Delhi Policy Group

Advancing India's Rise as a Leading Power

POLICY BRIEF

Competing Forces: Evaluating the Military Capabilities of India and China

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Cover Photographs:

The first aircraft LA5033 of the Tejas Mk1A series successfully taking off from the Hindustan Aeronautics Limited (HAL) facility in Bengaluru on March 28, 2024. (Source: HAL/Official X Account)
China's third aircraft carrier PLANS Fujian (Hull 18) during its maiden sea trial on May 8 2024. (Source: China Military Online)

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Introduction

In In the evolving global power dynamics, the respective military capabilities of India and China emerge not just as regional but as pivotal global factors influencing peace, security, and stability. Against the backdrop of an ongoing and tense border standoff, these two neighbours find themselves at a critical juncture, not only managing the immediate challenges of their disputed frontier but also navigating the broader currents of strategic competition in Asia.

There is narrative building on both sides regarding their military capability. In an editorial in the Global Times, a few months after the 2020 Galwan clash, the Chinese government mouthpiece stated, "China is several times stronger than India, and India is no match for China... If India wants to engage in competition, China has more tools and capability than India. If India would like a military showdown, the PLA is bound to make the Indian army suffer much more severe losses than it did in 1962."[1]

On the Indian side, every new military procurement is hailed as a game-changer.[2] In June 2023, Border Roads Organisation (BRO) chief Lieutenant General Rajiv Chaudhry stated that India is matching up its infrastructure to China's projects at the Line of Actual Control (LAC).[3]

Military capability can be simply defined as the ability to achieve wartime objectives. In measuring military capability, the parameters that are generally considered are:

- Resources available - budgetary support and defence industrial base.
- Force structure - composition of armed forces.
- Strategic technology drivers - space, cyber, Artificial Intelligence (AI), Information, and other emerging technologies.
- Operational readiness and sustainability.
- Doctrine and Strategy.

Some countries also consider aspects like leadership, morale, operational experience, and training. These are important aspects but often difficult to

assess accurately, and subjectivity could creep in when making comparisons between two countries.

This paper carries out a comparative evaluation of India and China, dissecting aspects fundamental to understanding their military capability: defence spending, the defence industrial base, military reforms, the force structure of the armed forces, and strategies for warfighting. The paper also aims to offer a detailed and nuanced analysis that appreciates the complexity of military capability as a multifaceted construct. By examining defence spending patterns, the paper throws light on how financial resources are allocated to meet strategic objectives, while an exploration of the defence industrial base uncovers the foundations upon which military strength is built. Military reforms reveal each country's adaptability and strategic foresight. The force structure of the armed forces provides a window into each country's tactical and strategic priorities, whereas their warfighting strategies underscore the doctrines guiding their military engagements. Finally, the brief makes some recommendations regarding the future development of Indian military capability.

Military Spending

Defence spending plays a crucial role in shaping a nation's military capability, serving as a fundamental enabler for maintaining and enhancing the armed forces' readiness, technology, and overall effectiveness. While analysing the defence budget, it is also essential to see how the money is being spent.

The apportionment of a nation's defence budget is intrinsically linked to the size of its Gross Domestic Product (GDP), as a standard metric for gauging defence spending is the proportion of GDP dedicated to military expenses.

According to the International Monetary Fund (IMF) World Economic Outlook Database, India's GDP is expected to grow from $4 trillion in 2024 to about $6 trillion in 2028. In the same period, China's GDP will go from $18.5 trillion to approximately $23.6 trillion.[4]

In the last decade, both countries have shown consistency in defence spending as a percentage of their GDP. The Indian defence budget has been marginally below 2 per cent of GDP. However, if we factor in the spending on Assam Rifles, the Border Security Force, and the Indo-Tibetan Police Force, all of whom have a direct role in border management, the figure could rise to about 2.3 per cent.

There is a high level of opacity to China's actual defence spending. China officially states its defence expenditure at about 1.25 per cent of GDP, but spending on the paramilitary People's Armed Police, military veterans support, additional military construction expenses, and Chinese Coast Guard expenses are not a part of the military's budget. A 2021 SIPRI report on China's military expenditure estimates that spending is, on average, about 1.36 times larger than the official national defence budget.[5] This would put China's military spending at about 1.75% of GDP.

Taking the current trends in defence spending, by 2028, India's military expenditure would be approximately $138 billion, and China's military spending would be approximately $413 billion. These are rough estimates but show that the gap in military spending between the two countries, currently at $200 billion, would rise to about $275 billion in the next four years.

It is also essential to analyse how the defence budget is spent. China's 2019 Defense White Paper, 'China's National Defense in the New Era', gives some details of the budget's breakdown. The table below shows the expenditure under the heads of Personnel, Training and Sustainment, and Equipment.[6]

Item / Year	Personnel Expense		Training and Sustainment Expense		Equipment Expense		Total
	Amount	Percentage (%)	Amount	Percentage (%)	Amount	Percentage (%)	
2010	185.931	34.9	170.047	31.9	177.359	33.2	533.337
2011	206.506	34.3	189.943	31.5	206.342	34.2	602.791
2012	195.572	29.2	232.994	34.8	240.626	36.0	669.192
2013	200.231	27.0	269.971	36.4	270.860	36.6	741.062
2014	237.234	28.6	267.982	32.3	323.738	39.1	828.954
2015	281.863	31.0	261.538	28.8	365.383	40.2	908.784
2016	306.001	31.3	266.994	27.4	403.589	41.3	976.584
2017	321.052	30.8	293.350	28.1	428.835	41.1	1043.237

Sources: Data on China's defense expenditure submitted to the UN by the Chinese government

Although the data only covers the period from 2012 to 2017, some deductions can be drawn. Personnel expenditures account for about 30% of the budget, while equipment expenditures form the major share at over 40%. Thus, the expense on equipment alone is significantly larger than the total Indian defence budget.

India's military spending structure is heavily weighted towards personnel costs (pay and pensions), which take up more than 50 per cent of the budget, while spending on modernisation is slightly over 20 per cent.[7]

The Indian military, notably the Indian Army (IA), understands that manpower costs must be reduced. However, the ongoing standoff at the LAC with China has resulted in more 'boots on the ground', and persistent challenges remain on the border with Pakistan and in combating internal conflicts in the Northeast and Kashmir. The government has made some efforts to reduce personnel costs by introducing the Agnipath scheme, but its impact would only be felt after a decade. Meanwhile, there are numerous calls for a rollback or modification to this scheme.

