

# The Hoover Institution's **Survey of India**

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Huntington Program on Strengthening US-India Relations



## 8. Embracing Reform

### *India's Defense Policy under Modi*

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India has one of the largest military establishments in the world. Yet, by all accounts, it remains archaic in its organization, equipment, and doctrine. In its last major overhaul in the 1980s, India had depended on the erstwhile Soviet Union to equip its forces. “Friendship prices” as well as the Soviet desire to find friends in the wake of the Soviet Union’s ill-fated invasion of Afghanistan enabled the Indian military to stand tall, prompting *Time* magazine to do a cover story on “Super India: The Next Military Power” in April 1989.

Such talk receded in the ensuing decade as the Indian Army got embroiled for decades in dealing with insurgencies in Punjab, the northeast, and Jammu and Kashmir, even while maintaining a deterrent posture against Pakistan in the west and China in the north. The Soviet collapse created its own set of difficulties for India in maintaining its own forces and defense research, development, and production capacities never quite matured. India has long held the dubious distinction of being a major importer of defense equipment. However, because its governments have always maintained a tight control over its defense expenditure, modernization of its forces never quite caught up with their needs.

Today, as in the past, nuclear-armed China and Pakistan loom large as India’s primary

adversaries, even as its military continues to grapple with a Pakistan-supported insurgency in Jammu and Kashmir. The difference is that it is a China whose own military has grown by giant strides in the last two decades, even as the relationship between Pakistan and China has deepened. Given India’s geography, its defense has both continental and oceanic responsibilities. In the west, north, and northeast, it confronts China, but its oceanic location enables it to play the pivot of the United States (US)-led Indo-Pacific strategy, which too is directed at China.

In the Modi era, India is making a concerted effort to modernize its military organization and industry and restructure its higher command system to bring it to world standards. Even though it is still overwhelmingly equipped with ex-Soviet or Russian systems, it is making a concerted effort to develop its own industry. This time, the US has emerged as an ally and preferred source of technology.

#### **BACKGROUND**

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One of the first moves of the government headed by Prime Minister Jawaharlal Nehru at the time of independence was to assert civilian supremacy within the government. As part of this effort, he excluded the British-era commander-in-chief

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(C-in-C) from the Cabinet and insisted that all communications and decisions be routed through civilian officials of the Ministry of Defense.

The next item on the government's agenda was to insulate it from the possibility of intervention by the man on horseback. This was a time when many newly independent countries like Egypt, Iran, Burma, and Pakistan had coups that overthrew their civilian governments.

In his outstanding study on the Indian military and the state, Steven I. Wilkinson has shown that beginning in the 1950s, higher defense management in the country was deliberately structured "to minimise the risk of military intervention in politics." Lamentably, he observed at the time his study was published in 2015 that there had been no major change, even though such strategies were seen "as an increasing drag on the country's military efficiency and antiterrorist strategies."<sup>1</sup> The structures of the 1950s and 1960s included keeping the military out of defense planning, a lack of integrated civil-military structures for command and control and integrated intelligence gathering, and a Chief of Defence Staff (CDS) to promote integrated military solutions.

Reforms were carried out in the organization of the Indian Army, the Indian Navy, and the Indian Air Force, also known as the "Services," in the wake of the disastrous war with China in 1962.<sup>2</sup> New geographical and functional commands were set up through the 1960s and 1970s. Geographical commands defined an area of responsibility, the northern, eastern, or southern part of the country, while functional commands dealt with some specialized area, say, logistics or training.

However, in essence the army has until today largely retained its organizational structure of battalions (750-1,000 soldiers), brigades (3,000-5,000), divisions (9,000-15,000), and corps (40,000-60,000), which are distributed to five

geographical commands (the eastern, western, northern, southern, and central), a later south-western command, and a training command.

In the 1970s and 1980s, there was considerable thinking on the need to modernize the Indian Army's organization and doctrine. Many of these ideas eventually gave rise to what is called the Army Plan 2000. This envisaged a massive mechanization effort that would see the entire army being reorganized into strike formations, the Reorganised Army Plains Infantry Divisions (RAPIDS) and the Reorganised Army Mountain Infantry Divisions (RAMIDS). But India's economic travails and the collapse of the Soviet Union, which would have provided the equipment, led to a failure of this effort.<sup>3</sup>

The poor experience of the military mobilization against Pakistan, in the 2001-02 Operation code-named Parakram (strength), following the December 2001 terrorist attack on Parliament, convinced the army to come up with a new offensive doctrine called the Cold Start. Developed in 2004, it aimed at smaller-scale, swift, and decisive conventional operations against Pakistan.<sup>4</sup> The army also began to speak of reorganization into Integrated Battle Groups (IBGs), somewhere between a division and a brigade in size, to execute its plans. But the idea really bore fruit only by 2018.<sup>5</sup>

Over time, the Indian military has divided its responsibilities into fourteen geographical and three functional commands, in addition to the Tri-Service Andaman and Nicobar Command and the Strategic Forces Command responsible for the command and control of the country's nuclear arsenal. This has made operational planning difficult. For example, the eastern army command is headquartered in Kolkata, some 900 kilometers away by road from the eastern naval command in Visakhapatnam and over 1,000 kilometers from the eastern air force command at Shillong.

But along with restructuring its organizational attributes and command boundaries, India needed to simultaneously reform its higher command system, which was also archaic and unwieldy, encouraging commanders to work along service-specific silos.

## REFORMING HIGHER COMMAND

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The notion of appointing a Chief of Defence Staff, to enhance what the Indian military called “jointness” in its organization, had been discussed for quite some time as other militaries pushed ahead with integration of their command structures.

India’s most serious reform effort—the Group of Ministers (GOM) report of 2001—recommended the appointment of a CDS but postponed the implementation of the measure. Another report in 2012 by the Naresh Chandra Committee also approved the idea of a CDS by another name—the permanent chairman of the Chiefs of Staff Committee—but little came of this.

A major recommendation of the GOM in 2001 was to create a Tri-Service Andaman and Nicobar Command to deal with the security of these eastern islands of India that lie at the head of the strategic Malacca Straits. This command was created in 2002 and was meant to serve as a model that could be applied elsewhere. The GOM also created a new Integrated Defence Staff (IDS) organization to serve under the CDS. Along with this it also created the tri-service Defense Intelligence Agency (DIA) aimed at centralizing the electronic intelligence assets of the three services. Another tri-service command came up in early 2003 when the government revealed its nuclear weapons policy through a press release that also announced the creation of a Strategic Forces Command (SFC).<sup>6</sup> All these new entities needed the leading role of the CDS, who was yet to be appointed. The GOM saw the CDS as the natural leader of the reformed higher command

system, one who could have the authority to coordinate the different Services and commands.

It was only in 2019 that Prime Minister Narendra Modi cut the Gordian knot and declared that he would appoint a Chief of Defence Staff for the Indian military. This was accompanied by the creation of a Department of Military Affairs (DMA) and an alteration of the government’s allocation of business rules to bring the military into the Department of Defence instead of viewing it as an “attached office.” The CDS would concurrently also be the secretary of the DMA.

## QUEST OF TECHNOLOGICAL INDEPENDENCE

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Along with the issues of command and control, change was also needed in the technological capacity of the Indian military. In its own way, it was as archaic as the higher command system. Being technologically autonomous was an important aspiration for the newly independent India.

As a British colony, India was technologically dependent on the United Kingdom for almost all defense supplies. For immediate military requirements, the British had established a number of ordnance factories in India to produce gunpowder and some military hardware like ammunition and rifles, fuses, and detonators. World War II lent some impetus to their upgrade to produce more sophisticated explosives and products, but in the main their output related to small arms, field guns, ammunition, explosives, and clothing. And associated with them were various kinds of steels and castings and containers.

## THE DEFENCE RESEARCH AND DEVELOPMENT ORGANIZATION (DRDO)

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The DRDO, the premier official defense research and development agency, was formed in 1958

by amalgamating existing technical institutions that had a nucleus of some ten laboratories and functioned as the research arm of the Ministry of Defence (MOD). But over time it grew into a network of forty-one laboratories that work in a range of areas like aeronautics, armaments, electronics, combat vehicles, special materials, advanced computing, naval systems, and missiles.

In the 1960s, as India sought to modernize its military to meet the Chinese challenge, it took recourse by making a number of products through licensed manufacture of vehicles (Japan and West Germany), tanks and warships (United Kingdom), and assault rifles (Belgium).

India began to develop the HF-24 Marut, a fighter, in the mid-1950s at the Hindustan Aeronautics Ltd. (HAL) with the help of a German designer, Dr. Kurt Tank, and it first flew in 1961, the first supersonic fighter in Asia outside the Soviet Union. But the project ran out of steam for the want of an effective engine. In 1961, India purchased the MiG-21 fighter from the Soviet Union and soon began its license manufacture.<sup>7</sup>

In the case of the navy, India acquired the British Leander-class frigates, which were built beginning in 1966 onward by Mazgaon Dockyards, Mumbai, the first major warship to be built in India after a long time. Based on the Leander experience, the Mazgaon Dockyards indigenously developed the Godavari class frigates from the late 1970s onward, and ships of this class served the navy until 2022.<sup>8</sup>

### **THE DRDO FINDS ITS FEET: 1980s-2000s**

By the 1980s, the Defence Research and Development (DRDO) laboratories had gained confidence and initiated a number of ambitious schemes. Political turbulence in the 1970s had delayed decisions, but things got underway in the early 1980s with three ambitious projects—a Main Battle Tank (MBT) project, a Light Combat Aircraft (LCA) project, and an Integrated Guided

Missile Development Programme (IGMDP). India self-consciously sought to develop these as indigenous projects, though it did seek consultancy and technical assistance from abroad. The IGMDP had within it four key elements, a surface-to-surface missile named Prithvi (earth), an intermediate range ballistic missile Agni (fire), an antitank missile Nag (cobra), and a surface-to-air missile Akash (sky). The first two of these were linked to its then clandestine nuclear weapons program.

