A HARD LOOK AT HARD POWER

ASSESSING THE DEFENSE CAPABILITIES OF KEY US ALLIES AND SECURITY PARTNERS

SECOND EDITION

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Editor

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Ashley J. Tellis

KEY POINTS

- The Indian Armed Forces are large and competent, but they face significant internal security challenges as well as major external dangers from China and Pakistan.
- An underperforming economy has constrained military budgets and largely confined the Indian military to ensuring internal security and protecting the country's frontiers.
- Indian policy makers have expressed an interest in the country playing a more significant role in the wider Indo-Pacific region, but they still eschew the kind of strategic partnerships that would make enhanced power projection possible.

Although India is still a developing country, it fields large and capable military forces. Today, India possesses the world's second-largest army (when measured by personnel in arms on active duty), which is complemented by arguably the world's largest paramilitary forces; the seventh-largest navy (when measured by the number of vessels); and the fourth-largest air force (when measured by the number of combat aircraft).[1] These sizeable capabilities are

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1. International Institute for Strategic Studies (IISS), *The Military Balance 2018* (London: IISS, February 2018); and "Indian Air Force Fighter/Attack Aircraft," GlobalSecurity.org, updated January 13, 2020, https://www.globalsecurity.org/military /world/india/air-force-equipment-fighter.htm.

driven by India's difficult threat environment, which is marked by significant internal security challenges as well as by the major external dangers posed by China and Pakistan.

For most of India's postindependence history, Pakistan has constituted a major threat. The Pakistan Armed Forces are relatively large, highly professional and motivated, and—barring the Indo-Pakistani War of 1971 in the east—have proven to be effective adversaries. In recent decades, however, China has eclipsed Pakistan as the pacing threat to India. Three decades of record Chinese economic growth, coupled with comprehensive military modernization and rising strategic ambitions, have resulted in China posing new threats to India, making Pakistan pale in comparison.

As Sino-Pakistani ties have deepened over the past half-century, India has found itself confronting two major bordering adversaries. This reality has compelled India to maintain military forces capable of dealing with both threats (possibly simultaneously), to deploy these capabilities along vast and diverse fronts, and to reach for a modicum of technological and operational superiority over Pakistan while maintaining enough dissuasive power vis-à-vis China. When India's domestic security challenges are thrown into the mix, New Delhi's strategic environment appears daunting.

INDIA'S GRAND STRATEGY AND DEFENSE EXPENDITURES

Although India's aspirations for great-power status were evident from the time of its independence, its leaders recognized that realizing this ambition would

be a long-term endeavor. The two more pressing objectives involved preserving India's internal unity and territorial integrity and accelerating its economic development.

Upon independence, India found itself burdened by the difficulty of absorbing 565 princely states—which controlled 40 percent of the country's territory and 23 percent of its population—in addition to integrating an extraordinarily diverse population marked by dramatic racial, linguistic, religious, caste, and economic differences into a single polity. The objective of preserving internal unity was further complicated by India's independence materializing at the exact time of the subcontinent's partition, with the new state, Pakistan, challenging India through war over the disputed territory of Jammu and Kashmir. The problem of disputed boundaries, which initially arose in the west, spread within two decades to the north—along the Sino-Indian border—as well.

India sought to resolve the problems of internal unity by constructing a multinational state that would be governed by a liberal democratic regime to provide voice to its myriad internal constituencies.[2] This strategy has been largely successful (even though it is now increasingly under pressure from Hindu majoritarianism), but whenever it failed to produce satisfactory integration—for example, in the northeastern region of India over several decades, in the Punjab during the 1980s, or to this day in Jammu and Kashmir—the Indian government employed its military forces to suppress the forces

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2. Ashley J. Tellis, "Completing Unfinished Business—From the Long View to the Short," in *Getting India Back on Track*, ed. Bibek Debroy, Ashley J. Tellis, and Reece Trevor (Washington, DC: Carnegie Endowment for International Peace, 2014), 1–28.

of secessionism. The problems posed by the external threats from Pakistan and China to India's frontiers had to be managed primarily by military instruments because, to this day, diplomacy has failed to resolve these disputes. As a result, India was condemned to maintain large military forces right from the moment of its modern founding because the demands of internal security and external defense proved to be significant and pressing.

Today, the Indian Armed Forces can shape political outcomes mainly within the Indian subcontinent and its immediate environs rather than in the wider arenas of the Indo-Pacific. The military would be hard-pressed to conduct significant combat operations that involve forcible entry against all but minor adversaries without extensive support from some foreign partner. Because Indian forces are highly professional and competent, they could acquire the capabilities that would enable them to prosecute major power projection missions across the wider Indo-Pacific theater if India's political leaders chose to develop such proficiencies. Despite the Indian government's periodic articulation of its interest in preserving an expansive sphere of influence that encompasses at least the entire northern Indian Ocean basin, the Indian state has confined its military spending mainly to ensuring internal security and protecting its frontiers.

India's unwillingness to commit resources to expand its influence is driven by the reality that—despite improved economic growth in recent years—India is still a poor, developing country where nearly 50 percent of its population of 1.3 billion lives on less than $3.20 a day, the World Bank's median poverty

line.[3] The Indian state has little choice but to prioritize increasing economic development over and above national defense.

India remains a robust electoral democracy, which further strengthens the priority of economic development. Since addressing bread-and-butter issues is critical to success in mass politics (as opposed to national security, which remains largely an elite interest), India's political leaders have consistently paid more attention to economic and technological development rather than expanding the country's influence through military instruments. This emphasis is reinforced by the hidden belief of the Indian political class that the country is basically secure.

The resilience of this attitude has ensured Indian defense budgets have remained relatively modest since independence. As figure 5-1 indicates, India's defense expenditures have generally hovered between 1.5 to 2.5 percent of the gross domestic product (GDP) for most of its postindependence history, crossing this ceiling mainly during major wars or bursts of large capital expenditures.[4]

The data since 1991 is more interesting. Although India's average GDP growth has jumped beyond 5 percent per annum since its economic reforms in that year, its defense expenditures as a proportion of GDP have progressively fallen, even though the year-on-year military spending has increased in absolute terms. The decline in military expenditures as a proportion

3. World Bank Group, "Poverty & Equity Brief: South Asia India," World Bank DataBank, April 2020, https://databank .worldbank.org/data/download/poverty/33EF03BB-9722 -4AE2-ABC7-AA2972D68AFE/Global_POVEQ_IND.pdf.