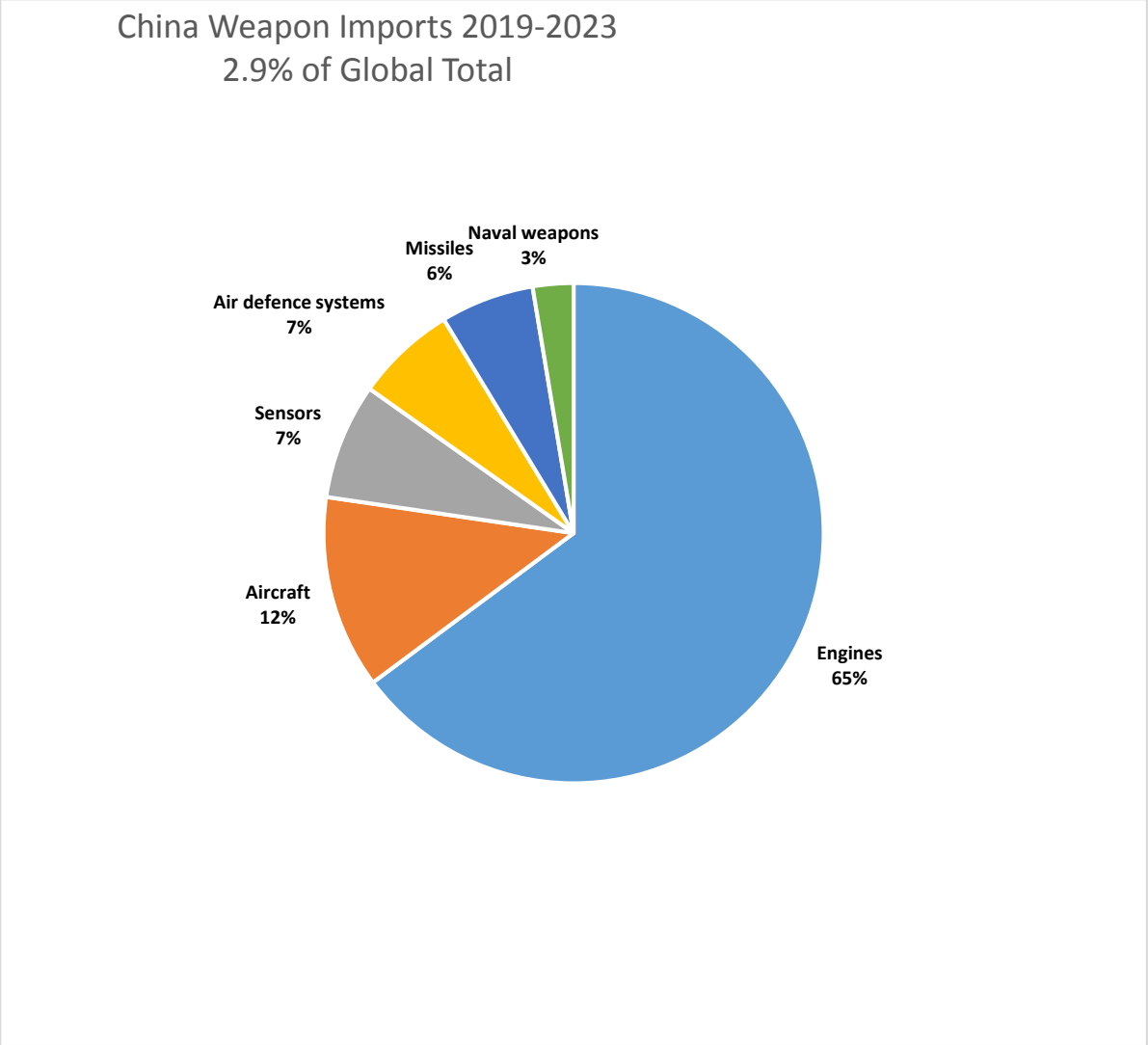
Defence-Industrial Base

China

Military capability development requires a strong indigenous defence industry. China has an almost self-reliant defence-industrial sector capable of producing all major weapon systems. Three of the world's ten largest defence companies are Chinese enterprises. Of the world's top 100 arms-producing and military services companies, eight are Chinese, with a total revenue of $436 billion in 2022. India had three companies in the top 100 with a revenue of $6.9 billion in 2022.[8]

Stockholm International Peace Research Institute's (SIPRI) latest report on international arms transfers shows that China is the tenth-largest importer of weapons, but its arms imports in the 2019-23 period have fallen by 44 per cent compared to 2014-18.[9] The report notes, "The drop in Chinese imports is due to China's growing ability to design and produce its own major arms. Its arms imports will probably decrease further as it develops this capacity."

A breakdown of the imports shows that China remains dependent on Russia, Ukraine, and, to a certain extent, France for aircraft and naval engines despite its efforts to develop the capability domestically. Engines constituted 65 per cent of all Chinese arms imports between 2019 and 2023. However, this could change in the near future.



Charts by Author based on SIPRI Database

In March 2023, an official of China's Aero Engine Corporation of China (AECC) stated that the country's Shenyang WS-15 fighter aircraft engine is ready for mass production. This engine will enhance the capabilities of the fifth-generation J-20 stealth fighter, replacing the earlier Russian-origin Saturn AL-31FN engines and the interim Shenyang WS-10 Taihang turbofan engine.[10]

China is the largest ship-building nation in the world, with a manufacturing capacity of roughly 23,250,000 million tons.[11] In 2023, China's shipbuilding completions exceeded 50 per cent of the global total. Between 2017 and 2019, China reportedly built more naval vessels than India, Japan, Australia, France, and the United Kingdom combined.[12]

As part of its strategy to develop the PLA into a "world class military" by 2049, China's Military-Civil Fusion (MCF) plan has been elevated to a national strategy. MCF seeks to deepen the interaction between China's civil research

and commercial sectors and the military. The MCF targets key technologies like quantum computing, big data, semiconductors, 5G, advanced nuclear technology, aerospace technology, and AI.[13]

