India
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The 2014 elections in India brought the Hindu Nationalist Bharatiya Janata Party (BJP), under the leadership of Narendra Modi, back into power. In his election manifesto, Modi, an authoritarian politician, promised to “revise and update” India’s nuclear doctrine and “make it relevant to the challenges of current times.” When it last came to power, in 1998, the BJP fulfilled an election campaign pledge by ordering nuclear weapon tests, the first since 1974, and its then leader Atul Vajpayee proudly proclaimed India to be a nuclear-armed state. The first months of the Modi government have not seen a public statement of a new nuclear doctrine, but there has been a significant increase in military expenditure and plans for ambitious new programmes, especially nuclear submarines.

Indian officials increasingly claim to have realized a nuclear strategy they call “credible minimum deterrence,” while recognizing that some technical and military capabilities still need to be acquired. As of mid-2014, the Nuclear Notebook of the Bulletin of the Atomic Scientists estimated that India has 90 to 110 nuclear weapons. It has the capability to deliver these weapons using airplanes and land-based missiles, and there are plans for submarine-launched missiles. Questions about the state of India’s nuclear weapon capabilities and planning have focused less on the hardware of the arsenal and more on aspects such as the operational requirements for being able to use the weapons and the state of planning for the execution of nuclear war. Occasionally, however, there are questions about the reliability both of the nuclear warheads (described in the 2012 report) and the missiles.

Status of India’s nuclear forces
India’s nuclear arsenal is still in the development stage, rather than being modernised. Programmes are largely aimed at developing and deploying new delivery systems that would be more capable of attacking cities and their populations at greater distances, one goal being to target major population centres in China. The testing of these systems is a highly visible, well publicised activity in complete contrast to the near absence of official information about other aspects of the nuclear arsenal, including technical aspects of the weapons themselves, their command and control, and plans for their use. Although there is evidence of efforts aimed at increasing coordination between the scientific agencies that control the nuclear weapons and the different wings of the military that control the delivery systems to enable more effective operationalisation of India’s nuclear forces, there is little detail available publicly.

Delivery systems
Following the lead of other nuclear-armed states, Indian policy makers desire the ability to deliver their nuclear weapons using airplanes, ballistic missiles launched from land, and submarine-launched missiles, even though the official nuclear doctrine dating back to 2003 does not call for such a triad. However, Indian nuclear planning has largely relied on an earlier document, with no official status, known as the draft nuclear doctrine released by the National Security Advisory Board in 1999. This calls for India’s nuclear forces to be deployed on a triad of delivery vehicles of “aircraft, mobile land-based missiles and sea-based assets” that are structured for “punitive retaliation” so as to “inflict damage unacceptable to the aggressor.” The reference to “sea-based assets,” a relatively vague term that was not explained, may have reflected either secrecy or uncertainty about progress on the ballistic missile submarine project and in principle allows for different kinds of naval nuclear weapon systems to be acquired.

Aircrafts are India’s oldest nuclear delivery system. Indeed, until 1998, the Indian Air Force was the only military service with a nuclear role and had modified some of the aircraft it had imported from France to deliver the weapons. Currently, the Indian Air Force has several aircraft that are capable of delivering nuclear weapons, the Mirage 2000-H, the Jaguar IS/IB, and the Sukhoi-30. However, the Air Force is modernising its fleet and some of these will likely be replaced by other aircraft. Nuclear planners would like, in particular, “long range bombers with a capability to deliver cruise missiles or nuclear capable standoff air to surface missiles.”

The naval leg of the triad has been the focus of much attention in recent years. India is in the process of deploying its first nuclear submarine, Arihant. Although much delayed, the submarine began what were described as “sea acceptance trials” in December 2014, having earlier “passed its harbor acceptance trials.” The delay is explained as being due to the caution on the part of the safety regulatory authority. However, it is reported that a second nuclear submarine is ready and a third vessel is under construction. Another nuclear fuel core to reload the Arihant submarine after it has been in service for some years is reportedly also “ready for shipping”.