On the naval side, after inducting a number of warships and submarines from the Soviet Union, India initiated a project in 1980 for the licensed manufacture of a conventional submarine of German design. India also began work on a nuclear-propelled submarine and a submarine-launched ballistic missile Sagarika (born in the seas) for which the government sought Soviet assistance.

In all these instances there were important technological gaps that India hoped to fill gradually. Primarily, the gaps were related to weapons systems, missiles, and sensors. But the biggest weakness was India's inability to design and develop effective engines, for either the tank or the LCA despite considerable expenditure of both time and money.

All these developments were taking place in the context of a larger effort that India was making in trying to develop technology in a range of strategic areas like nuclear power and space. However, with its nuclear test of 1974, it came under Western sanctions and found that many doors to technology that were heretofore open had begun to shut. As the US tightened technology restrictions against the erstwhile Soviet Union, a new category of restrictions on dual-use technologies also kicked in, making India's task harder.

But by the mid-1980s, after another bout of Soviet acquisitions, the course of India's defense industrial policy had been set and has lasted to this day. This involved the use of foreign technology



wherever needed, even while encouraging steady import substitution and indigenization. This was a slow-motion project, and the MBT was inducted into service in 2011, along with the LCA (renamed as Tejas [brilliance]), the Akash surface-to-air missile in 2015, and the Nag antitank missile only in 2020. More successful were the ballistic missiles some of which had come into service in the 1990s. An ambitious effort to build an indigenous jet engine to power the LCA failed, and India took advantage of the opening to the US during the Rajiv Gandhi–Ronald Reagan years to get an American commitment for the supply of the General Electric GE-404 engine, which powers the aircraft today.

The length of time taken ensured that the products were less than state of the art, and the military were not particularly impressed by them. The DRDO had not, for example, been able to deliver a single unmanned aerial vehicle that had been inducted into service. Even the assault rifle it had made proved to be less than satisfactory and was abandoned.

Though India continued to import its weapons systems from Russia, it looked to the West, and especially the US, Germany, France, the UK, and Israel, to enhance its domestic technology capacity. Improved relations with the US in the 2000s resulted in the progressive removal of sanctions on India in both the conventional and nuclear areas.

The result of the long endeavor was that India built up a significant arms industry through the efforts and investments it had made since the 1950s. It had developed its own design and development capacity in major areas like combat jets, helicopters, warships, and armored vehicles.

## MODI'S DEFENCE CHALLENGE

### THE CRISIS

Yet by the time Modi came to power in 2014, the defense sector was in a multidimensional

crisis of sorts, which is best brought out by the Parliament's Standing Committee's report on the Demands for Grants for the 2018–19 budget. Its basic thrust was that the money being provided by the government for defense was inadequate.<sup>9</sup>

As it is, the Indian Air Force (IAF) strength was down to thirty-one squadrons, versus the forty-two it had been sanctioned. As for the army, the Standing Committee noted that over the years, it had accumulated substantial deficiencies "because adequate attention has been lacking both in terms of policy and budget for modernizing the ageing armoury." As for the navy, its share of the budget was witnessing a steady decline over the years resulting in a decline of its force levels.<sup>10</sup>

Perhaps the most telling was Indian Army Vice Chief, Lieutenant General Sarath Chand's comment to the committee with regard to the army: "Typically, any modern Armed Forces should have one-third of forces, one-third of its equipment in the vintage category, one-third in the current category and one-third in the state of the art category. As far as we are concerned, the state today is 68 percent of our equipment is in the vintage category, with just about 24 percent in the current, and eight percent in the state of the art category."<sup>11</sup>

The defense industry, working through public-sector units, essentially government-owned-and-directed industries, continued to churn out tanks, helicopters, and fighter aircraft, but a lot of this was license production and there was a tendency to overstate the levels of indigenization that had been achieved.

The DRDO had designed and developed a range of products such as missiles, a fighter aircraft, and a main battle tank, yet the weakness of Indian defense research and development (R&D) was manifest. The products were less than state of the art, and the military was not particularly happy

about them and used imports to provide the cutting edge of their arsenal.

## THE RESOURCE CRUNCH

The bottom-line issue was the lack of adequate resources to finance a military as large as India's and make it a modern technically proficient fighting force. If one looks at the 2024–25 budget presented by the government in July 2024, matters looked promising, but the underlying reality has been more complex. The total allocation for defense stands at 621 billion Indian rupees (INR) (US\$74.8 billion), which is slightly lower than the figure of the Interim Budget presented in February. Compared with the budgets of other ministries, the allocation to the defense ministry is the highest, and its budget grew 4.79 percent from the previous year. The budget allots 27.7 percent of defense spending for capital; 14.8 percent is earmarked for sustenance and operational preparedness; 30.7 percent for pay and allowances; 22.7 percent for pensions; and 4.2 percent for civil organizations under the Ministry of Defence.<sup>12</sup> A special innovation was the provision of Rs 518 crore to the iDEX (Innovations for Defence Excellence) scheme to support technological efforts of private-sector start-ups, small-scale enterprises, and innovators.

Although this budget shows a steady increase in defense outlays, a more detailed analysis reveals a continuing problem. A Parliamentary Research Service (PRS) analysis of the annual demand for grants for 2023–24 revealed that the share of defense expenditure in the budget has been steadily declining. Between 2013–14 and 2023–24, Union government expenditure has increased at an annual rate of 11 percent while spending on defense had increased at only at 9 percent. Likewise, the defense spending as a percentage of GDP has been going down, and in 2023–24 it was 1.97 percent. Figures show that the allocation made to the defense ministry is lower than what the military has sought. In 2022–23, it was

28 percent lower than what the armed forces had wanted for their needs.<sup>13</sup>

One of the problems that India confronted was on account of defense pensions. Since 1976, India's terms of engagement of personnel, both military and civilian, lengthened the tenure of service, requiring the state to pay out pensions to the personnel. The pension bill started rising and in the mid-1980s India stopped counting pensions as part of the defense expenditure, though most analyses continue to do so.

The PRS analysis also brought out the fact that since 2014–15 and 2023–24, spending on defense pensions had been consistently higher than 20 percent of the total defense budget. In fact, in 2019–20 and 2022–23, 26 percent of the defense budgets were paid out as pensions.

This had, in turn, constrained the expenditure that was needed as capital outlay for buying new equipment and systems. This figure was 32 percent of the budget in 2014–15 but had gone down to 29 percent in 2023–24. In the 2024–25 interim budget, it is 27.67 percent. This persuaded the government to undertake a sweeping reform of its recruitment system through what is known as the Agnipath (path of fire) scheme in 2022, which we will discuss below.

The Modi government was conscious of the tasks it had at hand. These related to modernizing the military's equipment, its organization, and its higher command-and-control structure. An important adjunct of this was to deal with the pension system, which was consuming an unconscionable amount of resources that could have been employed for the forces' modernization. There were interlocked issues here. Modernizing the military's equipment merely by imports was simply not possible; India was already importing a substantial amount of its requirement at great cost. So the government needed to urgently reform India's defense industrial sector

to promote greater indigenization of production as well.

The government adopted a draconian approach in all these areas, by appointing a CDS in 2019, overhauling the defense acquisition procedure in 2020, resorting to banning a large number of products from import, even while encouraging domestic production and R&D, and drastically altering the recruitment system of the military in 2022 to stem the outflow on the pension head in the budget. Simultaneously, it reached out to the United States and Western countries to enhance the technological quality of its forces.

## THE MODI REFORMS

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### APPOINTING A CHIEF OF DEFENCE STAFF

Prime Minister Modi took the country by surprise when he announced in his Independence Day speech of 2019 that in the interests of doing away with the fragmented command system, the country would have a Chief of Defence Staff to provide the three forces with “effective leadership at the top level.”<sup>14</sup>

This decision was given effect through a meeting of the Cabinet Committee on Security (CCS) on December 24, 2019, when simultaneously it was announced that the CDS would also wear a bureaucratic hat as the head of a DMA within the MOD.<sup>15</sup>

As the chief of the DMA, he would be the secretary of the fifth department of the MOD. His primary task would be to supervise and regulate the functioning of the three Services and their headquarters and procurement for the military, barring big-ticket items that fall under the category of capital acquisitions. Until that point, the MOD had four departments: the Department of Defence, the Department of Defence Production, the Department of Research and Development, and the Department of Ex-Servicemen’s Welfare. The DMA was added as the fifth entity in the MOD.

The DMA’s second major task that was linked to the tasks laid out for the CDS was to promote “jointness” in procurement, training, and staffing of the three Services, facilitate the restructuring of the military commands to effect integration, and promote the use of indigenous equipment by the military.

Though the rank of the CDS would be the same as that of the existing Service chiefs, he would be *primus inter pares* as the permanent chairman of the Chiefs of Staff Committee and be the “Principal Military Advisor” to the defence minister on all tri-service matters.<sup>16</sup>

The creation of the DMA was aimed at meeting the long-standing demand of the Services that they be integrated into the MOD system instead of being treated as “Attached Offices.” This was a major step in conveying that the armed forces could be trusted to manage themselves. A day earlier, on December 30, 2019, the government had announced that General Bipin Rawat, who was the current army chief, had been appointed as the first CDS.

At the same time, the government also modified its Allocation of Business Rules (AOBR) to list the subjects that would be handled by the new DMA. What was interesting was what the DMA would not do. It would not make “defense policy” and would not be involved in capital acquisitions.