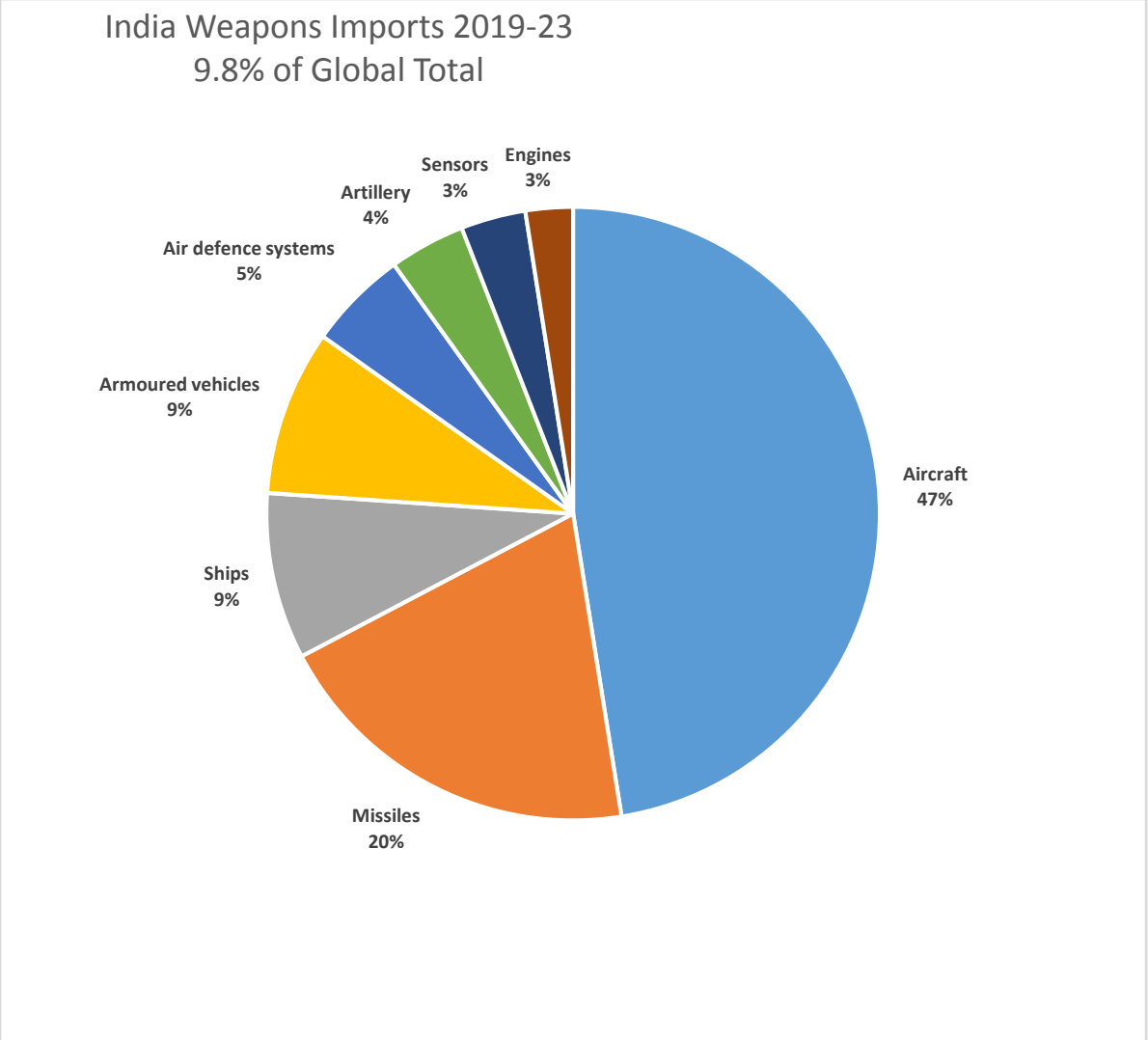
The "Made in China (MIC) 2025" plan supports the MCF and aims to transform China into a leading manufacturing power by developing ten high-tech industries. These include new information technology, high-end numerically controlled machine tools and robots, aerospace equipment, and new materials such as polymers.[14]

Despite an impressive defence industry, there are some weaknesses. China still relies on imports for military aircraft engines, combat ships, and armoured vehicles. China is also a net importer of high-end chips. Chinese chips remain of lower quality than those produced
abroad, and US export control regulations enacted in 2022 limit or effectively cut off China's access to the technologies needed to design and manufacture high end AI chips used in both civil and military applications.[15]

India

India has one of the largest defence industrial bases in the developing world. It comprises a vast network of research and development (R&D) and production entities and employs several thousand scientists, engineers, and workers. The Indian defence industry has historically been dominated by the public sector, which accounts for 80 per cent of India's defence sales.[16]

Despite its large size, the Indian defence industry lacks sufficiently capable R&D and industrial capacities to develop and produce highly sophisticated conventional arms. This is reflected in India being the largest importer of arms from 2019 to 2023, accounting for almost 10 per cent of global arms imports. As the chart below shows, India's dependency on defence imports extends to many major weapon systems.



Charts by Author based on SIPRI Database

In recent years, the Indian government has strongly pushed for greater indigenisation under the policy of AtmaNirbhar Bharat (Self-Reliant India). Between 2020 and 2023, the government notified more than 500 items that would be progressively banned for imports between December 2021 and December 2032.[17] In the 2024 defence budget, 75 per cent of the capital acquisition budget has been earmarked for procurement from local companies.[18]

The Ordnance Factory Board has been corporatised in an effort to make India's ordnance factories more efficient. In August 2020, Prime Minister Narendra Modi announced 74 per cent foreign direct investment in defence production through the automatic route with the aim to "increase production in India, develop new technology..., and maximise expansion of the private sector in defence."

Increasing strategic engagement with the US has the potential to transform India's defence industry. Under the Initiative on Critical and Emerging Technologies (iCET), the two nations have unveiled a roadmap for enhanced collaboration in high-technology areas. GE Aerospace has signed an agreement with Hindustan Aeronautics Limited (HAL) to co-produce F414 jet engines in India with 80 per cent technology transfer.