The Arihant submarine is intended to carry up to 12 ballistic missiles each armed with one nuclear warhead. Currently, this missile is the B05, also known as the K-15, with a range of 700 to 750 kilometers. Testing of the missile started sometime in the late 2000s and the B05 missile has by now been tested over a dozen times. The first four tests of the system were kept a secret and India publicly announced only the successful fifth test, in February 2008. Many of the early tests, however, might have been tests of subsystems rather than the full missile. The K-15/B05 missile will reportedly be test fired from the Arihant during the submarine’s sea-acceptance trials.
Since the 1998 nuclear tests, the latest of the missiles in the Integrated Guided Missile Development Programme in India has been in place. Work on the Agni started as part of the land-based nuclear delivery system. The main land-based nuclear delivery system is the Agni series of missiles. While the naval leg of the triad is still under development, the Agni submarine is reported to be capable of carrying four of these (as compared to twelve of the shorter range K-15 missiles).

The process of building such longer range missiles has started. The first test of a 3000 kilometer range submarine-launched ballistic missile named K-4 was carried out in March 2014. There were reports that the missile’s gas-booster was tested earlier. K-4 is believed to be capable of carrying a warhead weighing up to 2 tons and uses solid propellant. The Arihant submarine is reported to be capable of carrying four of these (as compared to twelve of the shorter range K-15 missiles).

The expansion of the nuclear arsenal to the sea will result in a significant shift in India’s nuclear posture. Thus far, to the extent that there is any public clarity of the fact, India is believed to keep its nuclear weapons separate from the delivery vehicles. Once there are operational submarines armed with nuclear weapons at sea, both the delivery vehicle and the weapons will be on the same platform.

In February 2015, the government also approved the construction of six nuclear powered attack submarines. The proposal is still in its very early stages and even the navy’s technical requirements for these submarines are yet to be drafted. The timing of the announcement may have to do with the defence establishment taking advantage of the more militaristic outlook of the Modi government; the programme is estimated to cost about 1 trillion Rupees ($16 billion in nominal exchange terms). Development of such a naval capability appears to be part of a larger naval competition with China, with control of the Indian Ocean being a particular area of contention.

While the naval leg of the triad is still under development, the land- and air-based legs have been in place for a while. The main land-based nuclear delivery system is the Agni series of missiles. Work on the Agni started as part of the Integrated Guided Missile Development Programme in 1983, but the missile has been substantially redesigned since the 1998 nuclear tests. The latest of the missiles in this series is the three-stage, 5,000 kilometer range Agni V, which is fired from what is described as a canister rather than a fixed concrete launch pad.

The significance of this firing mode is explained by the former Director General of the Defense Research and Development Organization (DRDO), Avinash Chander, who said in July 2013, “In the second strike capability, the most important thing is how fast we can react. We are working on cannisterised systems that can launch from anywhere at any time.” Being in a canister also allows for the missile to be transportable by truck on the road system and thus harder to locate. Agni V is scheduled for further tests and induction into the armed forces is projected for 2017. This schedule may slip; in 2012, when the Agni V missile was first tested, V. K. Saraswat, the head of DRDO, the agency that developed the missile, announced: “We are going to conduct two more tests and those will be validation tests ... and then the production of this system will start. It is going to take a year maximum” and that the missile would be inducted into the armed forces in “the next two years,” i.e. by 2014.

The Agni IV missile with only two stages and a slightly shorter range is also still under testing before being deployed. Its latest test, in December 2014, involved the “users,” the Strategic Forces Command that is in charge of the nuclear arsenal, and the missile was reportedly flown in “its full deliverable configuration”. Compared to the earlier Agni missiles, Agni IV is described as lighter in weight and capable of transporting a “payload with re-entry heat shield”; in other words, it could carry a nuclear weapon that would be expected to survive the high temperatures it would encounter as it re-enters the atmosphere in the last leg of its ballistic trajectory. According to the Indian Ministry of Defense 2013-14 Annual Report, the Agni IV “missile is now ready for induction and its serial production will begin shortly.”