At the Department of Defence, the administrative head was the defence secretary, who would remain the person responsible for the “Defence of India and every part thereof, including defence policy and preparation for defence and all such acts as may be conducive in times of war to its prosecution and after its termination to effective demobilization.”<sup>17</sup>

The new CDS, General Rawat, saw his principal task as that of promoting jointness through the



creation of theater commands. However, he faced considerable resistance, in part because of the way he handled the issue. He mooted the notion of reducing the seventeen commands to five integrated theater commands by 2023. A major problem was that there was resistance from within the Services themselves. One of the issues was the status of the three-star commanders whose commands would be crunched into unified commands. No one wanted to lose the authority and prestige of being a commander-in-chief of a command.

The second problem was the IAF, which by its very nature can deploy its assets at great speed across the country and which realized that given its depleting numbers, it would end up thinly spread out among the emerging new theater commands, lowering its authority vis-à-vis other services. General Rawat compounded the IAF's worries by declaring that the air force was nothing but a support arm for the army, akin to the engineers and artillery.<sup>18</sup> Unfortunately, Rawat died in a tragic accident on December 8, 2021, having completed just two years of his tenure.

The issue of theaterization—replacing existing and geographical commands with theater commands—was allowed to drift and a new CDS was only appointed nine months after Rawat's passing in September 2022 when Lieutenant General Anil Chauhan, an officer who had already retired, was promoted to the rank of general and appointed to the office.

## **REFORMING RECRUITMENT: THE AGNIPATH (PATH OF FIRE) SCHEME**

No one is clear as to who is the real author of the Agnipath recruitment scheme under which the old system of recruitment of personnel was done away with. The scheme was announced in June 2022, six months after death of the first CDS, Bipin Rawat, and three months before the appointment of the second, Lieutenant General Chauhan.

Under this scheme, an Agniveer (fire warrior) would be recruited between the ages of seventeen and twenty-one (now modified to twenty-three), and she or he would serve for four years and thereafter leave with a severance package. Twenty-five percent of these "retirees" would be offered reenlistment for a further period of fifteen years and more and presumably be entitled to a pension. The bulk of the Agniveers, 75 percent of them, would be offered various government jobs where they would be entitled to preferential recruitment.

The ostensible aim was to provide the armed forces with a young and tech-savvy profile, but it was clear that it was mooted with a view of tackling the pension "problem" dogging Indian defense spending.<sup>19</sup>

The government has denied by anything else other than the need for a younger and more technology-oriented profile of the military. In retrospect, the government needed to be up front about the fact that it was indeed motivated by the public finance aspects of the scheme.

Pranay Kotasthane of the think tank Takshashila Institution has noted that the pension issue is such that even if defense expenditure were increased to 3 percent of the GDP, it would not make a dent on the resource crunch. However, he says, "over the long term" the Agnipath scheme "has the potential to reduce the pension burden substantially. But it will not make much of an impact in the short term, and benefits will only accrue after 15 years or so."<sup>20</sup>

However, there are other issues beyond savings that raise questions about the utility of the scheme. Given the levels of education and the problems in employment, it is unlikely that an Agniveer would acquire any salable skills. A respected former chairman of the Chiefs of Staff Committee Admiral Arun Prakash has noted that while it may have been useful for the army where infantry personnel are not too much into technology, it would be a major problem for the air

force and the navy where “at least 5–6 years are required before a new entrant can acquire enough hands-on experience to be entrusted with the operation or maintenance of lethal weapons systems and complex machinery and electronics.”<sup>21</sup>

### THE AGNIVEER EXPERIENCE

Meanwhile, the Agniveer recruitment process has gotten underway. Reports suggest that in the first intake the army has taken 80,000 personnel, the navy around 3,000, and the air force around 2,700. The overall intake is capped at 175,000 personnel until 2026. In the first four years, intake of recruits will be 46,000 per year, in the fifth year it will be 90,000, and in the sixth year 125,000.<sup>22</sup>

Typically, some 60,000 personnel retire from the army every year and there was no recruitment for three years during the COVID-19 period. The Agniveer intake will not be able to make up for the reduction in numbers until 2026. The army does not provide details of its manpower holdings, but back-of-the-envelope calculations would suggest that the army may reduce its numbers by 300,000 by then.<sup>23</sup>

Some controversy arose over the scheme when, in late 2023, former army chief general M. M. Naravane said in his yet-to-be-published memoir that the scheme was a “bolt out of the blue for the Navy and the IAF,” that he had proposed a four-year term only for the army, and that too with retaining 75 percent personnel and letting go 25 percent. But the MOD reversed this, releasing 75 percent and retaining only 25 percent.<sup>24</sup>

Just how the scheme will work remains to be seen. In the general elections of 2024, the opposition parties criticized it and said they would reverse it if they came to power. They were seeking to take advantage of the resentment against the scheme in the traditional recruitment areas of the country where people felt cheated by the offer of a mere four-year term of duty and that, too, minus a pension. As a result of this, the armed

forces have carried out an internal review of the scheme and suggested modifications, which have not been disclosed as of now.<sup>25</sup>

### NEW IMPETUS TO DEFENSE INDUSTRIAL PRODUCTION

In May 2020, as a result of the global impact of COVID, Prime Minister Modi announced a stimulus package to promote Atmanirbhar Bharat Abhiyaan, or Self-Reliant India. This was, in a way, an extension for Modi’s first initiative for Make in India that had been announced soon after he came to power in 2014. Both were taken up by the MOD, which initiated a major program for indigenization of defense production.

These have included institutional changes like corporatizing the ordnance factories and policy measures to promote indigenization and import substitution. The Defence Acquisition Procedure (DAP) was tweaked to prioritize domestic industry over foreign sources. New entities such as the iDEX (Innovations for Defence Excellence) have been created to encourage start-ups and micro, small, and medium enterprises (MSMEs).

As part of this strategy of promoting self-reliance, in August 2020, the MOD developed an indigenization portal, [srijandefence.gov.in](http://srijandefence.gov.in), that listed items for indigenization that could be taken up by the private sector. The initial list included some 6,590 items and currently some 32,000-plus are listed.

At the heart of the defense reforms was the revised Defence Acquisition Procedure (DAP) 2020 released in September 2020 whose main thrust was to simplify the process of acquisition and promote indigenous arms manufacturing.<sup>26</sup>

In May 2021, the defense industries that had been reserved for the public sector, were thrown open to Indian private-sector participation up to 100 percent. Indian companies could involve

foreign direct investment (FDI) up to 26 percent in this process. Later the FDI limit was raised to 49 percent. The private sector was now seen as not merely a supplier of raw material, components, and subsystems, but as a partner in the manufacture of complete systems. To this end, the government also finalized a security manual that provided the rules and procedures relating to access, use, and transmission of classified information for private players.<sup>27</sup> This was an important lacuna preventing private individuals from being involved in classified projects.

Indian industry, both public and private, was encouraged to design, develop, and manufacture defense products under the Make in India procedure; provisions to provide financial assistance for prototype development were also incorporated. The DAP has been designed to encourage foreign manufacturers to set up shop in India to make products, assemblies, or subassemblies. It also seeks to encourage foreign companies to set up maintenance, repair, and overhaul (MRO) facilities in India to be operated by their Indian subsidiaries.

The DAP was also linked to a 2018 initiative for Innovations for Defence Excellence (iDEX), which was created to encourage innovation and technology development in the Indian industry, particularly smaller industries, start-ups, individual innovators, R&D institutes, and academia. iDEX is funded by the Defence Innovation Organisation (DIO), which was created by two premier defense public-sector units, Hindustan Aeronautics Ltd. and Bharat Electronics Ltd.<sup>28</sup>

With a view of attracting the attention of start-ups and innovators and medium- and small-scale industries, the iDEX started a system of Defence India Startup Challenges (DISC) for which they offered small grants to those selected by them. Some twenty-eight challengers were accepted from a list of five hundred applications for the first challenge. They dealt with a range of problem

issues from secure communications, networks, and artificial intelligence (AI) in logistics.<sup>29</sup> The DISC is now on its eleventh iteration, and in the meantime, its success has led to an increase of the grant amount to 100 million INR.

## **FORCED INDIGENIZATION**

The government has also doubled down on a policy of forced indigenization that was initiated by the DAP 2020. A series of lists have been announced laying out timelines within which the military will exclusively source the listed items from domestic manufacturers. The first Positive Indigenization List (PILs) was issued by the new DMA in August 2020. It banned the import of 101 items ranging from artillery guns, corvettes, transport aircraft, and light-combat helicopters.<sup>30</sup>

The DMA thereafter had promulgated four PILs comprising 411 military items. Separately the Department of Defence Production (DDP) had notified four PILs comprising 4,666 major subsystems, spares, assemblies, and components produced by Defence Public Sector Units (DPSUs).<sup>31</sup> It needs to be pointed out that the MOD policy accepts platforms as an Atmanirbhar Bharat Abhiyaan project, even if it is built under Transfer of Technology and if it has 50 percent indigenous content. Thereby, many systems with significant foreign content like light helicopters, next-generation corvettes, antitank guided missiles, and medium-range surface-to-air missiles are classed as indigenous.

Many of the products in the lists such as warships, Offshore Patrol Vessels, towed artillery guns, bulletproof jackets, and helmets were already being made in India. Take warships: out of forty-one warships and submarines under construction, thirty-nine are being made in India. The fifth PIL was launched in October 2023 and included complex systems, sensors, weapons, and ammunition.

## INDUSTRIAL CORRIDORS

Another reform initiative was the creation of Defence Industrial Corridors, one in the state of Uttar Pradesh and the other in Tamil Nadu. The target of the corridors was to develop the aerospace and defense sector, and their aim is to reduce dependence on imports.