4. Laxman Kumar Behera, *Indian Defence Industry: An Agenda for Making in India* (New Delhi: Pentagon Press, 2016), 5.

of GDP since 2011–12 has been especially significant (see figure 5-2), and the slowing growth of the Indian economy since at least 2017 suggests Indian defense spending is unlikely to increase as a percentage of GDP in the future.[5]
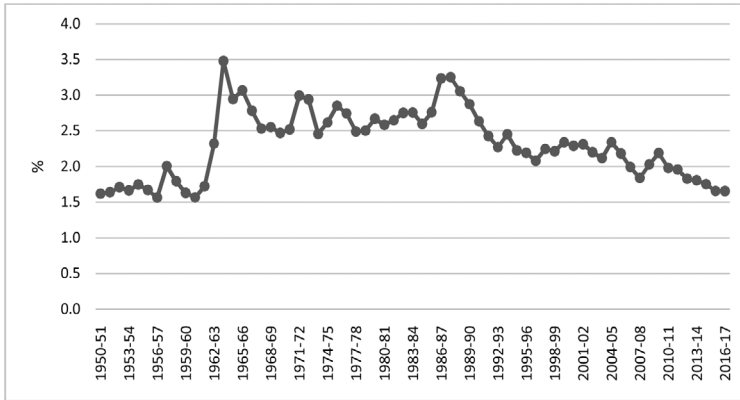
Figure 5-1. Share of defense expenditure in GDP, 1950–2016

Reprinted with permission from Laxman Kumar Behera, *Indian Defence Industry: An Agenda for Making in India* (New Delhi: Institute for Defence Studies and Analyses: Pentagon Press, 2016), 5. © 2016 by the Institute for Defence Studies and Analyses.

The Indian defense budget in 2019–20 hovered at slightly less than $62 billion, placing India among the top six military spenders globally.[6] Though this total is somewhat less than a third of China's official defense

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5. Vinay Kaushal, "Defence Budget 2019–20: The Slide Continues," February 4, 2019, https://idsa.in/idsacomments /defence-budget-2019-20-vkaushal-040219.

6. Stockholm International Peace Research Institute, *Trends in World Military Expenditure, 2018* (Stockholm: Stockholm International Peace Research Institute, April 2019), 2.

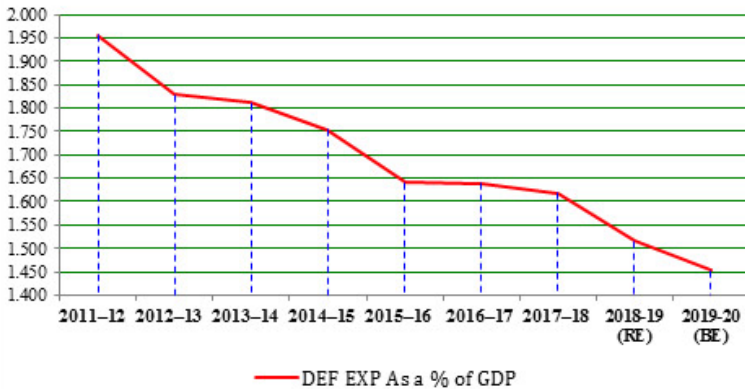spending, it is over five times that of Pakistan's defense budget.

Figure 5-2. Indian defense spending since 2011–12

Reprinted with permission from Vinay Kaushal, "Defence Budget 2019–20: The Slide Continues," February 4, 2019, https://idsa .in/idsacomments/defence-budget-2019-20-vkaushal-040219. © 2019 by the Manohar Parrikar Institute for Defence Studies and Analyses.

India's military expenditures are substantial, but a closer look reveals significant problems. India's defense budget includes three different accounts: (1) civil expenditures related to the Ministry of Defence; (2) defense pensions; and (3) expenditures on the defense services themselves, which include the allocations for the Indian Army, Indian Navy, Indian Air Force (IAF), Defence Research and Development Organisation, and Indian Ordnance Factories. When India's defense budget is divided among these three accounts, the third receives about 71 percent of the total of approximately $62 billion (about $44 billion).

The lion's share of the $44 billion goes to the Indian Army (56 percent), followed by the IAF (23 percent), the Indian Navy (15 percent), and the Defence Research and Development Organisation (6 percent),

with the small residual covering the costs of the Indian Ordnance Factories.[7] The crisis afflicting Indian defense spending derives fundamentally from the resources available for modernization being crowded out almost entirely by the "revenue expenditure"—costs that neither create assets nor reduce the government's liabilities. Today, almost 60 percent of the Ministry of Defence's defense budget is eaten up by pay and pensions, a testament to the steady increase in size of India's personnel under arms over the last three decades—during which the 10 biggest defense spenders have done exactly the opposite.

The Indian Army is especially victimized by this reality: 83 percent of the army's budget is eaten up by revenue expenditures, leaving only 17 percent for capital investments. The IAF and the Indian Navy fare better, but not dramatically so: The revenue expenditure of the air force is 49 percent vice 51 percent available for capital investments, and the revenue expenditure of the navy, the smallest service, is 43 percent, thus leaving a somewhat more respectable 57 percent available for capital modernization. The upshot is those armed services most capable of power projection outside the country's immediate frontiers enjoy only modest financial advantages where force improvements are concerned. But even these gains are limited by the total funding of the IAF and the Indian Navy, which collectively is less than 27 percent of the defense budget.[8]

Even so, the aim of effectively protecting the Indian landmass in the face of rising external threats is under

7.   Laxman Kumar Behera, *India's Defence Budget 2019–20* (New Delhi: Manohar Parrikar Institute for Defence Studies and Analyses, June 8, 2019), 2–6.

8.   Behera, *India's Defence Budget*, 5–6.

stress. The committed liabilities of the Indian military in 2018–19 stood at some $15.4 billion. Against this obligation, the government of India allocated only some $10.4 billion. When the necessary acquisitions to meet India's modernization requirements are factored in, the shortfall grows to close to $10 billion.

