

CHINA'S AIR POWER CAPABILITIES IN THE INDIAN OCEAN: CHALLENGES AND OPPORTUNITIES

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“Air power,” Sir Winston Churchill once stated, “is the most difficult of all forms of military force to measure or even to express in precise terms”; definitions abound, one of the most succinct being: “The ability to project power from the air and space to influence the behaviour of people or the course of events.”¹

The Chinese Air Force is a technology savvy air force and is in the league of the most advanced air forces in the world. The People's Liberation Army Air Force (PLAAF) has been able to maintain a brisk pace of technological advancements and can now match the United States Air Force (USAF) in advanced weaponry. This has been made possible with a “great leap forward” strategy pursued in the last 20 years as part of China's military modernisation programme, shifting from a fleet of mostly obsolescent licensed-built second and third generation Soviet combat aircraft to a mostly modern, fifth generation force, capable of conducting expeditionary operations

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1. Hsi-hua Cheng, “The Employment of Airpower in the Taiwan Strait”, in Richard P. Hallion, Roger Cliff, and Phillip C. Saunders, eds., *The Chinese Air Force: Evolving Concepts, Roles, and Capabilities* (Washington, D.C.: National Defence University Press, 2012), p. 326.

The PLAAF is the largest air force in the region and the third largest in the world, with a 2,566 combat aircraft inventory, including 1,800 fighters, comprising fifth generation J-20 stealth fighters, strategic bombers, and multimission tactical and attack aircraft.

beyond the geographical boundary.² The US Department of Defence's (DoD's) report to Congress in 2014 stated, "The PLAAF is pursuing modernization on a scale unprecedented in its history and is rapidly closing the gap with Western air forces across a broad spectrum of capabilities."³ China now possesses advanced aerial systems such as up-to-date airborne warning and control aircraft, fifth generation fighters, advanced bombers, aerial tankers, electronic warfare, and

Intelligence, Surveillance, and Reconnaissance (ISR) assets. Even though China is being accused of stealing US technology in its modern inventory and presumably cannot match the US systems in terms of agility, certain Chinese systems are a counter to the US Air Force's aircraft, ranging from the Global Hawk and Reaper remotely piloted drones to the C-17 transport and F-35 fighter as well as air-to-air missiles such as the US Advanced Medium Range Air-to-Air Missile (AMRAAM).⁴ The PLAAF is the largest air force in the region and the third largest in the world, with a 2,566 combat aircraft inventory, including 1,800 fighters, comprising fifth generation J-20 stealth fighters, strategic bombers, and multimission tactical and attack aircraft.⁵

The Chinese warfare strategy has been premised on the concept of "seize the initiative, dominate the theatre, and decisively win the war".⁶

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2. John A. Tirpak, "The Chinese Air Force's Great Leap Forward," *Air & Space Forces Magazine*, May 29, 2018, <https://www.airforcemag.com/article/the-chinese-air-forces-great-leap-forward/>. Accessed on November 10, 2022.
 3. Department of Defence, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2014*, Government of the United States of America, Washington, 2014, p. 9, <https://www.globalsecurity.org/military/library/report/2014/2014-prc-military-security.pdf>. Accessed on November 1, 2022.
 4. Tirpak, n. 2.
 5. *Military Balance 2023* (London: International Institute of Strategic Studies(IISS), 2023), pp. 242-443.
 6. Joshy M. Paul, "China's Active Defence Strategy: A Maritime Perspective", *Air Power Journal*, vol 14, no. 4, 2019, pp. 49-76.

This concept emerged during the civil war period and has become the central tenet of the People's Liberation Army's (PLA's) modern warfare strategy. The army played a leading role in seizing the initiative during the continental war strategy that China pursued until the late 1980s, and the PLAAF's main objective was to protect the aerial space of the continental territory and the coastal areas and relied heavily on land-based cruise missiles to counter the threats.⁷ However, the developments in the 1990s such as the 1991

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Gulf War and the Balkan crisis, where air power was demonstrated as a decisive component in winning the war, brought changes in the Chinese warfare concept, with the increasing focus on strengthening air power. In the 'informationised local war conditions' that China adopted in the early 1990s, the Chinese leadership understood the importance of aerial dominance in a theatre and has given considerable attention to modernising the air force. Hitherto having played a limited role in protecting the aerial theatre of the homeland and the coastal areas, the PLAAF has leapfrogged to become an integral force in both offensive and defensive campaigns in China's warfare strategy in the 21st century. Since China doesn't have an overseas military base to project its air power beyond its periphery, it has to depend on the shore-based air assets of both the PLAAF and naval aviation, including aircraft carriers. Even though the capabilities of the air and naval aviation that China developed have been to secure the 'first and second island chains' in the Pacific theatre,⁸ it will invariably help China to extend its air power towards the Indian Ocean.