The Tamil Nadu corridor was inaugurated in January 2019. Tamil Nadu has a strong industrial base and was an obvious choice for such a corridor. In Tamil Nadu, the effort will be to create new defense production facilities and promote clusters that can enhance defense exports. The Uttar Pradesh corridor has been described as an “aspirational” project by the Society of Defence Manufacturers because the state is not too well developed from the point of view of industry. The corridor links the cities of Aligarh, Agra, Lucknow, Kanpur, Chitrakoot, and Jhansi and is linked to a larger project of the economic development of the politically important state.<sup>32</sup>

The launch of the Make in India initiative has seen a “remarkable” growth of the private sector and, according to Laxman Behera, as of 2022–23 it had captured about 20 percent of India’s total defense production from the dominant DPSUs and the Ordnance Factories (which have now been corporatized).<sup>33</sup>

The big problem remains the bureaucratic approach to acquisitions. Take the case of the K-9 self-propelled howitzers. The army received the first tranche of one hundred K-9s from South Korea and assembled by the firm Larsen and Toubro in February 2021. They came with 80 percent indigenous work packages and above 50 percent indigenization by value. The army needs a total of three hundred. However, since then, no additional orders have been placed and the assembly line is idle. Any new order will come with enhanced costs. And of course, the impact on security is another

matter.<sup>34</sup> As of mid-2024, there is no news on additional orders.

## DEFENSE R&D

In a move to encourage domestic industry to take up design and development, the 2022–23 defense budget had within it a provision that would allocate 25 percent of the R&D budget to industry. Subsequently, the MOD identified eighteen areas for industry-led design and development. Among them were hypersonic glide vehicles, directed energy weapons, lightweight tanks, electric propulsion for naval application, unmanned autonomous AI-based land robots, and so on.<sup>35</sup>

In terms of plans and procedures, the Indian MOD has created a formidable structure providing a significant array of products for its military. What remains to be seen is whether it can meet India’s ambition to emerge as a self-sufficient country in the area of designing and developing its own defense products, and also become a significant exporter of the same.

The real challenge here is to develop domestic capabilities for design and manufacturing and not just to assemble components from elsewhere. As of now, license manufacturing accounts for 58 percent of Indian defense procurement.<sup>36</sup>

The annual reports of Stockholm International Peace Research Institute (SIPRI) show that despite a significant defense R&D and industrial base, India remained a huge arms-importing country. Its share of global arms imports was 9.1 percent in the 2014–18 period and it actually went up to 9.8 percent in the 2020–23.<sup>37</sup>

The fact that the reform measures have as yet made little difference is evident from the fact that the share of domestic production in capital acquisition by the armed forces was 63 percent in 2014–15 and it was 64 percent in 2022–23, meaning that there was little change.<sup>38</sup>

The Indian defense industry has a large and varied production base, but it lacks the capacity of designing and manufacturing major systems, as well as critical materials, assemblies, and sub-assemblies. A major reason for this is the lack of a larger industrial ecosystem that can service the defense segment. Despite its size, Indian acquisitions are in numbers that do not always make it worthwhile to invest in production facilities. There are areas where imports are a cheaper and quicker option. Instead of blanket “positive indigenization lists,” it may be a better idea to determine in which areas India can depend on reliable supply chains and where it needs to set up its own facilities.

However, there can be little doubt that significant problems lie within the realm of the DRDO, India’s principal defense research organization, a network of forty-one laboratories that deals with everything from missiles to bulletproof jackets. Its weaknesses relate to the overall problems of Indian R&D, as well as inadequate budgets and focus and an inability to take along the armed forces in its planning and processes.

In August 2023, the government of India constituted a nine-member committee headed by Professor Vijay Raghavan, the former principal scientific advisor to redefine the role of Defence R&D and the DRDO. The committee report was submitted in January 2024, and it has reportedly recommended the creation of a Defence Technology Council under the Prime Minister’s Office with the defence minister and the national security advisor as its members, along with two members from academia and industry, to identify suitable paths for specific technologies and also supervise the DRDO.<sup>39</sup>

A separate organization under the MOD—the Department of Defence Science, Technology, and Innovation (DDSTI)—would be created to promote defense research and development in academic and start-up ecosystems. It would also serve

as the secretariat of the Defence Technology Council. The DRDO’s role would be limited to research and development; they would not develop prototypes or technologies themselves, which would be done by the public- and private-sector industry.<sup>40</sup>

Not surprisingly, the committee report has met with strong resistance within the DRDO, and its senior scientists have submitted a dissent note to the government. The MOD will now examine the various options and submit them to the Prime Minister’s Office for the final decision.<sup>41</sup>

## ADDRESSING THE NEW DOMAINS

Despite the resource crunch and other pre-occupations and priorities, the government ensured that the military remained familiar with new domains. In 2018, the Cabinet Committee on Security approved the formation of three new tri-service entities—the Defence Cyber Agency (DCA), the Defence Space Agency (DSA), and the Special Operations Division (SOD). The military had wanted these as full-fledged commands, but the government decided that that would be a step too far at this stage.<sup>42</sup>

In 2019, a few months after the DSA was established, the government created a Defence Space Research Organisation (DSRO) as an offshoot of the parent Defence Research and Development Organisation (DRDO). The DSRO’s role was to find and implement defense applications for India’s spectrum of space technologies.<sup>43</sup>

In October 2022, “Mission DefSpace” was launched by Prime Minister Modi with seventy-five space challenges (i.e., incentivized competitions) in the areas of launch, satellite, communications, payload, ground, and software systems. These are aimed at the private sector, especially small industries and start-ups, and in this way the defense space sector was opened to private industry.<sup>44</sup>



Another development of the period was the incipient steps taken to address the issue of AI and its uses for defense. In February 2018, the Department of Defence Production in the MOD constituted a task force for Strategic Implementation of AI for National Security and Defence, headed by the chairman of the vast Indian conglomerate Tata Sons, N. Chandrasekaran. Based on the task force's recommendations, the MOD created a Defence AI Council, with the defence minister as its chairman in 2019 as well as an Defence AI Project Agency with a specific annual budget.<sup>45</sup>

In 2022, the Department of Defence Production published a list of seventy-five priority projects related to using AI for defense. This was seen as a joint effort of the public and private sectors, as well as research organizations and academic institutions that had "helped create many unique technological products based on AI in the areas of data, logistics, surveillance, weapons and many more."<sup>46</sup>

### **REORGANIZATION 2022-23**

Meanwhile, beyond the exotic high-tech domains, the military still needed to respond to the shifts and changes in relation to the basic military challenges it needs to deal with.

In May 2020, Chinese forces violated existing agreements to mass themselves on the Indian border in eastern Ladakh. They blocked Indian access to certain areas of overlapping claims that had hitherto been patrolled by both sides. This led to a clash at Galwan, in the northwestern region of Ladakh, resulting in the deaths of twenty Indians and an unknown number of Chinese, the first casualties in the border since 1975. This has resulted in a major standoff between the two countries that is still ongoing.<sup>47</sup>

India ordered its I Strike Corps headquartered in Mathura, south of New Delhi, to pivot away from

Pakistan toward China. This was the first significant reorientation of the Indian Army's defense posture that had hitherto focused on Pakistan. In 2022, it also took steps that had been initiated following the failure of Operation Parakram in 2002, to break its traditional "battalion-brigade-division-corps" army organization. The idea was to create agile and combined arms IBGs, larger than a brigade (3,000 personnel), but smaller than a division (12,000-15,000 personnel).<sup>48</sup>

Chauhan, the new Chief of Defence Staff, has taken a different approach to his primary task of restructuring and reorganizing the Indian military as such. He has made few public statements but has worked in the background to move ahead while building consensus. By mid-2024, he had held some two dozen meetings with the three Service chiefs and the chief of the Integrated Defence Staff (IDS) to work out the parameters, and now there is general agreement on the issue of creating theater commands. Chauhan will now seek approval from the new government later this year and thereafter hopes to have a theater command framework in place in two or three years.

Reports suggest that the model, on which there is "99 percent agreement," will see the emergence of a western, a northern, and a maritime theater command to be headed by four-star officers. The current Services' chiefs, who are also four-star, will henceforth be responsible for the provisioning and training of their respective arms. There will also be some other integrated functional commands relating to logistics, training, cyber and space, and intelligence, but they will be headed by three-star officers.<sup>49</sup>

Even before the creation of theater commands, a great deal of work is being undertaken in the background to integrate a number of areas—logistics, communications, systems, training facilities, and so on. The approach taken by General Chauhan was visible in a brainstorming conference held

in April 2024, where the heads of the two existing tri-service Commands interacted with various defense educational institutions like the National Defence Academy, the Defence Services Staff College, the College of Defence Management, and the Military Institute of Technology, as well as the heads of the armed forces Special Operations Division, the Defence Space Agency, and the Defence Cyber Agency. The aim was to promote the joint operational culture, even while making it clear that the uniqueness of each Service will not be affected by the changes.<sup>50</sup>

The government has passed an Inter-Services Organization (Command, Control, and Discipline) Bill in 2023 to standardize the legal mechanism for command, control, and discipline across the three Services, which is aimed at enabling the theaterization process. Among the trickier issues that still need to be dealt with is the process through which there can be equalization of promotion rates among the three Services, which vary hugely in terms of their size. Finally, there will be a need to establish a joint command structure in place of the separate operations directorates of the three Services.

There are likely to be no internal boundaries for the theater commands whose operational roles would be outside the country's borders. Aerospace assets will be spread across the country and dealt with through the existing theater commands, and it is likely that the first three theater commanders will belong to the army, navy, and air force.<sup>51</sup>

Given all this, it is clear that at some stage, the CDS would have to be introduced into the operational command structure from which he is currently excluded. In the structure outlined above, there is need for someone to lead national operational planning and coordinate the inter-theater command and control, and this can only be done by whosoever is in command of the joint command system. Logically, this will have to be the CDS, who is currently the head of the Chiefs of Staff Committee.