Despite Prime Minister Narendra Modi's ostensibly muscular national security policy, defense modernization as a share of India's defense budget has dropped since 2013–14.[9] This drop does not appear to have prevented India's Ministry of Defence from continuing to sign new contracts for fresh acquisitions which, since April 2018, have totaled nearly $16.4 billion. But the resources required to fund these liabilities on a multiyear basis have not been forthcoming. Against the roughly $2.5 billion in new monies required annually (assuming that 15 percent of the new liabilities is to be paid off each year), the Indian government has allocated barely $1 billion in additional modernization funds.[10]

THE INDIAN ARMY

Despite budgetary pressures, the Indian Army maintains enormous and relatively well-equipped combat forces that are oriented to servicing a "two-and-a-half-front war."[11] The two-front-war requirement entails prosecuting high-intensity operations on

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9.   Vinayak Krishnan, *Demand for Grants 2019–2020 Analysis: Defence* (New Delhi: PRS Legislative Research, July 8, 2019), 3.

10.   Behera, India's Defence Budget, 7.

11.   Cecil Victor, "India's Security Challenge: A Two-and-Half-Front War," *Indian Defence Review*, July 7, 2017, http://www.indiandefencereview.com/spotlights/indias-security-challenge-a-two-and-half-front-war/.

the western border against Pakistan and on the northern border against China simultaneously (or near simultaneously), even as the force concurrently conducts counterinsurgency operations—the half front—in various domestic locales, such as Jammu and Kashmir. As budgetary constraints have become more severe, the question is whether the two-and-a-half-front-war criterion remains a sensible guideline for force acquisitions and war planning.

This debate is long overdue, and two issues merit reconsideration: first, whether the Indian Army should be formally tasked with counterinsurgency duties, given India has a huge paramilitary force that exceeds even the Indian Army in size; and, second, whether the requirements of prosecuting a two-front war simultaneously ought to be retained, given the relatively low probability of such a war occurring. In theory, the elimination of the simultaneity criterion ought to permit the Indian Army to reduce its force size because the maneuver forces maintained for dealing with one adversary can also be deployed for operations against the other.

One must remember the Indian Army has been fighting counterinsurgency campaigns for close to 70 years in various parts of India.[12] Although India's paramilitary forces could be employed as full substitutes for the army in this role, their likely inability to replicate the army's expertise effectively suggests the latter will still be required for some counterinsurgency duties. Similarly, the removal of the simultaneity criterion may not provide the force reductions that, in the abstract, appear plausible

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12.   Rajesh Rajagopalan, *Fighting Like a Guerrilla: The Indian Army and Counterinsurgency* (New Delhi: Routledge India, 2008).

because the China and Pakistan fronts are sufficiently distinctive that the Indian Army in effect maintains two different kinds of warfighting forces: mountain warfare divisions along the northern borders and infantry divisions complemented by mechanized and armored divisions for operations in the plains and deserts along the western border. Although some formations deployed against Pakistan are dual-tasked formations, meaning they would be deployed against China in an emergency, the realities of geography and size of the opposing forces in each case prevent the Indian Army from sharply reducing the number of divisions it maintains.[13]

Two other realities shape the Indian Army's large force size. First, given the trauma surrounding the country's independence, which resulted in the partition of the subcontinent, India's political leaders since have insisted their armed forces lose no further territory in the event of conflict. The huge territorial claims levied by Pakistan and China over the years have only reinforced this sentiment. The political requirement that no Indian territory be lost has compelled the Indian Army to defend the country's vast frontiers linearly, packing the front with numerous combat formations intended to parry any adversary thrusts that might result in significant territorial losses. The inability to trade space for operational effectiveness

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13. Franz-Stefan Gady, "Ajai Shukla on the Current and Future State of India's Military," Diplomat, September 25, 2019, https://thediplomat.com/2019/09/ajai-shukla-on-the-current -and-future-state-of-indias-military/; and Kartik Bommakanti, "India's Two-Front War Challenge: The Problem of Choice, Scenarios and Uncertainty," Observer Research Foundation, October 10, 2019, https://www.orfonline.org/expert-speak /indias-two-front-war-challenge-problem-of-choice-scenarios -and-uncertainty/.

has thus prevented the Indian Army from generally prosecuting large-scale campaigns of maneuver. Instead, the army plans for wars of attrition in which large forces deployed along virtually continuous fronts are employed to grind down their opponents in set-piece battles that put a premium on numerical and firepower superiority.

The other reason the Indian Army has ended up with huge military forces is the enlisted manpower that forms the bulk of the army's infantry formations is drawn mainly from rural India. Although recruits have completed high school and are trained to rigorous standards upon joining the service, they are most proficient in infantry operations that involve either holding territorial objectives or mounting prepared advances on the battlefield. The officer corps of the Indian Army is also highly conservative and appears to be comfortable with methodical and deliberate operations. The constrained defense budgets have only reinforced the army's proclivity for attrition operations because the army could not invest heavily in alternatives to light infantry.

In all of its wars with Pakistan, only once did the Indian Army demonstrate the capacity for deep-maneuver warfare. In East Pakistan in 1971, then-Major General Jack Jacob devised a war plan that used mainly infantry forces in narrow penetrations at great operational depths, not so much to destroy the Pakistan Army's war-waging capacities than to extinguish its capacity to respond coherently, thus inflicting a swift and conclusive defeat.[14] Over the next two decades, the Indian Army toyed with

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14. J. F. R. Jacob, *Surrender at Dacca: Birth of a Nation* (New Delhi: Manohar, 1997).

maneuver warfare using armored forces. This approach culminated in General Krishnaswamy Sundarji's plan Army 2000: to use concentrated armor formations to thrust rapidly and deeply into Pakistan—either to destroy Pakistan's encircled defenders physically or to impair their capacity to mount a coherent defense—before the Indian armored spearheads reached Pakistan's principal north–south lines of communication to cut the country in half. But Pakistan's acquisition of nuclear weapons made such plans for decisive maneuver campaigns questionable. Since the 2001–02 India-Pakistan standoff, the Indian Army—cognizant of Pakistan's nuclear capabilities— has reverted to attrition warfare, planning to pursue shallow penetrations of Pakistani territory, destroy local defenses, and inflict meaningful costs on Pakistan while still staying below its redlines for a nuclear response.[15] Against China, the emphasis remains on robust frontier defense, albeit with room for modest tactical offensives, depending on the terrain.

Consistent with these concepts of operations, the Indian Army is deployed along the country's borders to the north and west to guard against Chinese and Pakistani threats. These forces are organized under six commands.

The Eastern Command oversees the Indian northeast and is primarily responsible for the defense of the Sino-Indian border in the region. The Eastern Command controls four corps, with one new mountain strike corps still forming. Once this corps has been completed, Eastern Command will control 12 divisions for operations against China.

15. Walter C. Ladwig III, "A Cold Start for Hot Wars? The Indian Army's New Limited War Doctrine," *International Security* 32, no. 3 (Winter 2007/08): 158–90.

