ISSUE BRIEF

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INCREASING ROLE OF NUCLEAR WEAPONS: GLOBAL AND REGIONAL TRENDS

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July 9, 2024

The Stockholm International Peace Research Institute (SIPRI) recently published its Yearbook 2024, according to which "the number and types of nuclear weapons have increased as countries deepen their reliance on nuclear deterrence."[1] While the U.S. and Russia together hold 90 percent of global nuclear weapons, others are building up their nuclear arsenals. SIPRI has estimated China's stockpile to be 500, while reporting that India's stockpile has increased to 172 surpassing that of Pakistan. Nuclear weapons are becoming increasingly important in the global arena. There are important trends in the development and deployment of nuclear weapons that would have regional and global security implications.

The importance of nuclear weapons is on the rise. As of January 2024, there were an estimated 12,121 warheads globally. SIPRI estimates that 3904 of those warheads were deployed, which is 60 more than the number deployed in January 2023. Further, about "2100 of the deployed warheads were kept in a state of high operational alert,"[2] 100 more than the previous year. Most of these deployed warheads belong to the U.S. and Russia. Moreover, both countries have extensive programs underway to replace and modernize their nuclear forces. This reflects the increase in the U.S.-Russia competition and the return of what is being termed a 'New Cold War.'

1 "Role of Nuclear Weapons grows as Geopolitical Relations Deteriorate - new SIPRI Yearbook out now," SIPRI, https://www.sipri.org/media/press-release/2024/role-nuclear-weapons-grows-geopolitical-relations-deteriorate-new-sipri-yearbook-out-now.

2 Ibid

While the number of overall nuclear inventory worldwide has decreased, this is deceptive since the number of operational nuclear weapons has increased. The U.S. and Russia continue to dismantle their Cold War-era nuclear warheads, which is reflected in the decreasing numbers. The U.S. nuclear weapons have decreased from 5244 in 2023 to 5044 in 2024 while Russian inventory has decreased from 5889 in 2023 to 5580 in 2024.[3] The UK, France, Israel, and Pakistan's inventories have remained the same over the last year. However, according to SIPRI the inventories of China, North Korea, and India have increased by 90, 20, and 8 weapons respectively. At the same time, the number of operational nuclear weapons has continued to increase over the years, while the weapons on a state of high operational alert on ballistic missiles have also increased. This trend is likely to increase over the next few years. This reflects the resurgence of major power competition and heightened tensions in the global arena.

World nuclear forces, January 2024

	Deployed warheads[a]	Stored warheads[b]	Military[c] stockpile		Retired[d] warheads		Total inventory[e]	
Country	2024	2024	2023	2024	2023	2024	2023	2024
United States	1 770	1 938	3 708	**3 708**	1 536	1 336	5 244	**5 044**
Russia	1 710	2 670	4 489[f]	**4 380**	1 400	1 200	5 889[f]	**5 580**
United Kingdom	120	105	225	**225**[g]	–	–	225	**225**[g]
France	280	10	290	**290**	–	–	290	**290**
China	24[h]	476	410	**500**	–	–	410	**500**
India	–	172	164	**172**	–	–	164	**172**
Pakistan	–	170	170	**170**	–	–	170	**170**
North Korea	–	50	30	**50**[i]	–	–	30	**50**[i]
Israel	–	90	90	**90**	–	–	90	**90**
Total	3 904	5 681	9 576[f]	**9 585**	2 936	2 536	12 512[f]	**12 121**

Source: SIPRI Yearbook 2024

According to SIPRI, China is also believed to have some warheads on high operational alert for the very first time. China is also modernizing its nuclear forces. This essentially means that major power competitions, especially the U.S.-China rivalry, is driving an increase in the number of Chinese warheads as well as their operational alert status.

India is also on a similar trajectory. According to the SIPRI report, India too is moving towards mating some of its warheads with their launchers in peacetime. It is believed that India, as well as Pakistan, store their nuclear warheads separately from their deployed launchers during peacetime. However, India has been moving towards placing missiles in canisters and building a second-strike capability at sea. Specifically, India last tested Agni-P in April 2024, which is a canister-launched missile which

3 "World Nuclear Forces," SIPRI Yearbook 2024, p. 271.

means it is a warhead that is mated and stored with the missile. In essence, this gives India the operational flexibility to store the missiles for a longer period and reduce the time required for preparation and launch.[4] With a range of 1000-2000 km, Agni-P is thought to be Pakistan-specific. India is also building a triad of nuclear forces including several nuclear-powered submarines and warships designed to field nuclear-armed missiles. Indian nuclear triad would be comprised of a fleet of four to six nuclear powered submarines. The first one, INS Arihant, has been operational since 2018 while the second one INS Arighat, is expected to be commissioned in 2024.[5] According to the Yearbook: "SIPRI estimates that 12 nuclear warheads have been delivered for potential deployment by INS Arihant and another 12 have been produced for INS Arighat."[6] In addition, a sea-based deterrent means that the warheads and the missiles would need to be stored in a mated form at sea. This also raises issues of command and control, and accidental or unauthorized launch at sea.[7] It also means that there will be changes in India's nuclear doctrine in line with the operational force posture. This directly affects Pakistan's security and strategic stability in South Asia.