This would, of course, affect his job as secretary of the DMA since it would be too much of a burden on a single person. The way out could be the appointment of a vice-chief of Defence Staff as the head of the DMA. Perhaps more structural changes lie ahead.

## THE FOREIGN CONNECTION

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### THE RUSSIA PROBLEM

Despite Herculean efforts toward creating a domestic defense industry, India remains dependent on foreign connections for some arms, spare parts, and components. Another dependence is in the geopolitical sphere where India confronts the challenge of dealing with the currently vastly superior Chinese People's Liberation Army across its land borders in the north and the Indian Ocean to the south.

The 2023 SIPRI analysis of global arms transfers reveals that while Russia remained India's main supplier, its share of Indian arms imports shrank from 76 percent in 2009–13 to 58 percent in 2014–18 and finally to 36 percent in 2019–23.<sup>52</sup>

The last major order of a Russian system was that of the S-400 missile system for which India has braved the 2017 Countering America's Adversaries Through Sanctions Act (CAATSA). It has so far received two systems and expects the balance by 2026. The Russians have also failed to deliver on a plan to manufacture 600,000 Kalashnikov AK-203 assault rifles at a dedicated factory in the UP industrial corridor at Korwa. Two other Russian projects are also facing delay—the construction of two Project 1135.6 Admiral Grigorovich frigates, which originally had Ukrainian engines, and the follow-on lease of a nuclear propelled submarine worth some US\$3 billion.<sup>53</sup>

Some of these delays are the outcome of the war in Ukraine, and some are the result of the

comprehensive sanctions imposed on Russia by the West that have complicated the issue of payments between the two countries. Earlier payments were in US dollars and the sanctions have blocked them. On the other hand, India is buying a vast quantity of Russian oil against Indian rupees, and the two sides have not been able to work out some way in which this can be transferred to another hard currency. India has turned down a proposal to settle its bills in Chinese yuan.

In a 2021 paper, the Indian American analyst Sameer Lalwani and colleagues showed that the India-Russia relationship is much deeper and durable than is commonly assumed. It has been based on a congruence of interests between the two countries that goes back to the Soviet era. Arms transfer ties are one important component. The other is a mutual understanding on how the international system ought to be organized and how each country must defer to the other in terms of spheres of interest.<sup>54</sup>

As for arms, as we have indicated, India has sought to design, develop, and manufacture its own weaponry. Over the years, India has been seeking to diversify its source of technology and know-how, and in recent decades, as its relations with the US have improved, it has sought to source important deals from America. Nevertheless, as Sameer Lalwani et al. point out, Indian dependence is very high and enduring. They have suggested that Russian-origin platforms “composes 85 percent of major Indian weapons systems rather than the 60 percent figure often cited.”<sup>55</sup>

In essence, this means that even if India were not to acquire complete systems from Russia hereafter, in the coming decades it will still be dependent on Moscow for spares, consumables, assemblies, and components for a range of equipment that it fields and in some cases manufactures under license, such as tanks, helicopters, field guns, infantry combat vehicles, and fighter aircraft.

## THE US IN INDIA'S DEFENSE INDUSTRIALIZATION PLANS

By 2020, India had signed all four of the foundational agreements needed to operationalize India-US defense cooperation. These were the General Security of Military Information Agreement (GSOMIA) in 2002, the Logistics Exchange Memorandum of Agreement (LEMOA) in 2016, the Communications Compatibility and Security Agreement (COMCASA) in 2018, and the Basic Exchange Cooperation Agreement (BECA), which involves information sharing in the space and undersea domains, in October 2020.

The two sides had been working under an agreed framework of military cooperation since 2005, and in 2012 they sought to kick off design and development cooperation under the Defence Trade and Technology Initiative (DTTI). In 2016, the US designated India a Major Defense Partner, a designation unique to India.

In August 2018, India was granted the Strategic Trade Authorization Tier 1 (STA-1) status available only to close US allies. Through this, US companies were enabled to export a greater range of dual-use technologies to India. By now it was clear that the DTTI was not delivering the expected results, and the US was seeking to link up to Indian initiatives like the Innovations for Defence Excellence (iDEX), aiming to obtain results in the defense and aerospace sector. As part of this, the two sides signed an Industrial Security Agreement (ISA) in 2019 to deepen Indo-US collaboration by enabling exchange of classified military information.

The year 2023 was pathbreaking in the India-US defense ties, particularly in relation to efforts to enhance their industrial collaboration. It has seen the entry of the United States into the Indian defense industrialization process in a significant way.

There have been several reasons for this. First has been the learning from ongoing processes of the previous decade. Second is the Indian estrangement with China following the latter's coercive actions in eastern Ladakh in 2020. Third was the growing friction in US-China relations. And fourth was the US decision to evolve a new industrial framework based on semiconductor manufacturing and green energy, even while emphasizing a shift away from Chinese supply chains.

A year earlier, in May 2022, when Modi and US president Joe Biden met in Tokyo, they announced an Initiative for Critical and Emerging Technologies (iCET). This was given final shape by the national security advisors of both countries during their meeting in Washington, DC, in January 2023. At an inaugural meeting thereafter, senior science and technology officials from both sides met to discuss opportunities for greater cooperation focusing on codevelopment and coproduction and developing links between their respective ecosystems. Among the subjects that the two sides pledged to boost their cooperation was AI.<sup>56</sup>

### **THE MODI VISIT TO WASHINGTON, DC, 2023**

There was a flurry of activity in the period leading up to the state visit of Prime Minister Modi to Washington, DC, on June 21-23, 2023. In May, the two sides held their first Advanced Domains Defense Dialogue (AD3) led by sub-cabinet officials where the two sides discussed collaboration in the areas of space and emerging technologies, especially AI.<sup>57</sup>

The two sides had begun working on a road map for US-India Defense Industrial Cooperation based on the 2015 Framework for US-India Defense Relationship. On June 5, they updated the road map during the visit of US secretary of defense Lloyd Austin to New Delhi.

The updated road map was aimed at "fast-tracking" technology cooperation and coproduction between the US and India, as well as at especially addressing India's needs to certain cutting-edge technologies. Priority projects under this framework included systems for intelligence, surveillance, and reconnaissance (ISR), undersea domain awareness, and air combat and support, as well as aeroengines, munitions, and mobility systems. The US made clear that it intended to make India "a logistic hub" for the US and its other partners in the Indo-Pacific as well as "support the integration of Indian defense industry into global supply chains of US defense and aerospace companies."<sup>58</sup>

On June 6, in Washington, DC, Indian foreign secretary V. M. Kwatra participated in the inaugural meeting of the India-US Strategic Trade Dialogue with Alan Estevez, undersecretary for Industry and Security in the US Department of Commerce. The aim was to facilitate Indian access to US semiconductor, space, telecom, quantum, and other cutting-edge technologies through the thicket of US regulations.<sup>59</sup>

Capping all this, as it were, was the announcement that General Electric Company had agreed with HAL to jointly produce the company's GE-414 jet engine to power the yet-to-be-developed LCA Tejas Mk2, the advanced medium combat aircraft (AMCA), as well as collaborate with India on the AMCA Mk2 engine program. The deal would see an 80 percent technology transfer to the HAL, including critical technologies; a previous agreement of 2012 had a 58 percent technology transfer component.<sup>60</sup>

During the Modi visit on June 21, 2023, India's defense ministry and its US counterpart launched a bilateral Defense Acceleration Ecosystem (INDUS-X) program to expand strategic technology and defense industrial cooperation. India's iDEX organization and the office of the US

secretary of defense would provide the leadership to connect industry and academic institutions in public-private partnerships.

Almost immediately, the INDUS-X began to receive applications for various projects. By November 2023, two INDUS-X “challenges” were accepted under the INDUS-X Mutual Promotion of Advanced Collaborative Technologies (IMPACT), jointly finalized by iDEX and the US Defense Innovation Unit (DIU). These relate to underwater communications and oil spills detection, as well as technologies relating to the Indian Navy and Coast Guard.<sup>61</sup>

There are still some outstanding issues in the relationship, such as the need for India to sign the Security of Supplies Arrangement (SoSA) and the Reciprocal Defense Procurement (RDP) agreement, both of which are being negotiated. Further, the “road map” document was viewed as a short-term measure since the 2015 Framework is up for renewal in 2024–25.

In May 2024, amid India’s general elections, the officials of the two sides met for their second Advanced Domains Defense Dialogue (AD3) at the Pentagon. According to a readout, the dialogue featured their first discussion on ways to enhance cooperation in the space domain. The Indian delegation met with the US Space Command and AI experts in the US Department of Defense as well.<sup>62</sup>

## THE YEAR AHEAD

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This chapter has focused on policy issues that have played a significant role in the effort to reform and reorganize the Indian military in the recent years. There have been two important factors at play here. One is the ongoing standoff between India and China along the Line of Actual Control (LAC), and the other is the significant uptick in the India-US relationship.