The Agni III also had roughly the same range as Agni IV but it was reportedly about three times as heavy. It has undergone a number of tests, including one in December 2013 by “personnel of Strategic Forces Command” as part of “regular user training”. Likewise, the Agni II, with a range of 2000 to 2500 kilometers, and Agni I, with a range of 700 kilometers, have also been tested several times, including by the Strategic Forces Command. Finally, there is the series of Prithvi missiles, which have a shorter range and are regularly tested by Strategic Forces Command, most recently in February 2015.

According to India’s Ministry of Defense, the Agni I, II, and III missiles “are already in the arsenal of the Armed Forces”. The International Institute for Strategic Studies estimates that the military possesses about 80 to 100 Agni I missiles and 20–25 Agni II missiles, and about 30 Prithvi I and Prithvi II missiles.

In addition to these ballistic missiles, the DRDO has also been developing a cruise missile. The first successful test of the Nirbhay cruise missile took place in October 2014. An earlier test failed and the flight had to be terminated mid-course. With a reported range of 1000 km, the Nirbhay is said to be capable of delivering a small nuclear warhead. The Nirbhay is now reportedly being adapted for being launched from the Russian Su-30MKI aircraft.

For the future, the DRDO is said to be developing a longer range Agni VI. In addition to the longer range, DRDO’s plans for this missile to be capable of carrying four or six warheads that would be aimed at different targets: what are called multiple independently targetable re-entry vehicles.
or MIRVs. The unnamed DRDO missile technologist who spoke about the MIRV design to the media made it clear that the government had not yet sanctioned the Agni VI MIRV project, but the DRDO had already “done all the enabling studies, finalized the missile’s design and started working on the engineering part.”48

Another of the DRDO’s more ambitious plans is to explore the possibility of using the capabilities of the Agni series of missiles, especially Agni V, to develop an anti-satellite (ASAT) weapon. In a public interview the head of the DRDO was clear that the development of an ASAT weapon was not something the Government had ordered, saying, “India does not believe in weaponization of space. We are only talking about having the capability. There are no plans for offensive space capabilities.”49 At the same time, the DRDO is also working on mini-satellites that would be used to identify military targets on the ground.50

Finally, there are plans to develop and deploy a ballistic missile defence (BMD) system. India’s interest in BMD started in the 1990s with the DRDO starting conceptual studies, combined with discussions with Israel and Russia about air defence.51 India has come a long way since then and is now reported to be planning the deployment of a BMD system around cities, possibly starting with Delhi and Mumbai.52 In its first phase, the system will aim to counter incoming missiles of 2000 kilometer range, while stopping missiles with up to 5000 kilometer range would be attempted in the second phase.53

A key component of the BMD system is the Prithvi interceptor missile, which has been tested a number of times. The more recent tests have been conducted in the exo-atmosphere (altitude above 40 km) whereas the earlier ones were in the endo-atmosphere (altitude below 40 km).54 In most cases, the results have been described as successful, although as in the United States, many of these tests are perhaps scripted and thus the interception may not have been in a very realistic situation.

In the cases of all these advanced systems, it is clear that there is a significant push from the military research establishment to develop these technologies, presumably in the hope that the government will agree to provide funding and thereby ensure continued work, if not expansion, for these laboratories.

Hawkish retired military personnel have picked up on these ideas and have added to the chorus. For example, the former Commander in Chief of the Strategic Forces Command has called publicly for the “development of MIRV and MaRV [Manoeuvring re-entry vehicles] capability” arguing, “MIRV does provide a system to increase the number of targets destroyed by one delivery vehicle, overcome missile interception defences, deliver more on a single missile, thereby reducing the delivery vehicles. However, the disadvantage of MIRV delivery missile loss does worry planners with small arsenals. MaRV is required to overcome missile interception defences, ensure assured strike and it also improves deterrence. Other aspects for future development are improved guidance systems, miniaturization, bigger SSBNs, antisatellite capability, space based sensors, earth penetrating systems and host of new technology required to overcome protection/defensive systems.”55 There is evidently no end to the weapons desired by these hawks.

