nuclear Bomb: Impact on Global Proliferation* (California: University of California Press, 2001), 430.
- 8 Sameer Ali Khan, "Indian Nuclear Reprocessing Programme," In *Indian Unsafeguarded Programme: An Assessment* (Islamabad: Institute of Strategic Studies, 2016) 137.

### Global Stocks of Fissile Material

Country	Total HEU, MT	Of this, HEU available for weapons, MT	Total Pu, MT	Of this, Pu available for weapons, MT
Russia	680	672	192	88
United States	487	361	87.8	38.4
United Kingdom	23	22	119.7	3.2
France	29	25	90.9	6
China	14	14	2.9	2.9
Pakistan	5	4.9	0.5	0.5
India	5		9.6	0.7
Israel	0.3	0.3	0.8	0.8
DPRK	0.7	0.7	0.04	0.04
Others	4		48.3	
TOTAL	1250	1100	550	140

**Source:** "International Fissile Material Stocks," International Panel on Fissile Material, April 29, 2023, <https://fissilematerials.org/>

There are also reports that India is building a top-secret nuclear city at Challakere, Karnataka. According to the article published in 2015 in *Foreign Policy*, it may be the "subcontinent's largest military-run complex of nuclear centrifuges, atomic-research laboratories, and weapons-and aircraft-testing facilities when it's completed."<sup>9</sup> One aim "according to retired Indian government officials and independent experts in London and Washington, is to give India an extra stockpile of enriched uranium fuel that could be used in new hydrogen bombs, also known as thermonuclear weapons." These have a much larger destructive force than atomic bombs. Indian government has denied the report of any such facility but satellite pictures confirm it.

#### India Safety and Security Record

India also has a poor nuclear safety and security record. On its road to nuclear weapon status, it has proliferated in many ways - by illicit procurements, centrifuge know-how leakage, and poor implementation of a national export control system whereby onward proliferation is possible

<sup>9</sup> Adrian Levy, "India is Building a Top-Secret Nuclear City to Produce Thermonuclear Weapons, Experts Say," *Foreign Policy*, December 16, 2015, [https://foreignpolicy.com/2015/12/16/india\\_nuclear\\_city\\_top\\_secret\\_china\\_pakistan\\_baroc/](https://foreignpolicy.com/2015/12/16/india_nuclear_city_top_secret_china_pakistan_baroc/).

through Indian companies.<sup>10</sup> The safety and security of its nuclear installations are also in question where there are dozens of instances of nuclear thefts and security breaches. According to a 1996 report made available to the IAEA, Indian nuclear facilities have had 130 instances of safety-related concerns.<sup>11</sup> The incidents of nuclear theft go back to the 1980s but accelerated in the 1990s and since, and continue to this day. There are dozens of documented incidents of theft and smuggling of uranium and other radioactive substances in India.

The long list of nuclear thefts in India raises concerns over the presence of a nuclear mafia in India and organized crime relating to nuclear materials. This has been a great source of concern for Pakistan since the effects of national nuclear theft go beyond national borders. However, at the international level, there has been no condemnation or even acknowledgment of the theft of nuclear materials.

There have also been concerns that India is not adequately safeguarding its fast-expanding nuclear installations and materials. In October 2014, a person of the Central Industrial Security Force (CISF), which is assigned to protect India's nuclear facilities and weapons-related materials and installations, opened fire and killed several people in the facility he was assigned to protect.<sup>12</sup> This raised concerns within India and outside over the safety of Indian nuclear weapons facilities and serious shortcomings in the country's nuclear guard force. According to a source, although the matter was considered urgent, Washington did not press India for quick reforms: "The Obama administration is instead trying to avoid any dispute that might interrupt a planned expansion of U.S. military sales to Delhi, several senior U.S. officials said in interviews."<sup>13</sup>

The US and the Western world keep looking the other way since India has become an important strategic partner of the US and a pivotal ally in its strategy to counterbalance rising China. India and the US have a deepening strategic partnership whereby they are cooperating in the defence domain, information, and data sharing of strategic importance. Also as one of the fastest-growing economies, India is an important market for U.S. defence equipment.<sup>14</sup> The latest example of how vital India is as

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<sup>10</sup> Malik Qasim Mustafa, Ghazala Yasmin Jalil and Tahir Mahmood Azad, "Pakistan and India: Non Proliferation Credentials," Nuclear Paper Series No. 2, Islamabad Papers 2016, Published by the Institute of Strategic Studies, Islamabad, p. 32-44, <https://issi.org.pk/pakistan-and-india-non-proliferation-credentials/>.

<sup>11</sup> Ibid, p. 37

<sup>12</sup> Adrian Levy and Jeffrey Smith, "India's Nuclear Explosive Materials are Vulnerable to Theft: U.S. officials and experts say," Center For Public Integrity, December 17, 2015, <https://publicintegrity.org/national-security/indias-nuclear-explosive-materials-are-vulnerable-to-theft-u-s-officials-and-experts-say/>.

<sup>13</sup> Ibid.