The government has also introduced several measures to promote private investments in the defence sector. Private sector firms are likely to secure defence contracts worth Rs 60,000 crore ($7.5 billion) in the financial year 2024-2025, which will be around 22 per cent of the industry's overall size.[19] Adani Defence & Aerospace has established the largest ammunition manufacturing facility in South Asia in Kanpur.

These are positive steps, but their impact will manifest over time. It is fairly certain that over the next decade, some major weapon platforms will continue to be imported. The Indian Air Force (IAF) is acquiring the indigenous LCA Mk1A aircraft but is also keen to procure 114 multirole fighter aircraft from a foreign vendor.[20] India has formally communicated to France its decision to procure 26 naval variants of the Rafale fighter aircraft for the Indian Navy.[21]

The Indian Navy (IN) has made progress in shipbuilding, but some critical needs have to be imported. According to the IN's Indigenisation Plan Swavlamban 2.0, the navy has achieved 90% indigenisation in the 'Float' category, 60% in the 'Move' category and 50% in the 'Fight' category.[22]

Military Reforms

China

In 2015, President Xi Jinping unveiled sweeping military reforms to enhance joint warfighting capabilities within the People's Liberation Army (PLA). The reforms included restructuring the seven military regions into five joint theatre commands and reorganising four general departments into 15 Central Military Commission (CMC) departments and offices.

A separate PLA Army headquarters was established, and the PLA Second Artillery Force, the PLA's strategic missile force responsible for land-based ballistic and cruise missiles, was renamed the PLA Rocket Force (PLARF). Accompanying this name change was an elevation of the PLARF from a branch reporting directly to the CMC to an independent service on par with the PLA Army (PLAA), PLA Air Force (PLAAF), and PLA Navy (PLAN).[23]

An independent service called the Strategic Support Force (SSF) was created to centralise operational and administrative control of space, cyber, electronic, and information and psychological operations. A Joint Logistics Support Force was raised to provide strategic and operational logistics support to the new joint theatre commands. The size of the PLA was reduced by 300,000, bringing the total personnel from 2.3 million to 2 million in 2018.[24]

The theatre commanders exercise operational control over almost all conventional forces (PLAA, PLAAF, and PLAN) within the respective theatre. PLA service headquarters have transitioned to an exclusive focus on "organise, train, and equip" missions and will no longer have a primary role in conducting operations.[25] The CMC retains direct operational control over the SSF and the PLARF, with the local theatre commander exercising a degree of operational control over conventional missiles.[26]

The reforms reflect the desire to strengthen PLA joint operations capabilities. The cornerstone of the military's new joint command and control system is the PLA's national and theatre-level joint operations command centres (JOCCs), staffed by personnel drawn from all services. The national-level JOCC, also known as the CMC JOCC, coordinates the efforts of the five theatre commands to achieve the PLA's strategic objectives.[27]

In addition to these reforms, organisational changes have included converting divisions to combined arms brigades, expanding the Special Operations Forces and the Marine Corps, and placing the People's Armed Police under the CMC.

On April 19, 2024, the PLA disbanded the SSF and created three new forces – the Aerospace Force (ASF), the Cyberspace Force (CSF), and the Information Support Force (ISF). In the official announcement, the PLA announced that there are now "four services, namely the Army, the Navy, the Air Force and the Rocket Force, and four arms, including the Aerospace Force, the Cyberspace Force, the Information Support Force and the Joint Logistics Support Force."[28] The CMC will directly control the ASF, CSF, and ISF.

The restructuring indicates the importance given by the PLA to the information domain. During the coverage of the ISF creation ceremony, it was stated, "Xi Jinping emphasised that the ISF is a newly created strategic force and a key element for coordinating the construction and application of network information systems."[29]

India

India has also embarked on a series of defence reforms. Twenty years after the Group of Ministers set up after the Kargil War recommended the appointment of a Chief of Defence Staff (CDS), General Bipin Rawat was appointed the first CDS in 2020. The CDS was tasked to "bring about reforms in the functioning of three Services with the aim to augment combat capabilities" and to "bring about jointness" in operations, logistics, and training.[30]

Although there is no official word, there appears to be a plan to raise three integrated theatre commands (ITC).[31] The Western Theatre Command, to be located in Jaipur, would be responsible for operations along the India-Pakistan border (including the Line of Control). The Northern Theatre Command, to be located in Lucknow, would be responsible for operations along the LAC. The Maritime Command, to be located in Karwar, would be responsible for safeguarding India's maritime security from external threats.

The Indian military has also raised a Defence Cyber Agency, a Defence Space Agency, and a Special Operations Division. The military's demand was to raise these as command-level organisations, but even the smaller structures would provide integrated capability development, which was missing. There has been some move towards joint logistics with the operationalisation of three Joint Logistics Nodes, while the process to establish four more nodes is under progress.[32] However, there are no structures for joint command and control, and communication networks still need to be integrated.

Effective integration of operations, logistics, and communications will come about only after the ITCs are raised, and issues concerning command and control of ITCs are resolved. Even though there are some reservations in the IAF on the ITCs, the need for integration and jointness is inevitable. Looking at a practicable timeframe, the ITCs should be operational by 2025 if a decision is taken now. This puts the Indian military's development of joint operational concepts and structures about ten years behind the PLA. However, military reforms undertaken will ultimately enhance India's warfighting capability.

China's Military Force Structure

PLAAF

The PLAAF and the PLAN aviation together have a fleet of 2,400 combat aircraft. Of the 1,900 total fighters, more than 1300 are fourth-generation aircraft. It is

estimated that the PLAAF will become a majority fourth-generation force within the next several years.[33] For fifth-generation
fighters, the PLAAF has operationally fielded its new J-20 stealth fighter. Beijing has claimed that roughly one hundred J-20 airframes were produced last year, on top of the 40-50 airframes reportedly built in 2022. At this rate, the PLAAF indicates that its fleet could reach as many as 1,000 airframes by the early 2030s.[34] China has also announced that it is developing a sixth-generation fighter that could enter service by 2035.[35]

China has embarked on large-scale military infrastructure development in Tibet and Xinjiang, mainly devoted to enhancing the ability of PLA airpower to operate against India. Thirty-seven airports and heliports within Tibet and Xinjiang have been newly constructed or upgraded since 2017.[36] New runways, hardened aircraft shelters, underground facilities, air defence positions, and logistics facilities are being constructed at a rapid pace. A 2021 report notes that "the expansion is breathtaking in its scale and harkens back to the early 2010s in the South China Sea in terms of how fast Beijing is working to shift the strategic reality in the region on its own terms."[37]