The Northern Command, which has an area of responsibility that covers Jammu and Kashmir, shares responsibility for defending against China in the east and Pakistan in the west. The Northern Command controls three corps: one oriented against China, another focused on the northern Line of Control vis-à-vis Pakistan (but which would be available for Chinese contingencies in an emergency), and a third oriented solely against Pakistan. All told, the Northern Command controls upward of seven divisions when command reserves and other counterinsurgency forces are counted.

The Western Command is responsible for the defense of the northern Indian Punjab and controls three corps, with upwards of eight divisions plus an independent artillery division for operations against Pakistan. Moving further south in the area encompassing southern Punjab and northern Rajasthan is the Southwestern Command, which controls two corps, with five divisions as well as a separate artillery division.

Finally, the Southern Command covers the huge area of southern Rajasthan and the state of Gujarat—the southern extremity of the border with Pakistan—with two corps. Additionally, the Central Command hosts one mountain division as an army reserve, which could be deployed in support of either the Southwestern or Southern Command vis-à-vis Pakistan or in support of the Northern or Eastern Command vis-à-vis China as required.[16]

Against China, Indian military planners posit the army must be prepared to face anywhere from six to 20

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16.   Richard Rinaldi and Ravi Rikhye, *Indian Army Order of Battle* (Takoma Park, MD: Tiger Lily Publications LLC, 2011).

People's Liberation Army (PLA) division equivalents, with this number growing as China completes its infrastructure modernization in Tibet. Because the terrain along the northern borders constrains China's force-to-space ratios in predictable ways, the Indian Army does not have to match the attacking Chinese in numbers across the board, but the army would require significant advantages in battlefield firepower, tactical mobility, air support, and command and control to be successful.

India also must have the ability to carry out behind-the-border attacks to prevent Chinese theater reinforcements from reaching the front as well as the ability to interdict the large Chinese combat forces that are likely to echelon in depth behind the line of contact. In any event, Indian political goals in such a conflict would be relatively conservative—preventing China from capturing Indian territory while seizing some significant Chinese pockets to trade away in postwar negotiations. Attaining these objectives will require continued modernization of India's northern defenses.

Against Pakistan, India must plan for two possibilities: Pakistan could initiate a conventional conflict on short notice as it did in 1947–48, 1965, and 1999, or India could initiate conventional operations in retaliation for some Pakistani provocation, such as a major terrorist attack. In both scenarios, India would likely respond with some variation of its Cold Start doctrine, which calls for the conventional forces deployed closest to India's border to move quickly into Pakistani territory and mount modest penetrations to weaken the Pakistani defenders enough to penalize them for the casus belli. The Indian Army must reckon with the prospect of confronting some 14 Pakistani infantry divisions, two armored divisions, and two

mechanized divisions, besides other independent brigades. The Indian Army can summon 24 divisions against this Pakistani force, but not all would be immediately available for operations because of their dispersed locations in the rear.

The broad comparison above suggests the Indian Army would have difficulty reducing its division strength dramatically unless it could trade numbers for greatly enhanced lethality and mobility of its forces. But such a trade would require significant capital investment and different operational competencies. Moreover, such a restructuring would represent a gamble because, if the quest for smaller yet more sophisticated forces falters, India's security could be at enhanced risk, at least in the short run. Given this risk, the Indian Army has fallen back on what it is most comfortable with: maintaining and improving an incrementally expanding, infantry-dominant force.

Realizing this more modest ambition, however, would still require abundant resources. Although the Indian Army has world-class competencies in high-altitude and jungle warfare and is capable of both effective special operations and large-scale infantry operations, it urgently needs to upgrade everything from its individual and crew-served weapons to its artillery, air defense, and aviation systems to be able to fight effectively at night, in adverse weather, and in an increasingly dense electronic and cyber warfare environment.[17]

The Indian Army's most significant power projection limitation is it is no longer an expeditionary

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17. Philip Campose, "Modernising of the Indian Army: Future Challenges," in *Defence Primer 2017*, ed. Sushant Singh and Pushan Das (New Delhi: Observer Research Foundation, 2017), 26–34.

force, as it was in the days of the British Raj. Army planners hope to expand this capability, but, today, the army's capabilities reside in small units, such as the 50th Parachute Brigade.

THE INDIAN AIR FORCE

The IAF is a large, competent, and sophisticated force. Today, the IAF fields about 800 aircraft.[18] The IAF's combat core consists of 700 to 800 tactical fighters oriented toward air-intercept and ground-attack missions, with the remainder consisting of combat support platforms for airborne early warning, aerial refueling, and theater or strategic transport. Ever since India became a nuclear weapon state, nuclear gravity bombs have been an important element of the Indian deterrent; however, these weapons are now increasingly complemented by land- and sea-based ballistic missiles.[19] The IAF remains a credible part of India's nuclear triad because the air force is superior to its Pakistani and Chinese counterparts (the latter being in the Tibetan theater).

The IAF's primary mission remains air defense of India. India's political leaders expect, above all else, their air force will protect India's population centers, its critical economic and technological hubs, and its major military installations and assets from the threat

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18. IISS, *The Military Balance 2019* (London: IISS, 2019), 270.

19. Ashley J. Tellis, *A Troubled Transition: Emerging Nuclear Forces in India and Pakistan*, Fall Series Issue 919 (Washington, DC: Hoover Institution on War, Revolution, and Peace, November 5, 2019).

of air attack.[20] In the early postindependence period, this objective implied a concentration on air defense operations executed mainly through defensive air control supplemented by offensive counterair and, as required, close air support operations in aid of the Indian Army and Navy.

As the size, capability, and relative force advantages of the IAF improved—with the induction in sizable numbers of third-generation fighters, such as the MiG-23/27, the Jaguar, and the Mirage-2000, and fourth-generation fighters, such as the MiG-29 and the Su-30MKI—the orientation of the service changed dramatically. Today, the IAF's capabilities enable it to pursue an offensive counterair campaign—one that accepts defensive counterair missions when necessary, but which seeks to maximize success by destroying the adversary's air capabilities from the outset through attacks aimed at air defenses, air bases, and combat aviation. These operations are all supported by enabling capabilities such as electronic warfare, airborne battle management, aerial refueling, and unmanned aerial operations.[21]

As India's leaders have expressed the ambition for the country to become a "leading power," the IAF's vision of itself has also evolved along three dimensions.[22] First, the service no longer thinks of itself as a supporting force intended simply to realize

20. Sanu Kainikara, "Indian Air Power," in *Routledge Handbook of Air Power*, ed. John Andreas Olsen (London: Routledge, 2018), 327–38.