## Fissile materials

India’s nuclear weapons are based on plutonium. Although the country produces highly enriched uranium (HEU), the other fissile material commonly used in nuclear weapons, all the HEU produced in the country is believed to be earmarked for the nuclear submarine programme described earlier.

India has historically produced weapon-grade plutonium at two production reactors, CIRUS and Dhruva, both at the Bhabha Atomic Research Centre (BARC), in Mumbai.56 The CIRUS reactor was shut down in December 2010, after 50 years of operation, and all the spent fuel from the reactor has been reprocessed to separate out the plutonium contained.57 BARC is the primary location where most of the nuclear weapons work in the country is carried out. Besides the reactors, the site is also home to the Trombay reprocessing plant.58 Metallurgical activities involving plutonium are carried out in the same complex.59

Because of overcrowding on the BARC site, a second nuclear site is being built in the city of Vishakapatnam on the Eastern Coast of India. Among the important facilities being planned for this site are two new reactors, with power levels of 125 MWt and 30 MWt. According to the Indian government, construction of these reactors is “scheduled to commence” before 2017.60

On the basis of the limited amount of information available about the operations of these multiple facilities and reasonable assumptions, and after accounting for material that would have been used in nuclear weapons tests and other purposes, India is estimated to have a net stockpile of weapon-grade plutonium of 0.59 ± 0.20 tons as of the end of 2014.61 The upper estimate includes the possibility that some of the power reactors in the country that are primarily meant for producing electricity have also produced limited amounts of weapon-grade plutonium.62 The current stockpile of weapon-grade plutonium could suffice to produce about 100 warheads (assuming 5 kilograms per weapon).

There is also the possibility of using reactor-grade plutonium to make nuclear weapons. While there is no official confirmation of this possibility, there has been ample speculation that one of the devices tested in 1998 used reactor-grade plutonium.63 If this is the case, then the nuclear arsenal could potentially be much larger. The estimated stockpile of separated plutonium from power reactors is 2.0 to 4.4 tons of plutonium as of the end of...
2014. Assuming that about eight kilograms of the material is required for a weapon, this stockpile could be used to make 250 to 550 weapons.

Officially, however, this stockpile of reactor-grade plutonium is intended for use as fuel for India’s planned fast breeder reactors. While it may consume reactor grade plutonium, the fast breeder program provides a potential source of weapon-grade plutonium. During the negotiations and public debates surrounding the nuclear deal that was negotiated with the United States, the DAE strenuously insisted on keeping outside of international safeguards the Prototype Fast Breeder Reactor (PFBR) being constructed at Kalpakkam in southern India. The PFBR can produce about 140 kilograms (kg) of weapon-grade plutonium every year if it operates at 75% efficiency. This is sufficient for fabricating nearly 30 weapons every year and would represent a major increase in weapons production capacity. However, the PFBR has been repeatedly delayed and is now currently scheduled to start operating at full power (“commercialized”) late in 2016. When construction of the PFBR began in 2004, the commissioning date was projected to be 2010.

The HEU used to fuel nuclear submarines comes from the Rare Materials Plant in Rattehalli, Mysore (Karnataka). The HEU is said to be enriched to a level between 30 and 45% of uranium-235, much less than weapon-grade uranium. Assuming an enrichment level of 30%, India is estimated to have a stockpile of 3.2 ± 1.1 tons of HEU as of the end of 2014.

India’s HEU production capability is being increased. Based on satellite imagery, in June 2014, the defence magazine IHS Jane’s identified new buildings at the Rattehalli plant showing that the plant was being expanded. A second enrichment facility called the Special Material Enrichment Facility has been proposed in Chitradurga, again in the state of Karnataka. According to officials, this facility will be used for both production of HEU for the submarine and for low enriched uranium to be used as nuclear reactor fuel. However, there are no power reactors in the country that require low enriched uranium from Indian enrichment plants. Thus, it is likely that the initial, if not primary, purpose of the second facility will be to produce HEU for military purposes.

The proposal to set up the Chitradurga enrichment plant as well as other military testing facilities in the area has been challenged by local villagers and environmentalists. In a rare development, the National Green Tribunal, the country’s top legal authority on environmental issues, ordered a stop to construction in August 2013. Although BARC has fenced up the area and is continuing preparatory activities, a strong opposition movement has so far not allowed actual construction.