7. M. Taylor Fravel, *China's Military Strategy Since 1949: Active Defense* (Princeton: Princeton University Press, 2019).

8. The island chain strategy suggests that, in the first stage, from 2000 to 2010, China was to establish control over waters within the first island chain that links Okinawa prefecture, Taiwan, and the Philippines. In the second stage, from 2010 to 2020, China would seek to establish control over waters within the second island chain that links the Ogasawara island

Since the 2000s, a great transformation has taken place in the PLAAF's inventory from a singular focus on air defence and interceptor fighter aircraft of the Cold War era to a multi-mission force, capable of carrying out air defence, strike transport, ISR capabilities, and most recently, Electronic Warfare (EW) missions.⁹ The years of modernisation have helped the PLAAF to undertake deterrence as well as long-range expeditionary operations in the oceanic direction with the aim of air control, air strike, and air defence.¹⁰ It has to play a key role in joint amphibious landings, coastal blockades, joint firepower strikes, island defence, airborne, and nuclear counter-strike campaigns. With the PLA's 'far seas protection' strategy enshrined in the 2015 Military Strategy paper,¹¹ the PLAAF is gearing up for an expeditionary role and seeking to gain over-water dominance in the far seas area i.e., the Indian Ocean. To get extended aerial coverage and long range precision strikes, China has been focussing on the development of sixth generation fighter aircraft, strategic bombers, and drones operating from aircraft and unmanned ships, which would help it to dominate the over-water space for the next few decades.¹²

PLAAF'S EXPEDITIONARY CAPABILITIES AND THE INDIAN OCEAN

The PLAAF is the third largest air force in the world after the US and Russia, and is "closing the gap with the advanced US Air Force across a spectrum of capabilities".¹³ Its modern inventory includes two varieties of

chain, Guam and Indonesia. In the final stage, from 2020 until 2040, China would have to be able to exercise its naval power in the Pacific and Indian Oceans, using aircraft carriers as a key component of its military force. See Stacy A. Pedrozo, "China's Active Defense Strategy and its Regional Impact", Council on Foreign Relations, January 27, 2010, <https://www.cfr.org/report/chinas-active-defense-strategy-and-its-regional-impact> Accessed on November 21, 2022.

9. Air Marshal Anil Chopra, *China, the Rising Aerospace Power: Implications for India* (New Delhi: Pentagon Press, 2020).
10. Xiaobing Li, "The Dragon's Wing: The People's Liberation Army Air Force's Strategy", *Journal of Indo-Pacific Affairs*, July-August 2022, pp. 125-136.
11. *China's Military Strategy 2015*, The State Council Information Office of the People's Republic of China, Beijing, May 2015, <http://eng.mod.gov.cn/Database/WhitePapers/index.htm>. Accessed on November 30, 2022.
12. Liu Xuanzun, "China Reveals Tailless Concept for Next-Generation Fighter Jet", *Global Times*, February 1, 2023, <https://www.globaltimes.cn/page/202302/1284646.shtml>. Accessed on December 1, 2022.
13. Chopra, n. 9, p. 10.

stealth fifth generation fighters, the J-20 and J-35, two types of advanced bombers, the stealth H-20 and a long range H-6N capable of carrying ballistic missiles, apart from the H-6K, large transport aircraft (Y-20), as well as attack helicopters and Airborne Warning and Control System (AWACS) and Unmanned Aerial Vehicles (UAVs).¹⁴ Like the PLA Navy (PLAN), China wants to make the PLAAF a formidable air force in the world, quantitatively as well as qualitatively. However, its expeditionary experience has been very limited and its Anti-Submarine Warfare (ASW) capabilities are weak.¹⁵ It is trying to gain experience in faraway operations through joint exercises with friendly air forces such as those of Turkey, Russia, Thailand, Central Asian Republics, and Pakistan.¹⁶

The PLAAF's expeditionary stature was officially propounded by Chinese President Xi Jinping during his visit to the PLAAF Headquarters in April 2014 where he called for the need to "accelerate the construction of a powerful people's air force" and instructed air force generals "to improve air force structure, build up new combat capacity, and make a rapid transition to a balanced air power for both defense and offense."¹⁷ He has also emphasised the jointness of forces, not only in the air and space domains but "to defend China's maritime interests and strengthen its over-water capabilities".¹⁸ Further, in the opening address of the 20th Congress of the Chinese Communist Party held in October 2022, President Xi called for the establishment of "a strong system of strategic deterrence", termed the enhancement of aerial capabilities with

14. n. 5.

15. Cristina L. Garafola, and Timothy R. Heath, "The Chinese Air Force's First Steps Toward Becoming an Expeditionary Air Force", *RAND Report*, November 10, 2017, p.24, https://www.rand.org/pubs/research_reports/RR2056.html. Accessed on November 11, 2022.