Let us now examine how some of these issues are playing out on the ground currently. The Indian Army is continuing to focus on technology. In his annual Army Day press conference in January 2024, the Army Chief General Manoj Pande said that 2024 would be “The Year of Technology Absorption,” noting that the army wanted leverage technology for “transformative change.” This would be done, he insisted, through in-house expertise as well as collaboration with industry.<sup>63</sup>

At another event a few months later in April 2024, General Pande observed that warfare had transcended into new domains such as space, cyber, electromagnetic spectrum, and information. Besides listing terrain-specific electronic warfare (EW) systems, drones and anti-drone systems, light tanks, and light utility helicopters, he said that the army was pursuing forty-five niche technologies, while another 120 projects were underway to develop and absorb these technologies.<sup>64</sup>

The process of integration between the Services has also moved ahead. The Interim Budget 2024 for the first time consolidated the capital head of all three services in the demand for grants. These deal with land, aircraft, aeroengines, heavy and medium vehicles, and so on. The CDS would now prioritize their allocations with the help of the Integrated Defense Staff (IDS) and send them to the Defence Acquisitions Council for approval.<sup>65</sup>

Another development was the approval from the Cabinet Committee on Security (CCS) in February 2024 for two hundred BrahMos missiles worth 190 billion INR (US\$2.3 billion). According to the Indian Navy Chief R. Hari Kumar, this would now emerge as the primary weapon for the Indian Navy, replacing all those imported hitherto. He noted that in all likelihood it would also emerge as the main air-to-surface missile for the Indian Air Force (IAF) as well.<sup>66</sup>



In February, the US approved the sale of thirty-one SeaGuardian MQ-9B armed drones to India at an estimated cost of \$3.99 billion. The deal to acquire the drones, fifteen of which would be for the navy, would enhance India's maritime surveillance and control capabilities. The deal was announced during the Modi visit in June 2023. The army and air force each would get eight of its land version, called SkyGuardian.<sup>67</sup>

Meanwhile, the Indian Air Force is likely to get the delivery of the first of sixteen Tejas LCA Mk1A fighters from the HAL in July 2024. This is an advanced variant of the Tejas that is already serving with the IAF. The air force ordered eighty-three of the fighters in 2021 and is likely to order nearly one hundred more of the aircraft, which uses the GE-404 engine made by General Electric.

Another significant development has been the government's approval in March 2024 of the advanced medium combat aircraft (AMCA) fifth-generation fighter aircraft program. The approval is for the design and development of five prototypes of the aircraft to fly by 2028-29. The design work will be done by the Aeronautical Development Agency (ADA) of the Defence Research and Development Organisation (DRDO), which developed the Tejas fighter aircraft. The prototypes will be made by the public-sector HAL.<sup>68</sup>

In 2024, the Indian Army reorganization plans continued apace with another major shift—this time a reinforcement of its deployments in its central sector that stretches from Himachal Pradesh in the west to Sikkim in the east. Since a large portion of this comprises the Indian border with Nepal, Indian deployments there had not been very significant in what is known as the Central Sector.

However, now it was felt that there was a need to reinforce this sector as well, primarily in the Indian state of Uttarakhand, which borders on China. Plans are afoot to create a new corps here in what

is being called the "Uttar Bharat Area" (North India Area), headquartered in Bareilly.<sup>69</sup>

Meanwhile, the army expressed satisfaction with the first phase of its plans to create IBGs, which had been instituted in a pilot project in the IX Corps headquartered in Yol, Himachal Pradesh, and the XVII Mountain Strike Corps in Panagarh, West Bengal. The first phase IX Corps, which deals with Pakistan, had two IBGs, and in Phase II the Panagarh Corps had five.<sup>70</sup> The army now seeks sanction of the new government that came to power in June 2024 to go ahead with Phase III of the project, which will make IBGs the basic combat organization of the army.

The Indian Navy, too, is making an important shift in reinforcing its posture in its western Lakshadweep islands in the Indian Ocean. In February, it was revealed that India was to establish naval bases in Agatti and Minicoy islands, which sit on the nine-degree channel through which there is a major commercial shipping route from the Persian Gulf to Southeast Asia. The base at Minicoy, which is just 524 kilometers from the Maldives, was inaugurated in March. This seems to be a fallout of a pro-Chinese government taking office in the Maldives last year. Plans also call for the building of a new airstrip there.<sup>71</sup>

A significant development was the growth of Indian ties with the Philippines. In December 2023 and again in May 2024, Indian naval vessels visited the island country. Manila has recently received the first tranche of Indian-made BrahMos supersonic antiship missiles.<sup>72</sup> The Philippines plans to establish three coastal batteries of the missiles under a \$375 million project.

Reports say that India is also upgrading its military infrastructure in the Andaman and Nicobar islands, which are adjacent to the Malacca Straits. Airfields there are getting longer runways and upgraded jetties, and new roads are being built in the islands. The aim is to facilitate greater

deployment of warships, aircraft, missile batteries, and troops there.<sup>73</sup>

Another significant development in 2024 is that India and France have begun contract negotiations on a deal to procure twenty-six Rafale Marine fighter aircraft for the navy. These will replace the current Russian origin MiG-29K fighters. Last year the government chose the aircraft over the American F/A-18 Super Hornets, and they will be used in its indigenous aircraft carrier the INS *Vikrant*.<sup>74</sup>

Another hallmark of India's more outgoing military stance is manifesting itself with the appointment of military attachés to more than a dozen new nations. These include countries like Poland, Armenia, Tanzania, Mozambique, Djibouti, Ethiopia, Ivory Coast, and the Philippines.<sup>75</sup>

In February, India's senior most defense official, Defence Secretary Giridhar Aramane, provided a glimpse as to how Indo-US cooperation is working on the Line of Actual Control with China. Speaking at the second edition of the INDUS-X summit, he said that "one thing that aided us [during the LAC standoff] was the intelligence, [and] the situational awareness which the US equipment and the US government helped us with." He noted that such assistance would be absolutely critical in the future as well.<sup>76</sup>

Aramane was also obliquely referring to the India-China clash at Yangtse on the LAC near the monastery town of Tawang in Arunachal Pradesh in December 2022, where the Chinese sought to overwhelm an Indian post using spiked clubs and improvised spears. Forewarned, reportedly by the Americans, however, the Indians had reinforced the position and were able to repel the Chinese.<sup>77</sup>

An important aspect of the Indo-US space cooperation was visible when the TSAT-1A was launched on April 7, 2024, from the SpaceX Falcon 9 rocket from the Kennedy Space Center. This is

a military-grade earth observation satellite with submeter resolution and has been developed following an agreement between the US company Satellogic and the Tata Advanced Systems Ltd. (TASL).<sup>78</sup>

On June 17-18, US national security advisor Jake Sullivan visited India along with Deputy Secretary of State Kurt Campbell. The visit, which was postponed twice, was connected to a review of the functioning of the iCET program initiated in 2023 by Sullivan and his Indian counterpart, Ajit Doval.<sup>79</sup>

Subsequently, Campbell gave an online briefing to journalists around the world and India and provided details of the state of play with regard to a number of Indo-US programs arising from iCET, which Campbell said was "at the heart of our partnership between the United States and India." He said that since the launch of iCET in January 2023, the two sides had deepened strategic cooperation. He noted that "the area that has sparked the greatest set of ambitions" related to India playing a key role in both supply chains, development, and design relating to semiconductors.<sup>80</sup>

In relation to defense, Campbell announced a number of new initiatives and partnerships such as the one between the US Space Force and the Indian start-ups 114AI and 3rd ITECH on advancing space situational awareness, data fusion technologies, and infrared sensor semiconductor manufacturing; another between General Atomics and 3rd ITECH "to co-develop semiconductor design and manufacturing for precision guided munition and other national security focused electronics platforms"; and third, an AI multi-domain situational awareness product jointly developed by General Atomics and 114AI to support all-domain command and control.<sup>81</sup>

He also provided details on the ongoing process for India to acquire the MQ-9B SeaGuardian drones, which had been approved by the US, and said that there had also been some early-stage

discussions on the possibility of the coproduction of the Stryker infantry combat vehicle and the Javelin antitank missiles.<sup>82</sup>

## CONCLUSION

It is clear from this discussion that India is in the midst of a massive military transformation. Efforts are underway in multiple directions to make the Indian military more agile, technology oriented, and capable of deterring or winning wars in a multi-domain operational environment. These efforts also cater to an important aspect of India's aspiration and self-image to be seen as a global power and an industrial and exporting powerhouse. The United States is already committed to play a significant role in this, even though there are caveats on the extent to which US technology will be available for India to make the difference. American companies are jealous of their intellectual property rights, and the US itself has tough limits on the technology it is willing to export.<sup>83</sup>

Even so, as is evident, the tasks before India are huge, ranging from restructuring and modernizing its military and R&D systems, getting a modern defense industry going, overhauling its human resource management by overcoming the challenges to its Agnipath scheme, and promoting jointness and integration of forces even while putting in place a new higher command-and-control system.

India hopes that this process will ride on increased resources for defense as a result of its economic growth and reforms that have been instituted. This would, hopefully, aid the emergence of a new Indian defense industrial capacity that will service its military and also be a major exporter of defense equipment. However, as of now a great deal of this remains a work in progress and requires considerable effort and additional resources to succeed.