21. Ashley J. Tellis, *Dogfight!* (Washington, DC: Carnegie Endowment for International Peace, 2011), 29–39.

22. Subrahmanyam Jaishankar, "IISS Fullerton Lecture by Dr. S. Jaishankar, Foreign Secretary in Singapore" (speech, Fullerton Forum 2015, Singapore, July 20, 2015).

success in land and naval operations; rather, the IAF regards itself as an independent warfighting arm that can produce strategic effects through the autonomous application of concentrated yet discriminate airpower. In this sense, the IAF reflects the expectations of most of its peer air forces in the first world.

Second, the IAF views the ability to exploit space, cyberspace, and the electronic spectrum as critical to operational success in the aviation sphere. Accordingly, the service has articulated the ambition of becoming an aerospace force as it has deepened its dependence on space for meteorology; navigation; communications; and intelligence, surveillance, and reconnaissance (ISR) operations. As the IAF integrates these capabilities and evolves toward becoming a networked force, it has come to realize the value of jointness with the other services. Nevertheless, the IAF's desire to remain a combat arm capable of producing strategic effects independently has often brought it into opposition against plans for developing joint, higher command institutions out of fear the autonomous contribution of air warfare might be shortchanged.

Third, for most of the IAF's history, the service focused predominantly on the Indian subcontinent. Today, the IAF has expanded its field of view vastly beyond: from the Persian Gulf and the east coast of Africa in the west, to much of China in the north and northeast, the Southeast Asian straits in the southeast, and the Indian Ocean in the south. The IAF's ambition is to become the nation's preferred instrument

whenever power must be applied rapidly at long distances.[23]

The IAF has made considerable progress in absorbing the airpower transformations that have become visible in the West since Operation Desert Storm. In the air-to-air arena, the IAF is now completely sold on counterair operations beyond visual range. Ever since new Russian, Israeli, and French active air-to-air missiles entered its inventory, the IAF has switched its focus from close-in tactics to long-range air intercepts. Despite this switch in focus, the IAF is still handicapped by the fact that its best active air-to-air missiles are inferior in different respects to those possessed by Pakistan and the best in the Chinese inventory—weaknesses that will persist until the European Meteor enters the Indian inventory.

Although the service has long fielded many of the best Russian combat aircraft, the IAF never divested itself of its British heritage of emphasizing pilot initiative; the air force uses its ground control intercept systems to vector its interceptors, but it leaves actual air combat operations to the skill of its pilots. Today, the IAF has demonstrated a high degree of proficiency in basic fighter maneuvering; the best Indian squadrons compare favorably with their Western peers. Pilots in the IAF consistently execute long-range shots beyond visual range, making up for their current weapon deficiencies through the heavy use of electronic warfare systems and by increasingly using their best

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23. Vinod Patney, "Indian Air Force," in *Handbook of Indian Defence Policy*, ed. Harsh V. Pant (London: Routledge, 2015), 161–72; and Benjamin S. Lambeth, "India's Air Force at a Pivotal Crossroads," in *Defence Primer 2017*, ed. Sushant Singh and Pushan Das (New Delhi: Observer Research Foundation, 2017), 35–44.

aircrafts' infrared search and tracking capabilities for passive intercepts. As the IAF integrates its airborne early warning systems, its ability to prosecute long-range, air-to-air engagements will only increase.

In the surface warfare arena, the IAF has focused on acquiring the capacity to undertake conventional precision attacks on a large scale. At present, the IAF does not have enough precision munitions if the threat of even a sequential two-front war is to be taken seriously. The IAF's doctrine traditionally emphasized low-altitude strikes by relatively large formations. But as the quality of its combat aircraft and precision munitions improved, the service began to employ variable strike packages for medium- and high-altitude operations as well. Long-range surface strikes employing standoff munitions are now increasingly the norm, as evidenced by the punitive air strikes conducted at Balakot in Pakistan in February 2019. Although this mission was unsuccessful in interdicting its intended targets, the large strike package involved—12 interdiction aircraft, covered by four aircraft on combat air patrol and supported by airborne warning and control systems, aerial refuellers, and unmanned aerial vehicles (UAVs)—represents a good template for how the IAF plans to conduct future strategic air operations.[24] No doubt the lack of success has also reinforced the value to the IAF of both real-time ISR and the importance of tight sensor-to-shooter integration.

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24. Raj Chengappa, "Balakot: How India Planned IAF Airstrike in Pakistan—An Inside Story," *India Today*, March 15, 2019, https://www.indiatoday.in/magazine /cover-story/story/20190325-balakot-airstrikes-pulwama -terror-attack-abhinandan-varthaman-narendra-modi-masood -azhar-1478511-2019-03-15.

Success in these operations is difficult even for advanced air forces because seamlessly integrating sensors and shooters is a complex institutional and operational enterprise, something the IAF has not yet completed. The service has done better where maritime strike operations are concerned. Given the Pakistani and, increasingly, the Chinese naval presence in the Indian Ocean, the IAF has allocated a dedicated squadron of Jaguar attack aircraft for the role, with more Brahmos-equipped Su-30MKI aircraft also available for strikes at longer ranges at sea.

All told, the IAF's near-term ambition is to be able to: (1) prosecute a swift and decisive offensive campaign against India's traditional adversaries, Pakistan and China, at minimal notice; (2) execute discrete, conventional strategic air operations, such as punitive strikes, if required along India's extended neighborhood; and (3) conduct peace support operations, including humanitarian and disaster relief, at great distances from the subcontinent in largely permissive environments.[25]

To achieve these aims, the IAF currently fields a dedicated strike contingent of close to 200 Jaguar and MiG-27ML aircraft, almost 300 multirole Su-30MKI and Mirage 2000 strike fighters, and over 200 modernized MiG-21 Bison and MiG-29 Fulcrum air defense fighters—all of which will be supplemented in the near future by 36 Rafales and some 120 indigenously developed Tejas light fighter aircraft. The service also possesses almost 250 transports, 27 of which are capable of extra subcontinental missions; six aerial refueling aircraft (with more to come); and four

25. Christina Goulter and Harsh V. Pant, *Realignment and Indian Airpower Doctrine* (Maxwell Air Force Base, AL: Air University, January 2, 2020).

airborne early warning and control platforms, besides numerous utility helicopters and a small contingent of UAVs for ISR.