PLAAF has one of the world's largest forces of advanced surface-to-air missile systems.[38] For ballistic missile defence, China is developing the HQ-19 for medium-range missiles and the Dong Neng missiles for interception at higher altitudes.[39] The PLA has an impressive array of Unmanned Aerial Vehicles (UAV). It has developed the Gongji-11 stealth UAV, which is believed to be able to fly at speeds up to 1000 km/h and deploy precision munitions on targets. The new CH-7 stealth UAV with an operational radius of 2000 km has completed testing and is on schedule to conclude development in 2024.[40]

PLAN

China has numerically the largest navy in the world, with an overall battle force of over 370
ships and submarines, including over 140 major surface combatants. The PLAN's overall battle force is expected to grow to 395 ships by 2025 and 435 ships by 2030.[41] The PLAN is gradually extending its operational reach beyond East Asia and gaining a sustained ability to operate at increasingly longer ranges. The US Office of Naval Intelligence (ONI) estimates that Chinese naval ship design and material quality is, in many cases, comparable to US Navy ships, and China is quickly closing the gap in any areas of deficiency.[42]

The PLAN has expanded its force of large surface combatants with two programs, the LUYANG

III Guided Missile Destroyers and the RENHAI Cruisers. By the end of 2022, the PRC had commissioned 25 LUYANG III and eight RENHAI ships.[43]

The PLAN currently operates six nuclear-powered ballistic missile submarines (SSBN), six nuclear-powered attack submarines (SSN), and 48 diesel-powered/air-independent powered attack submarines (SS). The PLAN's submarine force is expected to grow to 65 units by 2025 and 80 units by 2035.[44] ONI projects that by 2030, China's nuclear submarine fleet could grow to eight SSBNs and 13 SSNs.[45]

PLAN's third aircraft carrier, Fujian, is expected to enter service in 2024. With a displacement of 80,000 tonnes, it is fitted with an electromagnetic catapult launch system. The US Navy estimates that China could have five aircraft carriers by 2030 and six by 2040.[46]

PLAA

The PLAA is organised into five Theater Army Commands, the Xinjiang Military District, and the
Tibet Military District. The PLAA has 13 group armies, which are comprised of multiple
combined-arms brigades that serve as the PLAA's primary manoeuvre force. The brigades vary in size and composition. The PLAA delineates its combined-arms brigades into three types: light
(high-mobility, mountain, air assault, and motorised), medium (wheeled armoured vehicles), and heavy (tracked armoured vehicles), with sizes ranging from approximately 4,500 to 5,000
personnel.[47]

Within the PLA, the PLAA relatively lags behind in terms of modernisation. However, the armoured vehicle fleet has been equipped with modern equipment. By 2022, roughly 70 per cent of the PLA's 5,400 main battle tanks could be classified as modern. Sixty per cent of the PLA Army's heavy and medium combined-arms brigades have also been equipped with modern tracked or wheeled infantry fighting vehicles.[48]

The PLAA is also equipping its forces in Tibet with modern gear. Some of the new equipment being deployed includes the Type-15 light tanks, the PLZ-07 122-MM howitzer, the Dongfeng Mengshi (DM) assault vehicle, the Z-20 helicopter and the GJ-2 drone.[49]

ASF, CSF, and ISF

The ASF is responsible for nearly all PLA space operations. The Department operates at least eight bases, including those whose core missions are the launch, tracking, R&D, and operation of the satellites vital to China's overhead C4ISR architecture.

China is steadily improving its space and counter-space capabilities. Its self-built space station, known as Tiangong, or Celestial Palace in Chinese, has been fully operational since late 2022, hosting a maximum of three astronauts at an orbital altitude of up to 450 kilometres[50]. China also plans to land a manned mission on the moon by 2030 and construct a permanent international research station on the lunar south pole by 2040.[51]

China has successfully conducted several direct-ascent anti-satellite (ASAT) tests, and they can threaten any satellite in low Earth orbit and likely medium Earth orbit as well. There are reports that one military base, known for conducting kinetic ASAT tests, is rumoured to house a laser weapon system.[52]

Numerous reports assessing the cyber power of different countries place China at number 2, behind the United States.[53] A 2021 study by the International Institute of Strategic Studies carried out a net assessment of the cyber capabilities of 15 countries. With the US at number 1, the report stated, "China is a second-tier cyber power but, given its growing industrial base in digital technology, it is the state best placed to join the US in the first tier."[54]

Not much is known about the detailed role of the newly created ISF, but it is in line with the importance given by the PLA to network information systems. PLA's informationized warfare concept promotes the idea that modern warfare is a confrontation between opposing operational systems rather than between units, arms, services, and platforms.[55]

PLARF

The PLARF saw an unprecedented expansion between 2017 and 2019, growing from 29 missile brigades to 40.[56] Latest reports indicate that PLARF currently has approximately 45 brigades with ballistic or cruise missile launchers. Of those brigades, approximately 30 operate ballistic missile launchers with nuclear capability or are upgrading to do so soon.[57]

The PLA's ballistic missile inventory includes 300 ground-launched cruise missiles (GLCM), 1000 short-range ballistic missiles (SRBMs), 1000 medium-

range ballistic missiles (MRBMs), 500 intermediate-range ballistic missiles (IRBMs), and 350 intercontinental-range ballistic missiles (ICBM).[58]

The PLARF continues to grow its inventory of DF-26 IRBMs, which it first revealed in 2015 and fielded in 2016. The multirole DF-26 is designed to swap conventional and nuclear warheads rapidly and is capable of conducting precision land-attack and anti-ship strikes in the Western Pacific, the Indian Ocean, and the South China Sea from mainland China.[59]

In November 2021, it was reported that China had tested a nuclear-capable hypersonic glide vehicle carried on a rocket, that flew through low-orbit space and circled the globe before striking within two dozen miles of its target.[60] According to US defence officials, China successfully tested Starry Sky-2 (or Xing Kong2), a nuclear-capable hypersonic vehicle prototype, in August 2018. China claims the vehicle reached top speeds of Mach 6 and executed a series of in-flight manoeuvres before landing. Some reports indicate that the Starry Sky-2 could be operational by 2025.[61]