The role of other countries

India’s modernisation programmes and the larger militarisation project involve active commercial dealings and exchanges of technology with other countries. Its nuclear weapons programme owes much to Canada and the United States and the first ballistic missile, Prithvi, is based in part on reverse-engineering a Soviet missile. In recent years, the main area of joint activity is the development of the BMD system.

For a decade or more, India’s interest in developing a BMD system has found enthusiastic approval within some sections of the US nuclear policy making elite. For example, Ashley Tellis, who served as Senior Adviser to the US ambassador to India in the early 2000s, lauded the “dramatic new acceptance of strategic defenses as conducive to stability on the part of New Delhi” as “both an example of, and a means toward, the steady improvement in US-Indian ties.” US interest in engaging India on BMD even spilled over to NATO, and in 2011 a top NATO official even offered to cooperate with India on BMD. Despite this interest on both sides, efforts by DRDO to work with Raytheon in the United States had not “come to fruition” under earlier governments, but there is an expectation among defence analysts that this is more likely under the current BJP government.

The proposed plans for joint work on BMD need to be seen against a larger backdrop of India joining with the United States in an anti-China alliance, a long-held BJP goal. During the visit to New Delhi by President Barack Obama in January 2015, the two countries agreed on a “Joint Strategic Vision for the Asia-Pacific and Indian Ocean Region” as well as various military cooperation agreements. As pointed out by analyst and peace activist Praful Bidwai, these agreements aim to “recruit India into a partnership with the US to contain China’s military and economic power in what pro-US enthusiasts term the ‘Indo-Pacific’, as part of the US ‘pivot’ to Asia.”

On the US side, the appointment of Ashton Carter as Secretary of Defense might prove significant. During a 2012 visit to India when he was still Deputy Defense Secretary, Carter spoke to the Confederation of Indian Industries, which represents the interests of Indian corporations, and termed BMD “an important potential area for our future cooperation,” stressing that cooperation meant working on co-development of projects.

The other country that is significant when it comes to Indian BMD plans is Israel. Though India has traditionally been a supporter of Palestinian rights and did not have diplomatic ties with Israel, things have changed substantially since in the last two decades. India’s defence relationship with Israel has also changed during this period. According to former Israeli Ambassador to India, during the Kargil war in 1999, “Israel came to India’s assistance when India was in great need and brought about the turnaround in the situation on the ground.” These ties have been strengthened since the 2003 visit of Israel’s Prime Minister

41
Ariel Sharon to India. An important component of those ties revolved around plans to jointly build an integrated anti-missile system that was announced in February 2014. The proposed missile “defence” programme is to involve Rafael and Israel Aircraft Industries in Israel and DRDO, Bharat Dynamics Limited, and Bharat Electronics Limited in India. It would consist of India’s Prithvi missile in combination with an Israeli mobile radar system, quite likely the Green Pine radar. The Israeli Green Pine radar was originally developed for Israel’s Arrow anti-ballistic missile system. India has imported Green Pine radars in the past and has since, with Israeli help, produced what it calls the Swordfish radar.

Under the BJP, India is in the process of forming a much closer military alliance with Israel. Even as Chief Minister of Gujarat, Prime Minister Narendra Modi forged strong ties with Israeli businesses, which invested heavily in the state. In February 2015, the Israeli Defense minister Moshe Ya’alon visited India and offered to share “cutting-edge weapons technologies” and the two countries are “close to finalising contracts for two additional Phalcon AWACS (airborne warning and control systems) and four aerostat radars, together worth well over $1.5 billion”; India already has three Phalcon AWACS early-warning radar suites dating back to 2004 when the BJP was last in power.

The third country that plays a key role in India’s modernisation activities is Russia. Russian help with the Arihant submarine may have been crucial. As detailed by Praful Bidwai, “the core of the Arihant technology … came from Russia. Scores of Russian engineers were sent to India to aid the Department of Atomic Energy (DAE) and the Defence Research & Development Organisation (DRDO). It was the Russians who supplied the vital designs, precision equipment based on their VM-5 reactor, and the technology of miniaturising the reactor.”