These assets are controlled by five regional air commands: the Western Air Command headquartered in New Delhi, the Southwestern Air Command headquartered in Gandhinagar, the Eastern Air Command headquartered in Shillong, the Central Air Command headquartered in Allahabad, and the Southern Air Command headquartered in Trivandrum. Currently, about 35 fighter squadrons, along with combat support aircraft, are spread across some 60 air bases, airfields, and forward base support units throughout the country. In recent years, the air base infrastructure has been extensively modernized to allow for the flexible deployment of different aircraft squadrons across the country.[26]

The aviation component of the IAF is supported by an extensive, integrated, ground-based air defense system. This system (now supplemented by the airborne warning and control platforms) is integrated with civilian radars, signals intelligence systems, and other sensors to provide a unified air situation picture. In time, India will likely deploy a limited ballistic missile defense system to protect the national capital and a few other major cities.

The IAF is a unique force. Few air forces routinely conduct missions in such diverse terrains that characterize the Indian subcontinent: from the high Himalayas in the north to the deserts and plains in the west to the jungles and intensely wet tropics in the northeast to the arid plateau of the southern

26. Jon Lake, "Indian Air Power," *World Air Power Journal* 12 (Spring 1993): 138–57.

peninsula and the ocean spaces and islands in them. The IAF operates facilities and conducts operations in all of these milieus, operating a bewildering diversity of aircraft, including seven different types of fighters alone. The air force's pilots are well educated, and the service's human capital base has enabled it to absorb sophisticated systems rapidly while modifying them indigenously as required. The IAF is thus capable of making a distinctive contribution in support of India's growing international ambitions, but the service is constrained by the two formidable local competitors it faces.

The Pakistan Air Force is smaller, but with close to 400 combat aircraft, the service is by no means a pushover. The pressures on the Indian defense budget, the vagaries of New Delhi's procurement process, and the IAF's fixation with acquiring the best—and often the most expensive—tactical fighters have resulted in a diminishing number of fighter aircraft in recent years, thus leading to a dilution of India's traditional numerical superiority over Pakistan.

The transformation of China's PLA Air Force in recent decades has only imposed further burdens on the IAF. China's current air threat to India is manageable because the basing infrastructure in the Tibetan region cannot sustain a huge Chinese airpower presence, but this advantage will diminish as China improves its air base infrastructure, builds more dual-use airfields, and rotates ever more sophisticated capabilities into the region. By 2025 or shortly thereafter, the four major air bases currently used by China along the Sino-Indian border could expand to as many as 12 facilities of different kinds, which—depending on the number of air regiments deployed—could confront the IAF with anywhere

from 200 to 400 Chinese combat aircraft in the event of a major conflict. Adding to the threat are potential Chinese conventional ballistic and cruise missile attacks, as well as major space, cyber, and electronic warfare challenges India has not faced before.[27]

Because of budgetary pressures, the IAF has not been able to maintain its desired squadron strength against the sanctioned strength of 39.5 squadrons. Today, the IAF possesses only about 35 squadrons, and more than half the force consists of third- and early fourth-generation aircraft that would have been retired years ago if resources had permitted. The air force invested significant resources in a Russian collaboration aimed at procuring new fifth-generation fighters, but the poor stealth performance of the Su-57/T-50 has resulted in the IAF attempting to develop a homegrown alternative. Despite its many challenges, however, the IAF remains one of the most capable air forces in Asia.

THE INDIAN NAVY

The Indian sea service, the smallest of India's armed forces, is fundamentally outward-looking and expeditionary in character. Although it bears primary responsibility for protecting India's ocean spaces against its regional adversaries, the Indian Navy is, by its operating medium and institutional temperament, a force that ranges far beyond the Indian subcontinent, even in peacetime. This flexibility is enhanced by the navy's superiority over both the Pakistan Navy

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27. Ashley J. Tellis, *Troubles, They Come in Battalions* (Washington, DC: Carnegie Endowment for International Peace, 2016), 7–15.

and the Chinese naval flotillas now emerging in the Indian Ocean.

Although small in comparison to its sister services, the Indian Navy is still the world's seventh-largest navy when measured by the number of vessels.[28] Today, the navy fields some 60 frontline combat vessels capable of offensive sea control operations in a force of about 150 ships of all types; about 230 aircraft, helicopters and UAVs; as well as a small marine force. The major surface combatants include 16 submarines (one completed strategic ballistic missile submarine and three that are under construction, one owned nuclear attack submarine and another one possibly on lease, and 14 purchased diesel-electric submarines and 11 vessels in the acquisition queue), one 45,000-ton short takeoff conventional aircraft carrier (and another one under construction), 14 missile-armed destroyers, 13 missile-armed frigates, and 16 missile-armed corvettes, all capable of offensive blue-water operations. The surface fleet also includes one landing platform dock and about 20 landing ships of different kinds for amphibious operations. The naval air arm encompasses MiG-29K strike fighters for the carriers; land-based, long-range antisubmarine warfare (ASW) aircraft, such as the P-8I and IL-38s, and ASW ship-based helicopters; airborne early warning helicopters; land-based maritime patrol aircraft of varying ranges; and medium-altitude UAVs for ISR. The Indian Navy is supported by the Indian Coast Guard, which has some 115 patrol and coastal combatants and about 50 aircraft and helicopters. The Indian Coast Guard bears primary responsibility for safeguarding India's territorial waters and exclusive economic zone in

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28.   IISS, "Chapter Six: Asia," in *Military Balance 2019*.

peacetime, but the coast guard comes under the navy's operational control in times of conflict.

The Indian Navy's assets are controlled by three commands. The Western Naval Command, headquartered in Mumbai, is the largest of the operational commands. The command, which oversees the major naval bases at Mumbai and Karwar on the western seacoast, has traditionally had the largest complement of warfighting assets. The Western Naval Command area of responsibility covers the entire Arabian Sea, and the command is expected to lead all naval operations against Pakistan in the event of a conflict. But the command's assets are flexible enough to be committed to operations anywhere in the wider Indian Ocean. With the PLA Navy's appearance in the northern Arabian Sea on antipiracy missions and the new Chinese base at Djibouti, the Western Naval Command's responsibilities have extended to tracking China's local assets as well as managing India's naval contributions to the antipiracy missions in the Persian Gulf region.