India's Military Force Structure

IAF

The strength of the IAF is currently at 32 squadrons against an authorised 42 squadrons. Two contracts have been signed by the IAF for delivery of 83 and 97 Tejas Mk1A fighter jets. The delivery is likely to commence shortly, and estimates suggest that by 2040, the IAF will be able to rise to 35-36 squadrons as a result of the induction of new Tejas fighters and 12 Sukhoi-30 that have been ordered.[62]

In its modernisation plans, Tejas Mk2, powered by the GE F414 engine, is likely to be ready for induction by 2028.[63] Tejas Mk2 would replace the Mirage 2000, Jaguar and MiG-29 aircraft. The government has also cleared a proposal for developing and producing five prototypes of the Advanced Medium Combat Aircraft (AMCA) in the next five years.[64] The AMCA would be a single-seat, twin-engine, all-weather, fifth-generation stealth, multirole combat aircraft.

The IAF is looking to induct additional fighter aircraft, flight-refuelling aircraft, and a range of UAVs. In February 2024, the government accorded its acceptance of necessity (AoN) for the procurement of six mid-air refuellers. The IAF currently operates a fleet of six Russian-origin Ilyushin-78 tankers that are plagued by maintenance problems.[65]

India is in the process of procuring 31 MQ-9B 'Predator' drones from the US. Among the 31, the Navy will get 15 Sea Guardian drones, the naval variant of the Predator, while the Air Force and the Army will each get eight Sky Guardian drones. These drones are designed to fly for over 40 hours and feature nine hardpoints (8 wings, 1 centreline) with a maximum 2155 kg external payload capacity.

India is also acquiring five squadrons of S-400 air defence missile systems from Russia. Three squadrons have already been received, and the remaining two are expected to be delivered by 2026.[66]

IN

The IN currently has a fleet of 132 ships, combined with 143 aircraft and 130 helicopters. The IN had planned to be a 200-ship navy by 2027, which has now been modified to 170 ships by 2035.[67]

The IN's modernisation plan is based on several ongoing projects. Four Project 15B stealth-guided missile destroyers are on order, of which three have been delivered. Seven Project 17A stealth frigates are on order, with deliveries expected between 2024 and 2027.

The Project-75 submarine programme involves the acquisition of six diesel-electric attack Scorpene submarines, the last of which will enter service in 2024.[68] An additional three Scorpene submarines are planned to be procured, with deliveries starting in 2031.[69]

Project 75 (India) aims to produce six stealth submarines equipped with Air-Independent Propulsion (AIP) technology. However, delays have beset the project, and the selection of a foreign vendor to participate in the project has yet to be completed.

India plans to have four SSBNs, one of which is in service and a second likely to be commissioned in 2024. The IN also plans to procure six SSNs, but there has been little progress on this as government approval has yet to be granted.[70]

The IN operates two aircraft carriers, and a proposal has been initiated to acquire a third carrier. The new carrier will be modelled on the 40,000-tonne INS Vikrant, India's first indigenous aircraft carrier. There has been some debate on whether India should have gone in for another "light" carrier instead of a "big" 60,000-tonne plus flattop.[71] However, considering the construction

time, cost, and push for indigenisation, a practical decision was made to go for a repeat of the INS Vikrant.

To improve its maritime domain awareness, the IN's Information Management and Analysis Centre (IMAC) in Gurugram, the nodal agency for maritime information and monitoring, will be upgraded into the National Maritime Domain Awareness (NMDA) centre in about three years.[72]

In May 2022, the four leaders of the Quadrilateral Security Dialogue convened in Tokyo and released a joint statement launching the Indo-Pacific Partnership for Maritime Domain Awareness (IPMDA). This initiative aims to enhance maritime security and domain awareness in three critical regions in the Indo-Pacific: the Pacific Islands, Southeast Asia, and the Indian Ocean.[73] IPMDA has been operationalised in the first two of these regions, and is expected to be extended to cover the Indian Ocean in the coming months.

IA

In February 2023, the government approved the procurement of a Future Infantry Combat Vehicle (FICV) for the Mechanised Infantry Regiments. This is a long-delayed project, and it could take at least five years to start replacing the existing equipment.

Delays have also plagued the Future Ready Combat Vehicles (FRCVs) programme to replace the current fleet of T-72 tanks. The IA is likely to issue a request for proposal (RFP) this year for a project of approximately Rs 57,000 crore to manufacture 1,770 future-ready combat vehicles (FRCVs) in India. The FRCV could commence induction in 2030.[74] Light tanks for high-altitude operations are in an advanced stage of indigenous development and could be offered for user trials in 2024.

Under the Field Artillery Rationalisation Programme, the army plans to procure, by 2025-27, a mix of around 3,000-3,600 towed, mounted, self-propelled (tracked and wheeled) artillery guns.[75] Although the programme is facing some delays, new guns like the Dhanush, Vajra, ATAGS, and M777 howitzer are being inducted.

Ballistic Missiles

India has a range of ballistic missiles, from the short-range Prithvi to the 5,000 km-range Agni-V. However, these are all part of the Strategic Forces Command, which controls India's nuclear forces.

The only deployed conventional weapon is the BrahMos, a supersonic cruise missile with a range of 450-500 km. The army currently has five BrahMos regiments. All frontline warships are gradually being equipped with the BrahMos, and the Navy Chief declared in February 2024 that this missile will be the primary weapon of the IN.[76] Su-30 MKIs armed with BrahMos ALCMs were deployed at the 222 Squadron at Thanjavur Air Force Station in 2020.[77] Currently, BrahMos-modified aircraft are present in almost all squadrons of the IAF.[78]

In 2021, then-CDS, General Bipin Rawat, stated that India is looking to create a 'rocket force'. India has a well-established and extensive missile development program, and the 'rocket force' could be raised without any technical issues. In September 2023, the government cleared the procurement of a regiment of Pralay tactical ballistic missiles for the IA, which can strike targets at 150–500 km.[79] India has also successfully tested a 1000 km range subsonic land-attack cruise missile.[80]

Cyber and Space

As already mentioned, the Indian military has raised a cyber and a space agency. The IA is strengthening its cyber warfare capability by raising cyber operations and support wings in each operational command.