16. Ibid.

17. Liu Zhen, "What is China's Joint Operations Command Centre and Who's in Charge?" *South China Morning Post*, November 22, 2022, <https://www.scmp.com/news/china/military/article/3200564/what-chinas-joint-operations-command-centre-and-whos-charge>. Accessed on November 21, 2022.

18. Mark Cozad and Nathan Beauchamp-Mustafaga, *People's Liberation Army Air Force Operations over Water: Maintaining Relevance in China's Changing Security Environment* (RAND Corporation: Santa Monica, Calif. 2017), https://www.rand.org/pubs/research_reports/RR2057.html. Accessed on November 30, 2022.

China's aerial capabilities are still focussing on the East Asian theatre to support the 'active defence strategy'. Its current priorities are defending Taiwan, securing the disputed territories in the East and South China Seas, and preventing the US from crossing the second island chain.

new systems and weapons to dominate the air for effective deterrence.¹⁹ Similarly, the 2013 edition of *Science of Military Strategy* highlighted the need for "shifting the strategic defense from the coastal periphery to the external forward edge", and the need for "building overseas strategic strong points that depend on the homeland, radiate into the surrounding areas, and move toward the two oceans".²⁰ It also called for the PLA Air Force to have an "effective combat radius" (platform plus missile range) of 3,000 km from

China's borders, for effective aerial coverage up to the second island chain.²¹

China's aerial capabilities are still focussing on the East Asian theatre to support the 'active defence strategy'. Its current priorities are defending Taiwan, securing the disputed territories in the East and South China Seas, and preventing the US from crossing the second island chain.²² The capabilities of air and naval aviation that China developed as part of the Anti-Access Area Denial (A2/AD) strategy have been to deter the US Navy's manoeuvrability in the western Pacific, though, it will invariably help China to extend its air coverage towards the Indian Ocean. When the restructuring took place within the PLA in 2016 with the formation of five Theatre Commands by abandoning the decades-old seven Military Regions, each Theatre Command was tasked with creating operational strategies based on the perception of threats at the borders under the direction of the Central Military Commission (CMC). The PLAAF's seven

19. Amber Wang, "Analysts Seize on Xi's Mention of Strong 'Strategic Deterrence' as Sign of China's Nuclear Build-up", *South China Morning Post*, October 18, 2022, <https://www.scmp.com/news/china/military/article/3196408/analysts-seize-xis-mention-strong-strategic-deterrence-sign-chinas-nuclear-build>. Accessed on November 15, 2022.

20. Shou Xiaosong, ed., *Science of Military Strategy* (Beijing: Military Science, 2013), p. 253.

21. *Ibid.*, p. 224.

22. Pedrozo, n. 8.

former Military Region Air Forces (MRAFs) were also restructured into North, South, East, West, and Central Theatre Command Air Forces, and at least six new air bases were established. Each Theatre Command Air Force (TCAF) has seven to 10 fighter brigades; each brigade has three to six fighter groups, totalling 30 to 50 aircraft.²³ A possible air operation conducted in the Indian Ocean Region (IOR) would thus be by the Southern Theatre Command, crossing the sovereign territories of the Southeast Asian states.

China has deployed more fighter aircraft to the east and southeastern part of the mainland to defend the over-water air space (Fig 1).

The Southern Theatre Command is the maritime theatre command and “safeguarding sovereignty and interests in the South China Sea (SCS)” is its responsibility.²⁴ The SCS is strategically vital compared with the eastern seabed of the Yellow Sea and East China Sea (ECS) in China’s nuclear deterrence strategy because the SCS is more secure to deploy China’s ballistic missile submarines (SSBNs) as the average depth of the Yellow Sea is 40 m and the ECS is 350 m, while the average depth of the SCS is 1,200 m. Since the Southern Theatre Command (STC) is primarily responsible for assuring the security of the Sea Lines of Communication (SLOCs), China’s critical lifeline for energy, which passes through the Indian Ocean, the STC looks after the Indian Ocean operations.

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23. Department of Defence, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China, 2021*, Government of the United States of America, Washington, November 3, 2021, <https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF>. Accessed on November 10, 2022.

24. “Commander of the Southern Theater Command: Safeguarding Rights and Interests in the South China Sea is the Most Important Mission”, *People’s Daily*, February 28, 2016, <https://www.chinanews.com.cn/m/mil/2016/02-28/7775861.shtml>. Accessed on November 10, 2022.

Fig 1: PLA's Major Aviation Units



Source: Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China for 2022*, Government of the United States of America, Washington, November 29, 2022, p. 63, <https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>. Accessed on January 16, 2023.

PLA units located within the Southern Theatre Command include two group armies, a naval fleet, three marine brigades, two air force bases (Nanning and Kunming), one bomber division, and two rocket force bases.²⁵ The Nanning air base has seven brigades, while Kunming has four brigades, totalling around 250-300 aircraft under the Southern Theatre Command.²⁶ Due to the distance and logistical problems for fighter aircraft, the PLAAF might use bombers for military operations in the Indian Ocean. The PLAAF's 8th Air (Bomber) division is located at Leiyang, Hunan, which has two bomber (H-6K)

25. *Ibid.*, p. 102.