The Eastern Naval Command, which is headquartered in Visakhapatnam roughly midway along the east coast of the Indian peninsula, was traditionally the weaker of the two naval combatant commands because it lacked proximity to Pakistan. With China's new presence in the Indian Ocean and the criticality of the Southeast Asian straits through which the PLA Navy's surface vessels and submarines transit, the importance of the Eastern Naval Command has increased. As a result, the command, which in the past hosted mainly patrol vessels and second-rank surface combatants, now has first-rank surface combatants as well. Visakhapatnam has always been an important submarine base, but now that it is

housing India's nuclear ballistic missile submarines, the base's operational significance has grown. This naval command also exercises operational command over the long-range maritime patrol and ASW aircraft based at INS Rajali at Arakkonam in Tamil Nadu.

The Southern Naval Command, which is headquartered in Kochi, is the navy's primary training command. This command oversees all of the Indian Navy's schools and training establishments, but it also possesses various facilities, such as bases and naval air stations, that are home to the command's few combat vessels. The command remains home to the Indian Navy's marine commandos and some UAV squadrons as well.[29]

The Indian Navy is a capable, well-trained force that maintains an intense operational tempo with extended deployments that cover vast spaces around the Indian peninsula. The navy's 2015 strategy document, *Ensuring Secure Seas: Indian Maritime Security Strategy*, designated the entire Indian Ocean bounded by a line from South Africa to the Indonesian archipelago as the "primary area of interest" for the Indian Navy, with the spaces south and around the land areas bounded by the line areas of "secondary interest" (see figure 5-3).[30]

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29. Anit Mukherjee and Raja Mohan, ed., *India's Naval Strategy and Asian Security* (New York: Routledge, 2015).

30. Indian Navy, *Ensuring Secure Seas: Indian Maritime Security Strategy* (New Delhi: Integrated Headquarters Ministry of Defence [Navy], 2015), 32–36; and Indian Navy, *Freedom to Use the Seas: India's Maritime Military Strategy* (New Delhi: Integrated Headquarters Ministry of Defence [Navy], 2007), 59–60.
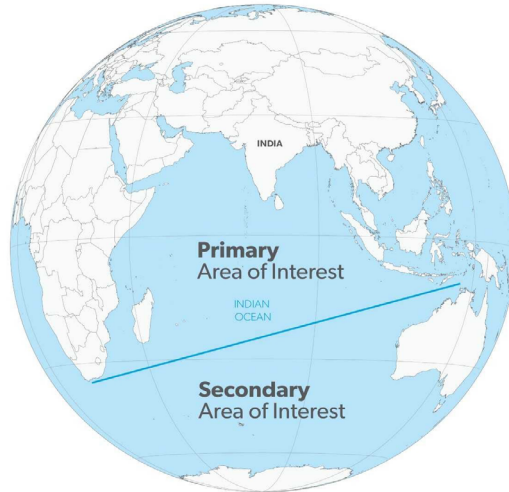
Figure 5-3. The Indian Navy's areas of interest

Illustration courtesy of Allison Torban, Danielle Curran, and Jennifer Moretta, adapted from Indian Navy, *Ensuring Secure Seas: Indian Maritime Security Strategy* (New Delhi: Integrated Headquarters Ministry of Defence [Navy], 2015), 34–35. © 2020 by the American Enterprise Institute.

Today, in support of this mission, the Indian Navy sustains seven permanent "mission based deployments" throughout the Indian Ocean. The navy persistently deploys ships or submarines on patrols near the mouth of the Strait of Malacca; in the Bay of Bengal, in waters north of the Andaman Islands and the coasts of Bangladesh and Myanmar; between North Andaman Island and South Nicobar; in the North Arabian Sea and the approaches to the Strait of Hormuz and the Persian Gulf; off the Gulf of Aden; in waters south of India, off the coasts of the Maldives and Sri Lanka; and in the southern part of the Indian

Ocean, off the coasts of Mauritius, the Seychelles, and Madagascar.[31]

No fleet in the region other than the US Navy can routinely sustain such a far-flung presence. But the US Navy's obligations in East Asia and the western Pacific have resulted in the service increasingly relying on intensified cooperation with the Indian Navy to bridge the gaps. The Indian Navy, for its part, remains committed to pursuing the objective of maintaining a "balanced fleet"—that is, a warfighting capability that permits the service to secure the maximum control possible on the surface, under the sea, and in the air simultaneously.[32] Only a balanced fleet permits the Indian Navy to protect India's coastline, defend its sea lines of communication, and defeat seaborne threats from Pakistan and China.

Toward these ends, the Indian Navy has targeted a fleet size of some 200 vessels by 2027, of which 140 would be major combatants, with minor warships, support vessels, and auxiliaries making up the difference.[33] The major combatants would include three aircraft carriers, 24 advanced diesel-electric submarines (including some with air-independent

31. Sujan Dutta, "Indian Navy Informs Government about the Fleet's Reoriented Mission Pattern," *New Indian Express*, April 1, 2018, https://www.newindianexpress.com/nation/2018/apr/01/indian-navy-informs-government-about-the-fleets-reoriented-mission-pattern-1795404.html.

32. M. Chhaya, "Indian Navy Plans to Boost Its Fleet," *India Abroad*, June 8, 2005, https://www.rediff.com/news/2005/jun/08navy.htm.

33. Press Trust of India, "Indian Navy Aiming at 200-Ship Fleet by 2027," *Economic Times*, July 14, 2018, https://economictimes.indiatimes.com/news/defence/indian-navy-aiming-at-200-ship-fleet-by-2027/articleshow/48072917.cms?from=mdr.

propulsion), four nuclear-powered submarines, 60 destroyers and frigates, 30 missile craft, and about 15 major amphibious vessels, complemented by various support ships.

Even with its current size, the Indian Navy is already capable of maintaining a high degree of sea control in the Indian Ocean against its local adversaries. The navy's advantages in this regard stem from a concatenation of capabilities. The fleet already possesses significant scouting capabilities deriving from both a vast shore-based network of high-frequency direction finding stations and satellite communications intercept and signals intelligence facilities and various airborne systems, such as maritime patrol aircraft and UAVs (supplemented by the IAF's airborne warning and control systems and, eventually, space systems). The navy's surface and subsurface vessels also contribute critical information toward building the common operational picture necessary for successful naval operations.