Russia also gave on lease a nuclear attack submarine that India has deployed. The lease period is 10 years at a cost of nearly $1 billion. This submarine does not carry nuclear weapons but has likely been deployed with the Arihant during its tests. In December 2014, India decided to lease another nuclear submarine from Russia, again in the same class and with the same conditions, including not using it as a platform for nuclear weapons.

Russia is also reportedly the source of the engine for the Nirbhay cruise missile.

**Economics**

Indian nuclear arsenal development has been going hand in hand with an expansion of the military industrial complex. In the case of the nuclear weapons related infrastructure, this is especially true of the missile and submarine programmes. Since the very beginning, a large number of private and government companies – approximately 40 in the late 1990s – have been involved in manufacturing components for the missiles. Likewise, several large Indian corporate conglomerates, such as the Tatas and Larsen & Toubro have been involved in manufacture of the Arihant submarine.

Interest in increasing military expenditure and spreading the wealth around has been an interest of both the military (especially retired military leaders) and the corporate sector. Private corporations have benefitted from the expected boost in military manufacture under the Modi government. Many of the companies saw their stock prices go up significantly when the BJP won the elections in 2014.

Bharat Dynamics, the government company that integrates the different components of the Agni missiles developed by the DRDO, is setting up at least three new facilities in the states of Telengana, Andhra Pradesh, and Maharashtra, the last at a cost of Rs. 10 billion.

India’s costly nuclear and missile development is only part of the story. There is a larger military build-up going on and that is reflected in increasing expenditures. The budget for 2015 saw an 11% increase in military spending. This follows a consistent pattern of increases over the last decade as shown in the table below.

| Table 1: Military Expenditure (local currency, current prices for calendar years) |
|---------------------------------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                 | 917    | 1017   | 1085   | 1168   | 1436   | 1874   | 2108   | 2316   | 2523   | 2777   |
| Military Expenditure (bn constant 2011 US $) | 33.9   | 36.1   | 36.2   | 36.7   | 41.6   | 49    | 49.2   | 49.6   | 49.5   | 49.1   |

Source: Stockholm International Peace Research Institute
In 2014, India achieved the dubious distinction of being the largest arms importer in the world. Its “imports of major arms rose by 111 percent between 2004-08 and 2009-13, and its share of the volume of international arms imports increased from 7 to 14 percent,” with the result that “imports are now almost 3 times as high as those of the second and third largest arms importers – China and Pakistan.”

International law and doctrine

Ever since the 1974 nuclear test, the Indian government’s focus in arms control diplomacy has been to resist signing onto any international treaties that impose any obligations on its nuclear arsenal. This allows the government to maintain that it is a responsible member of the international community because it has not breached any agreement. Indeed, in a press statement from 18 May 1998, Jaswant Singh, a senior government official and a key strategist for the Bharatiya Janata Party, stressed precisely this when he said, “In undertaking these tests, India has not violated any international treaty obligations.”

Since then India has held fast to the position that even though it has a moratorium on nuclear tests, it will not sign the Comprehensive Test Ban Treaty nor the nuclear Non-Proliferation Treaty. Neither has it agreed to a freeze on fissile material production pending the negotiation of a fissile material treaty.

The official nuclear doctrine of India issued in January 2003 states that the country’s policy is to build and maintain “a credible minimum deterrent”. It then goes on to warn: “nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage.” Unacceptable damage, in plain English, means that these nuclear weapons would be dropped on cities, each killing hundreds of thousands or even millions of innocent people.

Public discourse

By and large, the discourse surrounding development, modernisation, and expansion of the nuclear arsenal involves jubilation about India becoming a militarily powerful state. Media articles often obsess over how few countries possess one or the other of the many destructive capabilities – nuclear submarines, anti satellite weapons, submarine launched ballistic missiles, and so on – and extol India for becoming just the third or sixth or whatever country to achieve the dubious status of acquiring these armaments.