India has reportedly added 8 nuclear warheads to its arsenal in the past year, increasing from 164 to 172. India is also modernizing its nuclear and missile forces. India is, thus, pursuing one of the fastest growing nuclear programs in South Asia, while the sole aim of Pakistan's programme is to deter a hostile neighbor. As per SIPRI estimates, Pakistan's nuclear stockpile has remained static at 170 since last year. India's nuclear program is advancing at a fast speed, with increased warheads, missile developments, multiple independently targetable re-entry vehicle (MIRV) technologies, the pursuit of a nuclear triad as well as doctrinal changes that favor preemptive counterforce strategy against Pakistan.[8] This is likely to increase insecurity and bring yet more instability to a conflict-prone region like South Asia.

The increased emphasis on nuclear weapons comes at a time when global and the U.S.-Russia bilateral arms control regimes are in clear decline. Arms control suffered many setbacks in the past few years. In February 2023, Russia suspended its participation in the New START. It is the last remaining nuclear arms control treaty which limits Russian and the U.S. nuclear weapons. The U.S. "has also suspended sharing and publication of treaty data."[9] In November 2023, Russia also

4 Jupiter Kaishu Huang, "New Indian Missile Moves Closer to Deployment," *Arms Control Today*, July/August 2023, https://www.armscontrol.org/act/2023-07/news/new-indian-missile-moves-closer-deployment.

5 "Word Nuclear Forces," p. 328.

6 Ibid.

7 For details see "India's Development of Sea-based Nuclear Capabilities: Implications for Pakistan," *Strategic Studies*, Vol. 38, No. 1, 2018, https://issi.org.pk/wp-content/uploads/2018/04/3-SS_Ghazala_Yasmeen_Jalil_No-1_2018.pdf

8 Christopher Clary and Vipin Narang, "India's Counterforce Temptations: Strategic Dilemmas, Doctrine, and Capabilities," *International Security*, Vol. 43, no. 3, Winter 2018/19, pp. 7–52.

9 "Role of Nuclear Weapons grows as Geopolitical Relations Deteriorate - new SIPRI Yearbook out now,"

withdrew ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT), citing parity with the U.S. which has only signed the CTBT, not ratified it. The Nuclear Non-Proliferation Treaty (NPT) has made no progress in years, there have not been substantial efforts to revive the Joint Comprehensive Plan of Action (JCPOA) the nuclear deal that sets limits on Iran's nuclear program since the U.S. withdrew from it in 2018, and there are no efforts to check North Korea's nuclear weapons program.

The decline in arms control and the renewed emphasis on nuclear weapons comes at a time of increased global competition and insecurity. The Ukraine conflict has polarized the world and exacerbated European and global insecurity. The Israel-Palestinian conflict has further widened the political and strategic chasm. With the geo-political uncertainties on the rise, nuclear arsenal around the world would continue to be strengthened and modernized leading to new arms races. This bodes ill for regional and international security. With the rise in nuclear dangers Bulletin of Atomic Scientists Doom's Day Clock is set at 90 seconds to midnight. This signifies that the world is dangerously close to nuclear disaster. It is time for major powers to step back and reflect on the dangers that face the world. It is less than two years ago that leaders of the 5 NPT recognized nuclear weapon states jointly endorsed that "a nuclear war cannot be won and must never be fought."[10] SIPRI Director Dan Smith sums it up aptly: "We are now in one of the most dangerous periods in human history. There are numerous sources of instability - political rivalries, economic inequalities, ecological disruption, and accelerating arms race. The abyss is beckoning and it is time for the great powers to step back and reflect. Preferably together."[11]

10 "Joint Statement of the Leaders of the Five Nuclear-Weapon States on Preventing Nuclear War and Avoiding Arms Races," January 3, 2022, https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/p5-statement-on-preventing-nuclear-war-and-avoiding-arms-races/.

11 "Role of Nuclear Weapons grows as Geopolitical Relations Deteriorate."