26. Each air division of China generally consists of 70-120 fighter aircraft or 70 to 90 bombers, each brigade reportedly has 24 aircraft and each bomber regiment has 18 bombers.

regiments; the 12th air regiment is at Shaodong, and the 24th air regiment is at Leiyang, Hunan,²⁷ and each regiment has around 18 bombers. The PLAAF has a total of four H-6K bomber regiments which are divided between the Eastern and Southern Theatre Commands.²⁸ The H-6K is subsonic with a maximum range of roughly 3,000 km and can carry six Land Attack Cruise Missiles (LACMs), useful for long-range precision strikes against targets in the second island chain without refuelling. The US Department of Defence observes that the H 6K has been updated from its original version to conduct strikes at the US base of Guam.²⁹ It can even extend its range up to 4,500 km with a CJ-20 LACM that has a range of 1,500 km.³⁰

With an eye on aerial dominance in the Indian Ocean, China has built an airfield and a naval base closer to the Indian Ocean at Cambodia's Sihanoukville in the Gulf of Thailand. *The Washington Post* in June 2022 reported that "China is secretly building a naval facility in Cambodia for the exclusive use of its military" on the northern portion of Cambodia's erstwhile US Ream naval base on the Gulf of Thailand.³¹ Cambodia and China had secretly signed an agreement in 2019 to enhance with Chinese funds the infrastructure including communication and surveillance systems, radar facilities, and long wharves to enable larger foreign warships to dock, reported the *Wall Street Journal*.³² At the Dara Sakor airfield, China has built

27. Kenneth W. Allen, "PLA Air Force: Bomber Force Organization", China Aerospace Studies Institute, Air University, Montgomery, May 2, 2022, <https://www.airuniversity.af.edu/CASI/Display/Article/3016239/pla-air-force-bomber-force-organization/>. Accessed on November 26, 2022.

28. n. 5.

29. Department of Defence, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China for 2016*, April 2016, p. 31, <https://dod.defense.gov/Portals/1/Documents/pubs/2016%20China%20Military%20Power%20Report.pdf>. Accessed on December 10, 2022.

30. Richard Fisher, "China Showcases New Weapon Systems at 3 September Parade," *Jane's Defence Weekly*, September 8, 2015; cited in Cozad and Beauchamp-Mustafaga, n. 18, p. 2.

31. Ellen Nakashima and Cate Cadell, "China Secretly Building Naval Facility in Cambodia, Western Officials say", *The Washington Post*, June 6, 2022, <https://www.washingtonpost.com/national-security/2022/06/06/cambodia-china-navy-base-ream/>. Accessed on January 2, 2023.

32. Jeremy Page, Gordon Lubold and Rob Taylor, "Deal for Naval Outpost in Cambodia Furthers China's Quest for Military Network", *Wall Street Journal*, July 22, 2019, <https://www.wsj.com/articles/secret-deal-for-chinese-naval-outpost-in-cambodia-raises-u-s-fears-of-beijings-ambitions-11563732482>. Accessed on December 1, 2022.

a 2-mile-long runway, big enough for China's long-range bombers and military transport planes to operate.³³ As per international law, "all acts of hostility in neutral territory, including neutral lands, neutral waters, and neutral air space, are prohibited,"³⁴ so without the concurrence of the host country, China cannot use the foreign territory for a belligerent act. However, given the economic interdependence between China and Southeast Asia—the Association of Southeast Asian Nations (ASEAN) became the largest trade partner of China in 2022³⁵ and Southeast Asia's economic dependence on China has been increasing in Washington's³⁶ 'America First' era—Beijing could arm-twist the regional states to use their air space for the PLAAF's military operations in the Indian Ocean. Beijing has already used economic coercion against Japan in 2010³⁷ and Australia in 2020,³⁸ and the same could also be applied to the Southeast Asian states to compel them to comply with China's security demands. Similarly, if China's 'all-weather' friend Pakistan or Myanmar allows use of its territory for the Chinese planes to refuel, then the PLAAF's aircraft will be able to target Indian assets in the Indian Ocean from airfields in western China. In recent times, China has enhanced its airfields close to the Indian border, including the Hotan, Gar Gunsa, Kashghar, Hopping, Dkonka Dzong, Linzhi, and Pangat air bases in the

33. Hannah Beech, "A Jungle Airstrip Stirs Suspicions About China's Plans for Cambodia", *The New York Times*, December 22, 2019, <https://www.nytimes.com/2019/12/22/world/asia/cambodia-china-military-bases.html>. Accessed on January 10, 2023.