There has been some limited debate over how large India’s nuclear arsenal should be. The argument for restraint has been primarily based on trying to hold planners to the nuclear doctrine, which calls for a “credible minimum deterrent,” and makes the case that the Indian arsenal “has already gone way over the minimum required to ‘inflict unacceptable damage’ on any rational government, be it Pakistan or China.”

Without getting into the problematic nature of qualifiers like “unacceptable” and “rational,” for those who see the number of nuclear weapons as already large enough to achieve “deterrence,” the main aims of further weapons development should be to build delivery systems that are capable to inflicting damage either in geographical regions so far not reachable (e.g. longer range missiles) or from platforms that are more difficult to attack (i.e. submarines).

Many strategic analysts and media commentators also link “deterrence” to the establishment of a clear resolve and will to use military force in non-nuclear contexts, often making reference to terrorist events or border events. As one strategist asked, “Would India really destroy Lahore, if one of our army brigades which have entered Pakistan is struck by a small nuclear weapon? A country that did not retaliate after the Mumbai terror attack in 2008, does not look like one that would destroy a city of 6 million, just like that. There is certainly an issue of credibility here.”

Like national security elites everywhere, Indian security policy makers have used secrecy as a weapon to quash independent questions, increasingly clamping down on the reporting of various details arbitrarily deemed secret. In August 2014, a leading television channel, NDTV, carried a news report about the Arihant submarine, where, in passing, it briefly mentioned something about the communication system used and that the Prime Minister was shown images of the submarine. This set off a furious reaction from the government’s National Security Advisor, who wrote a stern letter to the Indian Cabinet terming the information “classified” and stating that obtaining such information was an offence under the “Official Secrets Act,” and calling for “firm action”.

In August 2014, on the eve of a visit to Japan, Indian Prime Minister Modi declared, “There is no contradiction in our mind between being a nuclear weapon state and contributing actively to global nuclear disarmament and non-proliferation. India remains strongly committed to universal, non-discriminatory, global nuclear disarmament.” For anyone but those completely taken in by the ideological propaganda that pervades elite nuclear weapons discourse, the contradiction between the Indian nuclear modernisation activities and what might count as active contribution to nuclear disarmament is all too obvious. This trajectory needs to change. The only source of resistance to the ongoing buildup of the nuclear arsenal and the larger process of militarisation is the peace movement. This movement needs strengthening and our support.

2. The role of the BIP and its ideology in conducting these tests is explained by political analysts and peace activist Achin Vanak. “The basic credo and incessant refrain of the BIP and the Sangh is to ‘make India strong’. It is not a coincidence nor a mere matter of contingent compulsions that it was during the reign of a BIP-led coalition government in 1998 that tests were carried out to make India a declared nuclear weapons power.” See Achin Vanak, After the Bomb: Reflections on India’s Nuclear Journey (Hyderabad: Orient Blackswan, 2015).

3. This is exemplified in the comments of Shyam Saran, then the Chief of the National Security Advisory Board of the country: “since January 2003, when India adopted its nuclear doctrine formally at a meeting of the Cabinet Committee on Security, it has taken a series of graduated steps to put in place a triad of land-based, air-delivered and submarine-based nuclear forces to conform to its declared doctrine of no-first-use and retaliation only. Currently, at least two legs of the triad are fully operational.” See Shyam Saran, “Weapon of Mass Destruction: The India Story,” The Hindu, 4 May 2013.


45. Ibid.


52. Ibid.


71. Indian power reactors are largely based on the use of natural uranium with- out any enrichment. In the case of those reactors that do use low enriched uranium, there are contracts with foreign vendors to supply the necessary fuel. Plans to build indigenous reactors that will require low enriched uranium are still nascent. IE, “Work Begins on India’s First Light Water Reactor after Smaller Version,” Indian Express, 7 January 2015, http://indianexpress.com/article/india/india-others/work-begins-on-indias-first-light-water-reactor-after-smaller-version/.


Notes:


98. Ibid.


100. Press Release: Cabinet Committee on Security reviews progress in operationalizing India’s nuclear doctrine, op. cit.


102. Ibid.