## NOTES

1. Steven I. Wilkinson, *Army and Nation: The Military and Indian Democracy Since Independence* (Permanent Black, 2015), 154–55.
2. Major K. C. Praval, *Indian Army after Independence* (Lancer International, 1987), 327–28.
3. See W. P. S. Sidhu, Shekhar Gupta, and Kanwar Sandhu, "A Middle-Aged Military Machine," *India Today*, April 30, 1993, <https://www.indiatoday.in/magazine/cover-story/story/19930430-a-middle-aged-military-machine-755942-1993-04-29>.
4. Walter C. Ladwig III, "A Cold Start for Hot Wars? The Indian Army's New Limited War Doctrine," *Quarterly Journal: International Security* 32, no. 3 (Winter 2007–08): 158–90.
5. H. S. Panag, "Modern Wars Need Tech Edge: Army's Integrated Battle Group Will Be Toothless without It," *The Print*, May 19, 2022, <https://theprint.in/opinion/modern-wars-need-tech-edge-armys-integrated-battle-groups-will-be-toothless-without-it/961488/>.
6. Group of Ministers, "Reforming the National Security System, Recommendations of the Group of Ministers," *Report of the Group of Ministers on National Security* (Government of India, mimeo February 2001), <https://www.vifindia.org/sites/default/files/GoM%20Report%20on%20National%20Security.pdf>.
7. Pushpinder Singh, *Himalayan Eagles: History of the Indian Air Force*, vol. 2, *Consolidation and Expansion* (Society for Aerospace Studies, 2007), 77–78, 118, 149–50.
8. Vice Admiral G. M. Hiranandani, *Transition to Triumph: History of the Indian Navy, 1965–1975* (Lancer Publishers, 2005), 91–94.
9. Ministry of Defence (MOD), Standing Committee on Defence (2017–18), *Forty First Report: Demands for Grants (2018–19), Army, Navy and Air Force Demand No. 20* (Lok Sabha Secretariat, March 2018), [https://loksabhadocs.nic.in/lssccommittee/Defence/16\\_Defence\\_41.pdf](https://loksabhadocs.nic.in/lssccommittee/Defence/16_Defence_41.pdf).
10. MOD, Standing Committee on Defence (2017–18), *Forty First Report: Observations/Recommendations, Indian Army No. 7, Indian Navy No. 39 and Air Force No. 55* (Lok Sabha Secretariat, March 2018), [https://sansad.in/getFile/lssccommittee/Defence/16\\_Defence\\_41.pdf?source=loksabhadocs](https://sansad.in/getFile/lssccommittee/Defence/16_Defence_41.pdf?source=loksabhadocs).
11. MOD, Standing Committee on Defence (2017–18), *Forty Second Report: Demands for Grants (2018–19), Capital Outlay on Defence Services, Procurement Policy and Defence Planning Demand No. 21* (Lok Sabha Secretariat, March 2018), section 1.11, [https://sansad.in/getFile/lssccommittee/Defence/16\\_Defence\\_42.pdf?source=loksabhadocs](https://sansad.in/getFile/lssccommittee/Defence/16_Defence_42.pdf?source=loksabhadocs).
12. Dinakar Peri, "Budget 2024: Defence Gets More at Rs 6.22lakh Crore, Boost for BRO's Projects" *The Hindu*,

- July 24, 2024, <https://www.thehindu.com/business/budget/defence-gets-more-at-622-lakh-crore-boost-for-bros-projects/article68437129.ece>.
13. PRS Legislative Research, *Demand for Grants 2023-24: Analysis* (Institute for Policy Research Studies), February 17, 2023.
  14. MOD, Press Information Bureau (PIB), "Cabinet Approves Creation of the Post of Chief of Defence Staff in the Rank of Four Star General," press release, December 24, 2019, <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1597425>.
  15. MOD, PIB, "Cabinet Approves Creation."
  16. MOD, PIB, "Cabinet Approves Creation."
  17. Cabinet Secretariat, *Appendix to the Government of India (Allocation of Business) Rules, 1961, 2004* reprint, <https://cabsec.gov.in/allocationofbusinessrules/amendment/>.
  18. Amit Cowshish and Rahul Bedi, "A Host of Complex Issues Threaten the Formation of the Military's Integrated Theatre Commands," *The Wire*, July 8, 2021, <https://thewire.in/security/military-integrated-theatre-commands-bipin-rawat-air-force-army-issues>.
  19. Parliament Library and Reference, Research, Documentation and Information Service, Reference Note "Agnipath Yojana" (Agnipath scheme) (July 2022), [https://loksabhadocs.nic.in/Refinput/New\\_Reference\\_Notes/English/15072022\\_141146\\_102120411.pdf](https://loksabhadocs.nic.in/Refinput/New_Reference_Notes/English/15072022_141146_102120411.pdf).
  20. Pranay Kotasthane, "The Rs 34,500 Crore Argument: Rough Calculations on Agnipath's Pension-Saving Potential Show Why the Change Is Crucial," *Times of India*, June 20, 2022, <https://timesofindia.indiatimes.com/blogs/voices/the-rs-34500-crore-argument-rough-calculations-on-agnipaths-pension-saving-potential-show-why-the-change-is-crucial/>.
  21. Arun Prakash, "Agnipath: Between the Lines," *Indian Express*, June 21, 2022, <https://indianexpress.com/article/opinion/columns/agnipath-scheme-armed-forces-protests-7979936/>.
  22. Dinakar Peri, "Army Plans 96 Recruitment Rallies for Agniveers This Year," *The Hindu*, April 16, 2024, <https://www.thehindu.com/news/national/army-plans-96-recruitment-rallies-for-agniveers-this-year/article68072416.ece>.
  23. Dinakar Peri, "Deliberations on to Increase the Rate of Permanent Intake through Agnipath Scheme," *The Hindu*, July 8, 2023, <https://www.thehindu.com/news/national/deliberations-on-to-increase-intake-numbers-percentage-of-permanent-intake-through-agnipath-scheme/article67057665.ece>.
  24. Wire Staff, "Agnipath Scheme Was 'Bolt Out of the Blue' for Navy and Air Force: Former Army Chief Naravane," *The Wire*, December 20, 2023, <https://thewire.in/security/agnipath-scheme-bolt-out-of-the-blue-navy-air-force-former-army-chief-naravane-memoirs>.
  25. Amrita Nayak Dutta, "On Armed Forces Table: Let Double the Agniveers Stay Back, Train Them Longer," *Indian Express*, June 13, 2024, <https://indianexpress.com/article/india/on-armed-forces-table-let-double-the-agniveers-stay-back-train-them-longer-9388971/>.
  26. Amit Cowshish, "Decoding Defence Acquisition Procedure, 2020," *Issue Brief*, Manohar Parrikar Institute for Defence Studies and Analyses, November 20, 2020, <https://idsa.in/issuebrief/decoding-dap-2020-acowshish-201120>.
  27. MOD, Department of Defence Production, "Brief on Private Sector Participation in Defence Production," [https://www.ddpmod.gov.in/private\\_sector\\_participation](https://www.ddpmod.gov.in/private_sector_participation).
  28. MOD, Department of Defence, Innovations for Defence Excellence (iDEX), <https://idex.gov.in/>.
  29. MOD, Department of Defence, iDEX, "Defence India Startup Challenge (DISC)," <https://idex.gov.in/disc-category/1>.
  30. MOD, PIB, "MoD's Big Push to Atmanirbhar Bharat Initiative," press release, August 9, 2020, <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1644570>.
  31. MOD, PIB, Ministry of Defence—Year End Review 2023, "Aatmanirbharta (Self-Reliance) in Defence," <https://pib.gov.in/PressReleaselframePage.aspx?PRID=1989502#:~:text=Dornier%2D228%20Aircraft%3A%20Ministry%20of,Transport%20Role%20and%20communication%20duties>.
  32. See Society of Indian Defence Manufacturers (SIDM), "Defence Corridors and State Defence Policies," <https://www.sidm.in/state-defence-policies>.
  33. See Observer Research Foundation, "Figure 1: Capital Acquisition by Armed Forces (Domestic and Foreign)" in Laxman Kumar Behera, "India's Defence Industry: Achievements and Challenges," *Issue Brief* no. 708, May 2024, 14.
  34. Rajat Pandit, "India to Acquire More Howitzers, Rockets and Missiles," *Times of India*, September 17, 2023, <https://timesofindia.indiatimes.com/india/india-to-acquire-more-howitzers-rockets-and-missiles/articleshow/103724259.cms>.
  35. MOD, PIB, "Ministry of Defence Identifies 18 Major Platforms for Industry-Led Design and Development," press release, March 11, 2022, [https://pib.gov.in/PressReleaselframePage.aspx?PRID=1805135#:~:text=Out%20of%2018%20major%20platforms,IR\)%20with%20high%20resolution%20sensing](https://pib.gov.in/PressReleaselframePage.aspx?PRID=1805135#:~:text=Out%20of%2018%20major%20platforms,IR)%20with%20high%20resolution%20sensing).
  36. Lucie Béraud-Sudreau et al., *Arms-Production Capabilities in the Indo-Pacific Region: Measuring Self-Reliance* (Stockholm International Peace Research Institute [SIPRI], October 2022), 16.