34. Chapter 7. The Law of Neutrality, in A. R. James C. Duncan, eds., *International Law Studies*. vol. 73, (Newport: Naval War College, 1999), p. 370, <https://ia601502.us.archive.org/8/items/annotatedsupplem73thom/annotatedsupplem73thom.pdf>. Accessed on January 6, 2023.

35. "ASEAN Remains China's No. 1 Trade Partner from Jan to Apr, Accounting for 14.6% of Total Trade", *Global Times*, May 9, 2022, <https://www.globaltimes.cn/page/202205/1265133.shtml>. Accessed on January 9, 2023.

36. Danson Cheong and Charissa Yong, "China, US in Race for Asean: Who has the Edge?" *The Strait Times*, May 23, 2022, <https://www.straittimes.com/multimedia/graphics/2022/05/china-us-influence-asean-southeast-asia/index.html>. Accessed on January 17, 2023.

37. Keith Bradsher, "Amid Tension, China Blocks Vital Exports to Japan", *The New York Times*, September 22, 2010, <https://www.nytimes.com/2010/09/23/business/global/23rare.html>. Accessed on January 6, 2023.

38. "China Punishes Australia for Promoting an Inquiry into Covid-19", *The Economist*, May 21, 2020, <https://www.economist.com/asia/2020/05/21/china-punishes-australia-for-promoting-an-inquiry-into-covid-19>. Accessed on January 10, 2023.

Xinjiang and Tibet region.³⁹ The PLAAF has already deployed Sukhoi-30s and six H-6 bombers with KD-63 cruise missiles at the Kashgar air base in Xinjiang.⁴⁰

China has also developed a new long range strategic bomber, the H-6N, capable of launching hypersonic ballistic missiles, which was demonstrated in the PLAAF's 70th anniversary parade in 2019.⁴¹ The H-6N is reportedly a refurbished and advanced version of the Tu-16 Badger bomber, with a range of 3,000 km, and has in-flight refuelling capability.⁴² A video that appeared in a Chinese military magazine, *Modern Ships*, in late 2019, demonstrated the launch of China's Air Launched Ballistic Missile (ALBM) CH-AS-X-13, an air-launched variant of the DF-21 anti-ship ballistic missile, combined with a DZ-ZF hypersonic glide vehicle as its warhead.⁴³ The Pentagon had in 2018 reported that China was developing a nuclear-capable, air-launched ballistic missile, which can be fired from its strategic bombers.⁴⁴ This suggests that the combination of the DF-21 missile of 1,700 km range or the 1,500 km range CJ 20 cruise missile, plus the approximate operational range of 1,500 km of the H-6N would give the PLAAF enough firepower to target the US base of Guam, and US Carrier Strike Groups (CSG) outside the second island chain. With refuelling from Mischief Reef in the South China Sea,

39. Smriti Chaudhary, "After Spotting J-20 Jets, Nuclear-Capable H-6 Bombers, India Deeply Monitoring Chinese Air Bases", *The Eurasian Times*, August 21, 2020, <https://eurasianimes.com/after-spotting-j-20-jets-nuclear-capable-h-6-bombers-india-deeply-monitoring-chinese-air-bases/>. Accessed on January 12, 2023.

40. Ibid.

41. Roland Oliphant, "How China's Military Parade will Showcase a Country Seeking Regional Dominance", *The Telegraph*, September 30, 2019, <https://www.telegraph.co.uk/news/2019/09/30/chinas-military-parade-will-showcase-country-seeking-regional/>. Accessed on December 10, 2022.

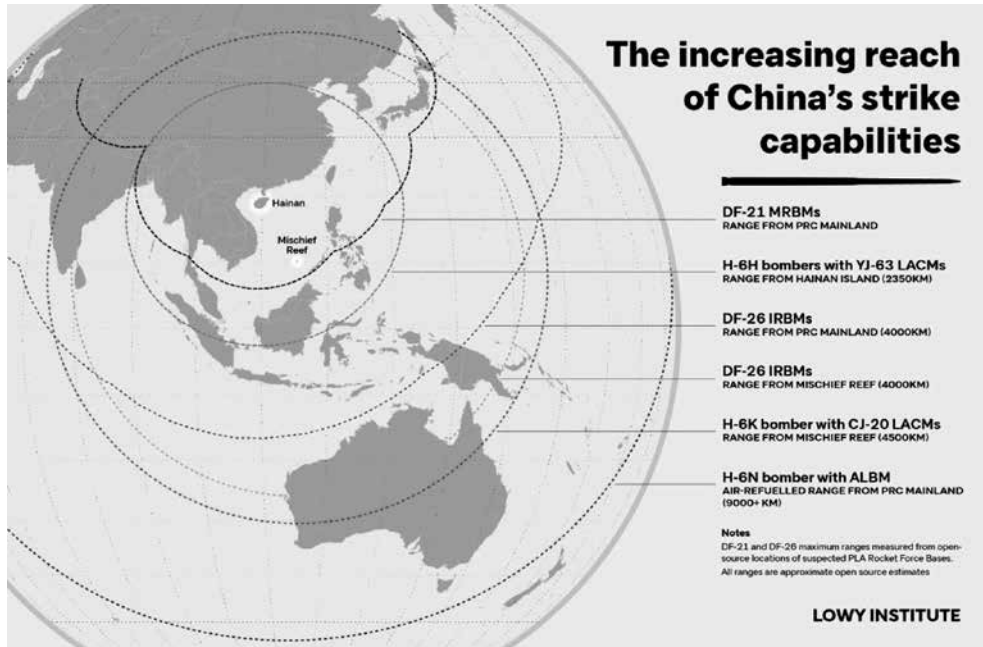
42. Mike Yeo, "Video Reveals Chinese H-6N Bomber Carrying Suspected Hypersonic Weapon", *Defence News*, October 19, 2020, <https://www.defensenews.com/global/asia-pacific/2020/10/19/video-reveals-chinese-h-6n-bomber-carrying-suspected-hypersonic-weapon/>. Accessed on September 14, 2022.