India has a well-developed space programme and possesses full launch capability. In March 2019, India successfully conducted an ASAT test, which many observers felt was primarily meant to send a signal to China. [81] According to the "Military Balance" report released in February 2024 by the International Institute of Strategic Studies, India operates 26 military satellites, compared to China's 245.[82] To close this gap, India plans to spend about $3 billion on space-related contract awards over the next few years.

Geography and Operational Concepts

Impact of Geography

While analysing military capability, assessing its practical usability in specific conflict scenarios is also essential. Apart from factors such as training, sustainment, human resources, and technology, geography and operational concepts are two main determinants of how effectively a military force can employ its assets and systems in real-world operations.

The Himalayan watershed, which forms a major part of the LAC, is a formidable obstacle in a military contest. Along the LAC, the IA is deployed in a strong defensive posture. Logistical challenges and the harsh terrain of the Tibetan Plateau will significantly constrain the PLAA's ability to amass and sustain offensive power in the region. The PLAAF would also be constrained in conducting sustained high-tempo air operations from high-altitude airfields.

China faces a challenging environment at sea. In the words of Naval War College professors James Holmes and Toshi Yoshihara, China sees a "Great Wall in reverse" when looking out from its east coast. This wall is the First Island Chain comprising the Kuril Islands, through Japan, Taiwan, the Philippines, and down to Borneo.[83] The First Island Chain hosts several US military bases and allied forces, creating a formidable presence that has the potential to block China's access to the Pacific Ocean.

For entry into the Indian Ocean, Chinese ships have to pass the chokepoints of Malacca, Lombok, and Sunda Straits. India has a dominant position in the Northern Indian Ocean over the Sea Lines of Communication (SLOCs), which carry 80 per cent of China's oil imports. Naval strategist Raja Menon, a retired Rear Admiral from the IN, points out that for the PLAN to operate in the Indian Ocean, it will have to overcome its weaknesses in maritime domain awareness, tactical air cover, communication infrastructure, and strategic anti-submarine warfare.[84] Currently, it is generally accepted that "neither China nor Pakistan can seriously threaten India's main axes of maritime approach."[85]

Can the PLA surmount some of the challenges posed by geography? In recent years, China has embarked on a very significant upgrade of its infrastructure in Tibet and Xinjiang, including new road and rail networks, airfields, and heliports. This could facilitate a rapid build-up of troops from the mainland and reduce the advantage that the IAF currently enjoys in the application of air power.

PLAN has been expanding its presence in the Indian Ocean and looking to acquire bases in the region. However, escaping the tyranny of geography will not be easy as the PLAN's ability to perform missions beyond the First Island Chain is still modest.[86]

Operational Concepts

China and India's operational concepts are markedly different. India primarily seeks to deter China from using military force for geopolitical coercion or to alter the LAC physically. To achieve this, the IA banks on an enhanced forward

deployment. After the Chinese incursions in Eastern Ladakh in 2020, the army has further strengthened this deployment by moving in additional troops and realigning some of its forces from the western border.

The Indian Army Land Warfare Doctrine 2108 states, "Operations along our Northern borders will be force centric, through effective multi-tiered deployment, rapid mobilisation, positioning/ application of reserves, augmentation of forces and force multipliers."[87] The IA's plan is to make any Chinese offensive prohibitive in terms of men and material costs. Depending on the progress of the operations, India would consider employing the Mountain Strike Corps to take the battle into Chinese territory.

The IAF on its part will attempt to gain a favourable air situation through offensive counter-air operations and air defence operations. Once some degree of air control is achieved, the subsequent air and surface operations can be coordinated to ensure the maximum application of combat power needed to attain military objectives.[88] Some air operations will also be carried out in coordination with the IN.

The IN would deploy its submarines and surface ships along important SLOCs and maritime chokepoints. At the commencement of any hostilities, long-range maritime aircraft, carrier-based aircraft, and land-based aircraft armed with BrahMos would attack PLAN submarines and surface ships. IN task forces would conduct sea control operations by destroying enemy naval units and interdicting enemy merchant shipping while protecting their own critical shipping in the area of operations.

In 2021, the PLA began discussing a new "core operational concept" called "Multi-Domain Precision Warfare (MDPW)." MDPW is intended to leverage a C4ISR network that incorporates advances in big data and artificial intelligence, what the PLA calls the "network information system-of-systems," to rapidly identify key vulnerabilities in the adversary's operational system and then combine joint forces across domains to launch precision strikes against those vulnerabilities.[89]

The MDPW should be seen alongside the PLA's operational concept of "system destruction warfare", which theorises that warfare is no longer centred on the annihilation of enemy forces on the battlefield but will be won by the belligerent that can disrupt, paralyse, or destroy the capability of the enemy's operational system.[90]

This is not to suggest that conventional forces will not play a role, but that the PLA is increasingly focused on dominating the information space. The 2013 Science of Military Strategy, compiled by the PLA's Academy of Military Science's Military Strategy Studies Department, states, "The decisive influence of information capability on the outcome of wars has made the struggle to seize information rights in information-based local wars more intense and complex. The seizure of information superiority and control of information has not only become the primary goal of warfare but also an important prerequisite for seizing control of air, sea, and other combat space. The result exerts an overall influence on the course of the war."[91]

This analysis of the operational concepts of the two sides reveals that while the Indian military primarily relies on a mostly conventional approach to warfighting, the PLA believes that paralysis of the enemy can be achieved even without significant attrition of enemy forces.[92] It is also important to note that PLA's MDPW is still a work in progress and will take some time to mature. Meanwhile, the Indian military is emphasising the adoption of technology to enhance its capability. The trajectory the two militaries take over the next decade will determine their eventual relative balance of power.

Findings

Looking realistically over the next ten years, the key findings with regard to the capability development of the Chinese and Indian militaries are:

- At the current pace of defence expenditures, the gap in military spending between the two countries will continue to increase. Manpower costs will continue to take up a substantial portion of the Indian defence budget.

- The indigenous defence industry in both countries will increasingly cater for military equipment, though India will be dependent on foreign partners for equipment like advanced fighters and heavy-lift aircraft, submarines, specialised drones, advanced missiles, etc.

- India's military modernisation will continue, albeit at a slow pace, as some of its projects for induction of major conventional platforms in the three services are at a nascent stage.

