dipam
DİPLOMATİK İLİŞKİLER ve POLİTİK ARAŞTIRMALAR MERKEZİ
CENTER for DIPLOMATIC AFFAIRS and POLITICAL STUDIES

PERSPECTIVE

DECEMBER 2025 | No: 30

EXPLORING INDIA'S NUCLEAR BLACK MARKET PRIVATIZATION AND THE PERIL OF WEAKENING SECURITY

Syeda Tahreem BUKHARI

India's expanding nuclear ambitions are evident in the recent 2.8 billion dollar uranium supply deal concluded with Canada. Yet questions persist about the country's safety culture, even as New Delhi pursues international legitimacy and benefits from strategic exemptions like the 2008 Nuclear Suppliers Group (NSG) waiver. A steady trickle of nuclear-material thefts and trafficking cases has fueled concern that a black market is taking root, an alarming lapse that threatens international peace, regional stability, and confidence in global nonproliferation norms. The privatization of the nuclear sector would further raise the risk of undermining centralized control over nuclear materials and opening possible gaps for illegal entry, diversion, or theft. Considering India's poor nuclear safety record, this policy change is alarming.

A chronology compiled by the South Asia Strategic Stability Institute (SASSI) lists 18

incidents between 1994 and 2021 involving theft or loss of more than 200 kilograms of nuclear material in India. Allegations and rumors predate that period: by the late 1980s and 1990s, outside assessments suggested the risks were rising. Around that time, U.S. intelligence assessed that India was pursuing a more advanced thermonuclear capability, and in 1994 Lithuanian authorities intercepted a $24 million shipment of beryllium bound for an undisclosed buyer speculated in press accounts to be North Korean or Indian. From early uranium smuggling cases to more recent seizures involving californium, the pattern points to systemic gaps in security and control.

The first documented case dates to November 1994, when police in Meghalaya's Domiasiat region arrested a four-person ring with 2.5 kilograms of uranium. Further arrests followed: in 1998, an opposition politician in West Bengal was detained for alleged involvement in a 100-kilogram uranium smuggling scheme. In December 2006, a container holding highly radioactive uranium was reported stolen from an eastern research facility, an incident that, by some accounts, could have posed hazards within a 1.5-kilometer radius.

Since then, seizures have continued. Navi Mumbai police arrested three men with five kilograms of depleted uranium; in 2018, authorities in Kolkata detained five people trying to sell one kilogram of material on the open market. In May 2021, Maharashtra's Anti-Terrorism Squad recovered seven kilograms of uranium from a scrap dealer, an episode that underscored vulnerabilities in basic command-and-control. Weeks later, Jharkhand police arrested seven people allegedly attempting to sell 6.4 kilograms of uranium on the black market. That same year near Kolkata's airport, two suspects were detained with 250 grams of californium, a synthetic element produced only in laboratories.

The arrests have not stopped. In July 2024, five men in Dehradun were found with a "black box" reportedly containing radioactive material believed to have been stolen from the Bhabha Atomic Research Centre in Mumbai. On August 9, 2024, Bihar police arrested a three-member group accused of attempting to traffic 50 grams of californium; four years earlier, a separate ring in Lucknow was caught with 340 grams of the same material. Individually, each case may be contained; collectively, they depict an ecosystem that bad actors can exploit.

India has long pledged to cultivate a robust nuclear-security culture. In practice, however, repeated interdictions of illicit uranium and radiological materials suggest weaknesses across the chain, from site protection to accountancy and transport. Under a 2009 arrangement with the International Atomic Energy Agency (IAEA), India lists roughly 22 civilian power reactors; eight remain outside IAEA safeguards. The recurring thefts and seizures raise concerns that international best practices are not being applied consistently and that independent verification remains too limited.

Greater IAEA engagement would help. Expanding the scope of facility-specific safeguards, strengthening material accountancy and control, and normalizing more frequent, transparent inspections—especially at civilian-use sites—would all reduce risk and rebuild confidence.

India is party to the Convention on Nuclear Safety and to the Convention on the Physical Protection of Nuclear Material (CPPNM) and its 2005 Amendment, cornerstone instruments adopted under IAEA auspices. The CPPNM obliges states to criminalize specified offenses involving nuclear material; to cooperate internationally in theft, robbery, and related threats; and to ensure adequate physical protection for peaceful-use material in international transport. Under certain conditions, the Convention and its Amendment extend obligations to domestic use, storage, and transport as well.

In practical terms, parties agree not to export, import, or allow transit of nuclear material without assurance that it will receive protection consistent with the Convention's levels. They also commit to share information on lost or stolen items to speed recovery. These are the baseline expectations for any state seeking to expand its civilian nuclear footprint.

New Delhi should fully implement the CPPNM (as amended) and update domestic statutes accordingly. That means aligning the Atomic Energy Act and related regulations with international best practices; imposing stricter criminal penalties for trafficking; building end-to-end monitoring and traceability; and resourcing independent oversight. The IAEA, for its part, should press for broader facility coverage, deeper inspections, and stronger material accountancy standards in India's civilian sector.

Privatizing the nuclear sector could further create a risky precedent for the spread of nuclear weapons if there is no strict regulation. This shift in the policy is concerning as the weak safety and security mechanism of India's nuclear program, with the plan to amend the civil nuclear liability law, will encourage foreign investments while minimizing the supplier accountability despite security risks.

India's nuclear expansion marked by security lapses, regulatory gaps, and a growing ledger of theft and trafficking cases poses a nontrivial global risk. The regulation of nuclear material would be further threatened by private corporations that put cost-cutting ahead of safety, increasing the possibility of mishaps and fostering a lack of accountability. The Nuclear Threat Initiative's Nuclear Security Index has placed India below the median on key measures, and SIPRI has documented the steady growth and diversification of nuclear arsenals worldwide, including India's emphasis on longer-range delivery systems. The danger is not merely regional: as capabilities expand, any breach reverberates far beyond South Asia.

Two steps would meaningfully reduce risk. First, India should establish a genuinely independent nuclear-regulatory authority with the remit and resources to supervise safety and security across the full lifecycle: procurement, storage, use, transport, and decommissioning. It must be ensured that the privatization is limited to civilian and non-sensitive segments of the nuclear sector, excluding uranium enrichment, plutonium handling, and spent fuel reprocessing. In addition, it should also be ensured that the Atomic Energy Regulatory Body (AERB) is a fully independent statutory body with oversight over both public and private nuclear entities. Second, the international community should insist on non-discriminatory, rules-based

oversight in South Asia, coupled with consistent accountability for all nuclear-armed states regardless of alignment. In an era of renewed arms racing, credible safeguards and transparent enforcement are not luxuries; they are the price of keeping the most dangerous materials on earth out of the shadows.

ABOUT THE AUTHOR

Syeda Tahreem BUKHARI, is an Associate Director at the Center for International Strategic Studies-AJK. She can be reached at @Tehmii_Syed.