43. Roland Oliphant, "How a Publishing Error may have Revealed China's Secret Super Missile", *The Telegraph*, November 19, 2019, <https://www.telegraph.co.uk/news/2019/11/19/accidental-espionage-publishing-error-may-have-revealed-chinas/>. Accessed on November 19, 2022.

44. Yeo, n. 42.

the H-6N can target Indian military assets on the east coast as well as the southern Indian Ocean (Fig 2).

Fig 2: Coverage of China's Bombers and Missiles from Mischief Reef, SCS



Source: Thomas Shugart, "Australia and the Growing Reach of China's Military", The Lowy Institute, August 9, 2021, <https://www.lowyinstitute.org/publications/australia-and-growing-reach-china-s-military>. Accessed on April 28, 2023.

CHINA'S NAVAL AVIATION IN THE IOR

The PLA Naval Air Force (PLANAF) was established as a sub-unit of the PLA Navy in accordance with the first "Three-Year Plan" formed as soon as the PLAN was created in April 1949. The PLANAF initially had three divisions and was expected to operate from the dedicated naval airfields, while the hardware was procured from the Soviet Union. However, the Korean War necessitated the creation of a dedicated naval aviation wing for the PLAN and, in September 1952, the PLAN's aviation wing was designated

as one of the PLA Navy's five operational branches.⁴⁵ The former Soviet Union continued as the source of aircraft for the PLA Naval Aviation (PLANA) and inducted the Tu-2 bombers, MiG 17s as J-5 (licensed production), and Mi-4 helicopters as the Z-5 into the service. Besides, through reverse engineering, the IL-28 transporters and Tu-16 bombers were made as the H-5 and H-6 respectively. As part of the naval modernisation, China sought to enhance the capability of naval aviation, and, in 1997, ordered 38 SU-30's naval versions. The SU-30 maritime fighter aircraft is comparable to the American McDonnell Douglas F-15E Strike Eagle, and Russia's Sukhoi Aviation Corporation delivered China specific SU-30 MKKs in 2000.⁴⁶ In 2001, China renegotiated and ordered 38 improved versions of the SU-30 MKKs with upgraded avionics and maritime strike capabilities, known as the SU-30 MKK2, and another 24 were ordered in 2003, all delivered in 2004. This variant also features a new C4ISTAR (Command, Control, Communications, Computers, Intelligence, Surveillance, Target Acquisition, and Reconnaissance) suite as well as a new mission computer.⁴⁷ Today, China's naval aviation consists of foreign-made combat aircraft, indigenously-made bombers, carrier-based aircraft J-15, and helicopters. It has developed a carrier version of the fifth generation fighter aircraft J-20 as the J-35 and is planning to develop Unmanned Aerial Vehicles (UAVs) and Unmanned Combat Aerial Vehicles (UCAVs) to be operated from the naval ships.

China has already announced its intention of having a two-ocean navy—in the Pacific and Indian Oceans—and the Chinese Navy has become the

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45. Kamlesh Agnihotri, *Strategic Direction of the Chinese Navy: Capability and Intent Assessment* (New Delhi: Bloomsbury, 2015).

46. Eurasian Times Desk, "China's SU-30MK2, J-10A Fighter Jets Conduct Tactical Combat Drills", *The Eurasian Times*, March 22, 2021, <https://eurasianimes.com/chinas-pla-naval-brigade-conducts-tactical-combat-drills-with-su-30mk2-j-10a-fighters/>. Accessed on April 24, 2022.