37. See Pieter D. Wezeman et al., "Trends in International Arms Transfers, 2023," *SIPRI Fact Sheet*, Table 2, "India" (SIPRI, March 2024), 6.
38. Behera, "India's Defence Industry," 14.
39. Pradeep R. Sagar, "Reforms: Do or Die for the DRDO," *India Today*, February 26, 2024, <https://www.indiatoday.in/magazine/defence/story/20240226-reforms-do-or-die-for-the-drdo-2502973-2024-02-16>.
40. Sagar, "Reforms."
41. Sagar, "Reforms."
42. Sudhi Ranjan Sen, "India to Set Up Three New Agencies, Including Cyber and Space, to Boost Defence Capabilities," *Hindustan Times*, October 16, 2018, <https://www.hindustantimes.com/india-news/india-to-set-up-3-new-agencies-including-cyber-and-space-to-boost-defence-capabilities/story-umuS4UOsDavo0MhHkUjuWN.html>.
43. Vivek Raghuvanshi, "India to Launch a Defense-Based Space Research Agency," *Defense News*, June 12, 2019, <https://www.defensenews.com/space/2019/06/12/india-to-launch-a-defense-based-space-research-agency/>.
44. Dinakar Peri, "We Have to Work Fast to Solve Various Challenges in Space Technology: Modi," *The Hindu*, October 19, 2022, <https://www.thehindu.com/news/national/new-airbase-coming-up-in-gujarat-near-indo-pak-border-to-emerge-as-effective-centre-for-countrys-security-pm-modi/article66029973.ece>.
45. Commander Subhasish Sarangi, "National Initiatives on Artificial Intelligence in Defence," United Services Institution, April 25, 2019, <https://www.usiofindia.org/strategic-perspective/national-initiatives-on-artificial-intelligence-in-defence.html>.
46. MOD, Department of Defence Production, *AIDef: Artificial Intelligence in Defence* (July 2022), <https://www.ddpmod.gov.in/artificial-intelligence-defence>.
47. See Manoj Joshi, *Understanding the India-China Border: The Enduring Threat of War in High Himalaya* (C. Hurst, 2022), chapter 1.
48. Rajat Pandit, "Army to Set Up New Battle Groups for Offensive Punch by Next Year," *Times of India*, June 7, 2021, <https://timesofindia.indiatimes.com/india/army-to-set-up-new-battle-groups-for-offensive-punch-by-next-year/articleshow/83290857.cms>.
49. Snehash Alex Philip, "Army, Navy, IAF Finally '99%' in Agreement over Structure of Proposed Theatre Commands," *The Print*, June 28, 2023, <https://theprint.in/defence/army-navy-iaf-finally-99-in-agreement-over-structure-of-proposed-theatre-commands/1646390/>.
50. Ajay Banerjee, "Eyeing Joint Operations, but Uniqueness of Each Service to Be Intact: CDS Gen Anil Chauhan," *The Tribune*, April 8, 2024, [.tribuneindia.com/news/india/eyeing-joint-ops-but-uniqueness-of-each-service-to-be-intact-cds-608928](https://www.tribuneindia.com/news/india/eyeing-joint-ops-but-uniqueness-of-each-service-to-be-intact-cds-608928).
51. Off-the-record conversation with a senior officer dealing with the issue, June 3, 2024.
52. Wezeman et al., "Trends in International Arms Transfers, 2023," 9.
53. Rahul Bedi, "Russian Rifle Delays Raise Concerns over Deliveries from Moscow," *The Wire*, December 15, 2023, <https://thewire.in/security/russia-ak203-kalashnikov-ukraine-sanction>.
54. Sameer Lalwani, Frank O'Donnell, Tyler Sagerstrom, and Akriti Vasudeva, "The Influence of Arms: Explaining the Durability of India-Russia Alignment," *Journal of Indo-Pacific Affairs*, January 15, 2021, <https://www.airuniversity.af.edu/JIPA/Display/Article/2473328/the-influence-of-arms-explaining-the-durability-of-indiarussia-alignment/>.
55. Lalwani et al., "Influence of Arms."
56. The White House, "Fact Sheet: United States and India Elevate Strategic Partnership with the Initiative on Critical and Emerging Technology," January 31, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/01/31/fact-sheet-united-states-and-india-elevate-strategic-partnership-with-the-initiative-on-critical-and-emerging-technology-icet/>.
57. Asian News International (ANI), "India, US Hold Advanced Domains Defense Dialogue in New Delhi," *The Print*, May 26, 2023, <https://theprint.in/world/india-us-hold-advanced-domains-defense-dialogue-in-new-delhi/1596924/>.
58. US Department of Defense, "Roadmap for US-India Defense Industrial Cooperation," press release, June 5, 2023, <https://media.defense.gov/2023/Jun/21/2003244834/-1/-1/0/ROADMAP-FOR-US-INDIA-DEFENSE-INDUSTRIAL-COOPERATION-FINAL.PDF>.
59. Embassy of India, Washington, DC, "Launch of India-US Strategic Trade Dialogue," press release, <https://www.indianembassyusa.gov.in/News?id=249871#>.
60. Dinakar Peri and Suhasini Haidar, "Jet Engine Deal Ensures 80% Technology Transfer to HAL: First Engine in Three Years," *The Hindu*, June 23, 2023, <https://www.thehindu.com/news/national/jet-engine-deal-ensures-80-technology-transfer-first-engine-will-roll-out-in-3-years/article67002402.ece>.
61. Dinakar Peri, "Indo-US Target Technologies in Maritime Domain under Startup Collaboration," *The Hindu*, November 9, 2023, <https://www.thehindu.com/news/national/india-us-target-technologies-in-maritime-domain-under-start-up-collaboration/article67514219.ece>.
62. US Department of Defense, "Readout of the Second US-India Advanced Domains Defense Dialogue," press release, May 24, 2024, <https://www.defense.gov>



/News/Releases/Release/Article/3787369/readout-of-the-second-us-india-advanced-domains-defense-dialogue.

63. Ravi Shankar, "Army Chief Unveils Vision for a Modernized Force in 2024," *Bharat Shakti*, January 11, 2024, <https://bharatshakti.in/army-chief-unveils-vision-for-a-modernized-force-in-2024>.
64. Smruti Deshpande, "Conventional Military Force No More Deciding Factor, Says Army Chief: Calls for Self-Reliance," *The Print*, April 30, 2024, <https://theprint.in/defence/conventional-military-force-no-more-deciding-factor-says-army-chief-calls-for-self-reliance/2064075/>.
65. Peri, "Budget 2024."
66. Asia News International, "'BrahMos Will Be Our Primary Weapon Now,' Says Navy Chief after Rs 19,000 Crore Deal Cleared by Centre," *The Hindu*, February 26, 2024, <https://www.thehindu.com/news/national/brahmos-will-be-our-primary-weapon-now-says-navy-chief-after-19000-crore-deal-cleared-by-centre/article67887690.ece>.
67. Press Trust of India (PTI), "MQ-9B Drones Will Provide India with Enhanced Maritime Security, Domain Awareness Capability: US," *The Hindu*, February 6, 2024, <https://www.thehindu.com/news/international/mq-9b-drones-will-provide-india-with-enhanced-maritime-security-domain-awareness-capability-us/article67816677.ece>.
68. Akhil Kadidal, "India Approves Fifth Generation AMCA Fighter Project," *Janes*, March 11, 2024, <https://www.janes.com/defence-news/news-detail/india-approves-fifth-generation-amca-fighter-project#:~:text=Janes,be%20disbursed%20to%20the%20programme>.
69. Times News Network, "Eye on China, Army to 'Combatise' More Formations under Central Command," *Times of India*, February 21, 2024, <https://timesofindia.indiatimes.com/india/eye-on-china-army-to-combatise-more-formations-under-central-command/articleshow/107862296.cms>.
70. Rajat Pandit, "New Government to Decide on Army's Integrated Battle Group Plan," *Times of India*, June 10, 2024, <https://timesofindia.indiatimes.com/india/new-government-to-decide-on-armys-integrated-battle-group-plan/articleshow/110854869.cms>.
71. Shishir Gupta, "India to Build Naval Bases in Agatti and Minicoy Islands," *Hindustan Times*, February 14, 2024, <https://www.hindustantimes.com/india-news/india-to-build-naval-bases-in-agatti-and-minicoy-islands-101707884042309.html>.
72. Nayanima Basu, "With Eye on Beijing, India & Philippines Hold Naval Drill in South China Seas as Strategic Ties Grow," *ABP Live*, December 15, 2023, <https://news.abplive.com/india-at-2047/india-philippines-relations-naval-drill-mpx-in-south-china-sea-beijing-strategic-ties-abpp-1650259>; Press Trust of India, "3

Indian Navy Ships on Way for Operational Deployment in South China Sea," *NDTV.com*, May 7, 2024, <https://www.ndtv.com/india-news/3-indian-navy-ships-on-way-for-operational-deployment-in-south-china-sea-5609586>.

73. Amrita Nayak Dutta and Mahender Singh Manral, "Strategic Military Infra Upgrade in the Works for the Andaman & Nicobar Islands," *Indian Express*, April 11, 2024, <https://indianexpress.com/article/india/strategic-military-infra-upgrade-in-the-works-for-andaman-nicobar-islands-9261093/>.
74. *Economic Times*, "India to Start Talks for 26 Rafale Marine Jets: Here Is All about the 'Omnirole' Naval Fighter Plane," May 28, 2024, <https://economictimes.indiatimes.com/news/defence/india-to-start-talks-for-26-rafale-marine-jets-heres-all-about-the-omnirole-naval-fighter-plane/articleshow/110498671.cms?>
75. Kallol Bhattacharjee, "India to Send New Defence Attachés in Multiple Missions in Africa," *The Hindu*, April 10, 2024, <https://www.thehindu.com/news/national/india-to-send-new-defence-attach%C3%A9s-in-multiple-missions-in-africa/article68051464.ece>.
76. Ajay Banerjee, "India: US Was Big Help during LAC Standoff with China, Future Support Must, Too," *The Tribune*, February 21, 2024, <https://www.tribuneindia.com/news/india/india-us-was-big-help-during-lac-stand-off-future-support-must-too-593158>.
77. Prashant Jha, "US Warned India of Chinese Incursion: Report," *Hindustan Times*, March 22, 2023, <https://www.hindustantimes.com/cities/delhi-news/us-warned-india-of-chinese-incursion-report-101679422352190.html>.
78. Manu Pubby, "Tata's Military-Grade Satellite Successfully Placed into Orbit," *Economic Times*, April 9, 2024, <https://economictimes.indiatimes.com/news/defence/tatas-military-grade-satellite-successfully-placed-into-orbit/articleshow/109143232.cms?from=mdr>.
79. Dinakar Peri, "NSAs of India, US Review iCET Cooperation, Silent on Pannun Investigation," *The Hindu*, June 17, 2024, <https://www.thehindu.com/news/international/nsa-ajit-doval-holds-talks-with-jake-sullivan/article68299647.ece>.
80. US Department of State, "Special Online Briefing with Deputy Secretary of State Kurt M. Campbell," June 26, 2024, <https://www.state.gov/special-online-briefing-with-deputy-secretary-of-state-kurt-m-campbell>.
81. US Department of State, "Kurt M. Campbell."
82. US Department of State.
83. Rahul Bedi, "The Innate Limitations in Executing iCET," *The Hindu*, July 10, 2024, <https://www.thehindu.com/opinion/op-ed/the-innate-limitations-in-executing-icet/article68386091.ece>.