<sup>14</sup> According to Stockholm International Peace Research Institute data with an 11 per cent share of total global arms imports, India was the world's biggest importer of major arms in 2018–22. The U.S. is the third largest supplier of arms to India during this period at 11 per cent.

a strategic partner is the Indo-Canada diplomatic row over the assassination of a Canadian national Sikh on Canadian soil where there was evidence of the Indian government's involvement. Canada being an important ally of the U.S., there has been no U.S. condemnation of Indian actions.<sup>15</sup>

### **Pakistan's Nuclear Program: Defensive in Nature**

Pakistan's nuclear program has always been defensive in nature. Its main aim is to deter a conventionally superior, nuclear-armed India. Pakistan's nuclear journey was a reluctant one once it realized that no security guarantees were forthcoming for Pakistan in the wake of the 1974 Indian nuclear test. Again in 1998 once India conducted nuclear tests Pakistan was forced to follow suit to establish overt deterrence. It has relied on a doctrine of Credible Minimum Deterrence (CMD) to establish deterrence vis a vis India. Its nuclear doctrine is not status-striven but security-driven, meant to ensure its sovereignty against a larger adversary. Pakistan has been following the doctrine of Full Spectrum Deterrence since 2013, which essentially means that it can deter a full spectrum of threats from India.

Pakistan has relied on a mix of short to medium-range ballistic missiles and cruise missiles to attain deterrence against India. At sea, it has developed the sea-launched ballistic missile Babur 3 in response to the Indian operationalization of sea-based nuclear capability.

Pakistan has no wish to indulge in a nuclear arms race with India. Thus, it relies on a limited number of warheads stored in a de-mated form, dispersion, mobility, and camouflage to achieve nuclear deterrence. Pakistan does not wish to, nor it can afford to indulge in a nuclear arms race with India. At present, it has sufficient nuclear forces to deter any Indian aggression. Moreover, nuclear assets are securely managed under the rubric of the National Command Authority (NCA). Its civil and military assets are security managed and there have been no incidents of nuclear thefts, or safety and security-related incidents over the years. Its nuclear power plants are all under IAEA safeguards and have over 50 years of tradition of safe operation.

Pakistan is constantly improving its nuclear safety and security credentials. In July 2023, the Washington-based Nuclear Threat Initiative (NTI) in its nuclear security index, which evaluated the status of global nuclear security, put Pakistan at number 19 out of 22 states on its handling of hazardous material, above India, Iran, and North Korea. Moreover, Pakistan improved its ranking by

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<sup>15</sup> Holly Honderich, "Trudeau facing Cold Reality after Lonely Week on World Stage," *BBC*, September 24, 2023, <https://www.bbc.com/news/in-pictures-66885924>.

3 points since the last assessment in 2020 with a score of 49 out of 100.<sup>16</sup> This is tangible evidence of how Pakistan is constantly improving its nuclear security. It also has a robust nuclear security culture that has matured over decades bringing together legislative framework, regulatory institutions, and bodies that ensure nuclear safety and security.<sup>17</sup> Pakistan is a party to several international conventions on security. Pakistan's adherence to international instruments, protocols, and codes of conduct demonstrates its confidence in its national nuclear security regime and is a reaffirmation of Pakistan's commitment to the objective of nuclear security, reinforces Pakistan's credentials as a responsible nuclear state, and negates any negative image portrayed in the Western discourse.

## Conclusion

India, not Pakistan, has the fastest-growing nuclear program in the region. India is not only pursuing a thermonuclear bomb, an unchecked pursuit of delivery systems and a nuclear triad, pursuit of hypersonic missiles, and purchase of ballistic missile systems but has an appalling nuclear safety and security record to top it all. Thus, India has clearly indulged in vertical proliferation. Moreover, given the evidence of India's pursuit of a fast-growing nuclear program, Western estimates of Indian nuclear warheads, always estimated less than Pakistan's by a few numbers, must be taken with a grain of salt. Since the U.S. strategic interests are converging and building India as a strong regional power to counter a rising China is in the latter's interest, India has been given a *Carte Blanche* vis a vis its nuclear program and conventional buildup. Secondly, it also helps pave a smooth path for Western countries to engage in lucrative nuclear and conventional arms business with India. What is the message that goes across? If it is a country of strategic significance, with a large defence market, the U.S. and other countries will look the other way. The double standards serve no one - not the U.S., India, or anyone else. A "fastest growing arsenal" is dangerous even if it comes from a "strategically important" country like India.

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<sup>16</sup> "NTI Nuclear Security Index Report," NTI, July 2023, [https://www.ntiindex.org/wp-content/uploads/2023/07/2023\\_NTII-Index\\_Report.pdf](https://www.ntiindex.org/wp-content/uploads/2023/07/2023_NTII-Index_Report.pdf).

<sup>17</sup> Ghazala Yasmin Jalil, "Pakistan's Nuclear Security: A Journey of Excellence" Issue Brief, August 30, 2023, [https://issi.org.pk/wp-content/uploads/2023/08/IB\\_Ghazala\\_Aug\\_30\\_2023.pdf](https://issi.org.pk/wp-content/uploads/2023/08/IB_Ghazala_Aug_30_2023.pdf).