47. Ibid.

largest in the world, with 367 ships, including three aircraft carriers and 42 large destroyers,⁴⁸ and is expected to reach 425 ships by 2030.⁴⁹ To get a blue water naval capability with partial sea denial in the Indian Ocean waters, that too against a resident naval power, India, with 180 odd battleships including aircraft carriers, China would necessarily require aerial coverage to safeguard its ships and carriers in the Indian Ocean. Without sophisticated aerial capabilities including anti-submarine and Airborne Early Warning (AEW) capabilities, PLAN ships would be highly vulnerable to aerial and underwater attacks. An aircraft carrier being crucial for the PLAN to provide aerial coverage in the Indian Ocean, the carrier programme was started with a vision of getting a two-ocean navy and extending its dominance up to the third island chain.⁵⁰ China has already commissioned two aircraft carriers and the third one was launched in June 2022. As per various reports, China plans to build a fleet of somewhere between four and six carriers by 2030.⁵¹ This suggests that at least one aircraft carrier can be present in the Indian Ocean throughout the year; and more if China goes in for higher numbers, making the PLAN a formidable naval power in the IOR.

China's three carriers are conventional diesel powered ships while it is mulling to build the fourth one as nuclear powered—it is expected to achieve a breakthrough in nuclear-powered technology by 2027.⁵² However, US analysts believe that the fourth one will also be a conventional carrier

48. *Military Balance 2023* (London: International Institute of Strategic Studies, 2023), pp. 239-240.

49. Congressional Research Service (CRS Report 2022), "China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress", December 1, 2022, <https://sgp.fas.org/crs/row/RL33153.pdf>. Accessed on January 23, 2023.

50. "Aircraft Carrier *Liaoning's* Latest Voyage Lays Down Foundation for Enhanced Night Combat", *Global Times*, August 8, 2021, at <https://www.globaltimes.cn/page/202108/1230896.shtml>. Accessed on December 20, 2022.

51. America's Indo-Pacific Command suggests that China will operate four carriers by 2025. British defence intelligence reckons that it may have as many as five by 2030. The expert consensus is that China plans eventually to build a fleet of somewhere between six and ten. For details, see "China's Next Aircraft Carrier will be its Biggest", *The Economist*, July 1, 2021, <https://www.economist.com/china/2021/07/01/chinas-next-aircraft-carrier-will-be-its-biggest>. Accessed on January 20, 2023.

52. Kristin Huang, "China's Next Aircraft Carrier: Nuclear-Power Speculation Continues", *South China Morning Post*, October 9, 2022, <https://www.scmp.com/news/china/military/article/3195306/chinas-next-aircraft-carrier-nuclear-power-speculation>. Accessed on January 16, 2023.

because “China’s naval nuclear reactor technology is not advanced enough to support an aircraft carrier”.⁵³ The latest J-35 carrier fighter is expected to be operated from the fourth carrier which has a combat range of 2,000 km, providing extended aerial coverage for maritime operations.⁵⁴ Indeed, having an aircraft carrier had been a dream of former PLAN Commander Liu Huaqing who coined the island chain strategy in the 1980s. The first aircraft carrier, the *Liaoning*, was originally a Soviet cruiser carrier that China purchased from Ukraine in the early 1990s and retrofitted and launched on September 25, 2012. The *Liaoning* can carry 36 aircraft: 24 Shenyang J-15 fighters, six Changhe Z-18F Anti-Submarine Warfare (ASW) helicopters, four Changhe Z-18J airborne early warning helicopters, and two Harbin Z-9C rescue helicopters.⁵⁵ The *Liaoning* is armed with the Flying Leopard 3000 Naval (FL-3000N) missile system, Type 1030 Close-In Weapon System (CIWS), and deck-based rocket launchers.⁵⁶

The J-15 is a two-engine fourth generation carrier-borne aircraft, comparable to the US Navy’s F/A-18C/D Hornet and F/A-18E/F Super Hornet, French Rafale M, and the Russian MiG-29K.⁵⁷ The manufacturing company SAC used the T-10K prototype acquired from Ukraine in 2001, which itself is a derivative of the Russian SU-33 fighter, and uses the same airframe and aerodynamic configuration as the SU-33, but it is fitted with

53. Minnie Chan, “China’s Aircraft Carrier No 4 will not Catch up with US Navy’s Nuclear-Powered Giants, Analysts say”, *South China Morning Post*, June 23, 2022, <https://www.scmp.com/news/china/military/article/3182842/chinas-aircraft-carrier-no-4-will-not-catch-us-navys-nuclear>. Accessed on January 20, 2023.

54. Ibid.

55. “Chinese Navy *Liaoning* Aircraft Carrier has Tested its Integrated Combat Capability”, *Navy Recognition*, May 10, 2020, <https://www.navyrecognition.com/index.php/news/defence-news/2020/may-2020/8347-chinese-navy-liaoning-aircraft-carrier-has-tested-its-integrated-combat-capability.html>. Accessed on January 12, 2023.

56. “*Liaoning* (*Varyag*) Aircraft Carrier, China”, *Naval Technology*, September 24, 2012, <https://www.naval-technology.com/projects/varyag-aircraft-carrier-china/>. Accessed on December 22, 2022.