- The PLA would see the large-scale induction of key technologies like space, cyber, AI, autonomous systems, EW, and IW. In parallel,

conventional military equipment like aircraft, naval ships, and missiles would become more sophisticated.

- The PLA's emphasis on joint operations across its services and the creation of theatre commands highlights its strategic shift towards seamless, coordinated military actions. This enhances their operational efficiency and strategic flexibility.

- Infrastructure development in Tibet, Xinjiang, and the Indian side of the LAC would reduce the impact of the Himalayan geography and make large-scale operations feasible.

- The PLAN is expected to conduct more frequent and extended naval deployments in the Indian Ocean. To demonstrate its blue-water navy capabilities, carrier strike groups could sail through the Indian Ocean.

Recommendations

India must take a very focused approach to enhance its military capability to meet the rising challenge from the PLA. Some of the steps to be taken are apparent, but the devil lies in the detail of crafting a clear and workable implementation strategy.

Planning the Defence Budget. The Headquarters Integrated Defence Staff, in consultation with the Service Headquarters, evolves the 15-year Long Term Integrated Perspective Plan (LTIPP). This is then translated into Defence Five-Year Plans and the Annual Acquisition Plan. Unfortunately, the Five-Year Plans are not approved by the Ministry of Finance. While formulating the guidelines for the 13th Defence Plan (2017-22), it was decided that the plan may be sent to the Ministry of Finance (MoF) only for information and not for its approval.[93] Therefore, there is a disconnect between the long-term perspective plans and the finances allocated. The services often make ambitious plans that are not aligned with the actual availability of funds, while the MoF allots funds without adequately considering capability development needs. To eliminate this ad hoc process, the government must approve a realistic capability development plan in consultation with the military and ensure that funds are assigned accordingly.

Structure of the Armed Forces. Personnel costs take up over half of the annual defence budget, impacting modernisation. A comprehensive plan should be drawn up on the structure of the three services envisaged over the next decade. While the army needs to become leaner, the overall size of the air force and

navy too needs to be finalised. The size and composition of the armed forces should be determined by a holistic study that considers India's strategic threat assessments, the geopolitical environment, strategy and doctrine, technology adoption and economic factors. Such a study should be commissioned at the earliest.

Military Reforms. Jointness is essential in the Indian military to ensure cohesive and coordinated operations that enhance efficiency and effectiveness. Jointness will also ensure better integration of advanced technologies with applications across the three services. Despite the many advantages and a clear mandate by the government,[94] more than four years have elapsed without the ITCs having been formed. The political leadership must now step in to direct the raising of ITCs in a time-bound manner.

Know Your Enemy. A thorough study of the PLA's military doctrine and strategy is essential. Analysing how concepts such as "multi-domain precision warfare," "system destruction warfare," and "cognitive warfare" translate into actual warfighting practices will provide critical insights. This analysis will aid in developing effective tactics and strategies and help the Indian military prioritise the capabilities needed to counter the PLA effectively.

Rethinking Doctrine. The CDS must oversee the publication of a Joint operations doctrine that covers the following aspects:

- Security threats and challenges.
- Functions of the CDS, theatre commanders, and service chiefs.
- Joint planning process.
- Conduct of joint operations across the full spectrum of conflict, ranging from deterrence and limited conflict to full-scale combat.
- Development of a joint force.

The joint operations doctrine will be the foundational document for further preparing joint publications on intelligence, logistics, communications, IW, specialised operations, and training and military education. All these documents will collectively provide guidance to ensure that joint operations are well-coordinated, efficient, and capable of addressing the complexities of modern warfare.

Technology Adoption. There is considerable buzz surrounding the adoption of technology by the Indian military. However, what is missing in this conversation is a coherent strategy for integrating various technologies, the organisational structures required to support such integration, the necessary R&D support, and agile financial procedures for procuring cutting-edge

technology. Collectively, these steps should be clearly defined to enable a more efficient transition from technology identification to its adoption. Additionally, the military must foster a culture of innovation that encourages experimentation and promotes a mindset that values technological advancement and continuous improvement.

Capability Development Plan. Some capabilities required by the Indian military are obvious – a stronger navy, enhanced intelligence and surveillance, stronger cyber and EW, a long-range conventional missile force, unmanned systems, etc. However, little purpose is served merely by listing out a set of capabilities. A detailed capability development plan must emerge from a comprehensive study of Chinese military doctrine and strategy, the ongoing reform process, our joint operations doctrine, the level of technology adoption, and the resources available in terms of finance and the defence industrial base. By considering these factors, the military capability development plan will be more strategic, practical, and better aligned with the nation's defence objectives and resources.

Conclusion

As India and China navigate strategic competition in Asia, their respective military capabilities will significantly shape the regional security landscape. The military power of the two countries will in turn be shaped by their respective defence spending, defence industrial base, force structures, technological advancements, and doctrinal developments.

China's substantial investment in defence, driven by a robust and largely self-reliant defence industrial base, positions the PLA for significant advancements in both conventional and unconventional warfare capabilities. The emphasis on integrating advanced technologies such as AI, cyber warfare, and space capabilities underscores China's strategic intent to achieve technological and operational superiority. Furthermore, the PLA's comprehensive military reforms, aimed at enhancing joint operations and efficiency, reflect a strategic shift towards more cohesive and integrated military actions.

The increasing disparity in defence expenditure underscores the need for India to strategically allocate its resources to optimise modernisation efforts despite budgetary constraints. India's continued reliance on foreign partnerships for critical military technologies highlights the importance of fostering greater self-reliance and innovation in defence manufacturing.

The recommendations outlined above emphasise the necessity for India to adopt a holistic and integrated approach to defence planning. This includes developing a realistic capability development plan that aligns with strategic threat assessments and economic realities. There must be clearly defined processes to enable an efficient transition from technology identification to its adoption in the military. Preparing a joint operations doctrine to guide the coordination and execution of military operations across all domains and the establishment of ITCs are crucial steps in preparing for future wars.

In summary, while India and China continue to build their military capabilities, India's focus must be on strategic, well-coordinated, and technologically advanced development. By addressing the identified challenges and implementing the recommended steps, India can enhance its defence posture and maintain an effective strategic balance in the region, thereby also contributing to broader stability across Asia and the Indo-Pacific.

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