Furthermore, the Indian Navy is exceptionally proficient in surface warfare operations, either by employing carrier-centered strike forces or through independent surface and subsurface operations. Carrier-based air warfare operations, in both the air-to-air and air-to-surface domains, remain another major Indian strength because the Indian Navy has continually operated aircraft carriers for almost 60 years. This capability will expand further once the second Indian carrier has been inducted into the fleet, and the capability will be transformed dramatically if the Indian Navy is able to secure funding for its

desired third carrier, which is expected to displace 65,000 tons and host an air wing of about 50 aircraft.[34]

Surface antiair warfare operations remain another of the Indian Navy's significant strengths, and this capability will experience another qualitative leap forward if the service can fund the procurement of the US Aegis antiair warfare system, which has now been released for export to India. Air and surface ASW operations, in contrast, remain a continuing challenge, which is exacerbated by the service's acute shortage of modern ship-based ASW helicopters. The Indian Navy is scheduled to acquire 24 new US MH-60R ASW helicopters for its frontline warships, but even this amount is a small fraction of the tactical air ASW systems it needs. The Indian Navy's land-based air ASW capabilities are in better shape, but the numbers of aircraft currently available—eight P-8I Poseidon and five IL-38SD systems—are insufficient. If the Indian Navy's attack submarines were committed more consistently to ASW, the viability of India's capable surface fleet would be greatly enhanced.

The service has a decent amphibious warfare capability—with the lift available to move a brigade-sized force anywhere in the Indian Ocean—but this capability is unlikely to be effective for forcible entry operations against any major adversary. Similarly, the Indian Navy has the capacity to conduct offensive mine warfare against a small number of adversary facilities, but the fleet has not prioritized mine warfare.[35]

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34. Ashley J. Tellis, *Making Waves: Aiding India's Next-Generation Aircraft Carrier* (Washington, DC: Carnegie Endowment for International Peace, 2015).

35. James R. Holmes, Andrew C. Winner, and Toshi Yoshihara, *Indian Naval Strategy in the Twenty-First Century* (London: Routledge, 2009).

Whatever the fleet's current limitations may be, the Indian Navy is the Indian Ocean's most powerful fleet. The service has few weaknesses that cannot be fixed by the availability of more resources; indeed, the gap between the ambitions of India's civilian leaders and the resources they have allocated to their naval service is startling.

Ever since Modi became India's prime minister, he has focused on renewing India's Indian Ocean strategy to counter the emerging challenges posed by China in the region. Using a four-pronged approach that emphasized expanding India's "blue economy"; reinvigorating maritime diplomacy toward the regional states (especially the small but critical island states in the Indian Ocean); supporting India's naval modernization; and deepening partnerships with foreign naval powers with interests in the region, such as the United States, France, and Japan, Modi has chalked up significant achievements on all counts save naval expansion.[36]

The Indian Navy continues to receive the smallest share of the capital budget and only slightly over half its requested allocations. This lack of resources has left the navy unable to meet urgent acquisitions, to provide capabilities that are essential to India's ability to maintain its primacy in the Indian Ocean, to subsist as a viable partner of the United States in the region, or to give heft to Modi's overall Indian Ocean strategy.

Clearly, the most important constraint has been the weakening of India's economy in recent years. But the failures of strategic thinking and interservice rivalries have only compounded the problem. The

36. Vivek Mishra, "Consolidating India's Indian Ocean Strategy," Diplomat, June 7, 2019, https://thediplomat.com/2019/06/consolidating-indias-indian-ocean-strategy/.

problem of securing governmental approval for the future conventional takeoff and landing carrier, the IAC-3, is emblematic of the challenges.[37] The IAC-3 represents the Indian Navy's ambition to return to operating large-deck carriers because of the enormous increases in combat capability that these vessels embody in contrast to their short-takeoff-but-arrested-recovery counterparts. India's civilian leaders seem to be overwhelmed by the cost of a conventional takeoff and landing carrier, but they are forgetting that India needs to secure its interests over certain ranges in the Indian Ocean region.

The IAF's claims, driven by the service imperatives of chasing constrained defense budgets, muddy the waters further. Although the IAF argues that its best strike fighters, such as the Su-30MKI, can range long distances with aerial refueling—and that conventional takeoff and landing carriers are unnecessary as a result—these assertions, even if true, are operationally suspect because land-based tactical aircraft cannot operate persistently at very long distances (even if the other distractions imposed by the demands of a subcontinental conflict are ignored). Thus, the imperative of setting the limits of India's political—and, by implication, naval—influence is critical to arriving at the right decision regarding IAC-3. At a time when China's naval presence in the Indian Ocean will be steadily increasing over the next few decades, the benefits of a larger balanced fleet that includes more nuclear attack submarines and possibly a conventional takeoff and landing carrier that hosts

37. Rajat Pandit, "Navy Builds Case for 3rd Aircraft Carrier," *Times of India*, October 1, 2019, https://timesofindia .indiatimes.com/india/navy-builds-case-for-3rd-aircraft -carrier/articleshow/71383514.cms.

a sizeable air wing must be carefully considered by Indian policy makers if they still hew to the ambition of fielding a powerful indigenous naval force in the region.

CONCLUSION

The Indian Armed Forces are without doubt large and competent, but they are constrained by three factors. First, although the Indian military is currently superior to the militaries of China and Pakistan in their respective theaters, these opponents are not feeble. Consequently, between the persistent challenges of internal security and nontrivial local threats, the Indian Armed Forces have their hands full.

Second, the Indian military has never been tested in combined operations in high-intensity conflicts because India's foreign policy, which traditionally has eschewed participation in any alliances, precludes their preparation for such contingencies. Although New Delhi has now shifted from nonalignment in favor of more flexible strategic partnerships, Indian policy makers have still not crossed a Rubicon that permits them to easily contemplate combined military operations with others. Until this bridge is crossed, India's armed forces, though large and effective within their immediate environs, will nevertheless be unable to partner with other nations flexibly in major combat contingencies further afield.

The third check on Indian military capabilities is funding. The three components of the Indian Armed Forces are mainly proficient in Industrial-Age warfare. Such capabilities arguably suffice in India's specific strategic environment because Pakistan's military is inferior, and the PLA is only now evolving

toward information-age warfare across the services at large. India's current proficiencies, however, will be increasingly taxed as the Chinese military completes its modernization. Transforming the Indian military for this new era of warfare will require dramatic changes in capability, doctrine, and training, not to mention significant qualitative improvements in the human-capital base of the force. This transformation cannot happen without additional resources. Though the current state of India's hard power is satisfactory, it does not match the country's larger strategic ambitions or the challenge it will face from China in the future.