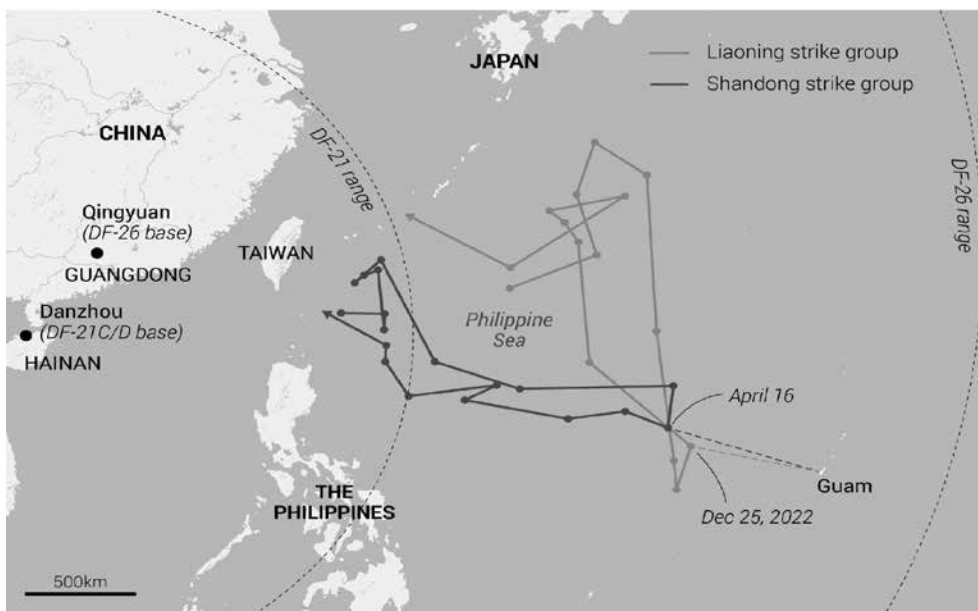
57. “Experts’ Comparative Analysis of Performance Between J-15 and US F-18”, *People’s Daily Online*, September 6, 2013, <http://en.people.cn/90786/8392418.html>. Accessed on January 4, 2023.

indigenous engines, weapons, and radar.⁵⁸ It has a combat radius of 1,500 km, and can approximately carry 12 tonnes of weapons including the PL-12 Beyond Visual Range Air-to-Air Missiles (BVRAAMs); and PL-7, PL-8, PL-9, AIM-9L/M Short-Range Air-to-Air Missiles (SRAAMs), YJ-91 anti-radiation missiles, YJ-83K anti-ship missiles, and KD-88 air-to-surface missiles, as well as various bombs, including guided ones.⁵⁹

China launched its second carrier, the *Shandong*, an indigenously-built Type-001A, in April 2017, which underwent maiden sea trials the following June, and was commissioned in December 2019.⁶⁰ The *Shandong* can carry up to 36 Shenyang J-15 fighters as well as several helicopters.⁶¹ Both carriers are Short Take-off But Assisted Recovery (STOBAR), using a ski-jump ramp for launches. The *Shandong* participated for the first time in an exercise in the South China Sea in May 2021.⁶² In April 2023, the *Shandong* strike group, along with the PLA Rocket Force conducted a month-long military drill near the US base of Guam, to demonstrate the PLA's long range strike capability (Fig 3). China's third carrier, the *Fujian* is its first domestically designed and built catapult aircraft carrier.⁶³ The 80,000-tonne ship is equipped with electromagnetic catapults and arresting devices or Electromagnetic Aircraft Launch System (EMALS) similar to the US carrier *Gerald Ford*.⁶⁴

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58. Rick Joe, 'It's Time to Talk About J-15, China's First Carrierborne Fighter', *The Diplomat*, April 28, 2021, <https://thediplomat.com/2021/04/its-time-to-talk-about-j-15-chinas-first-carrierborne-fighter/>. Accessed on January 10, 2023.
 59. Rick Joe, "China's J-15 Carrierborne Fighter: Sizing up the Competition", *The Diplomat*, May 20, 2021, <https://thediplomat.com/2021/05/chinas-j-15-carrierborne-fighter-sizing-up-the-competition/>. Accessed on January 16, 2023.
 60. "China's 1st Indigenous Aircraft Carrier to be Combat-ready by 2020: Report", *Business Standard*, October 27, 2020, https://www.business-standard.com/article/international/china-s-1st-indigenous-aircraft-carrier-to-be-combat-ready-by-2020-report-120102701577_1.html. Accessed on January 11, 2023.
 61. Greg Waldron, "Beijing Commissions its Second Aircraft Carrier", *Flight Global*, December 18, 2019, at <https://www.flightglobal.com/defence/beijing-boosts-its-carrier-power-with-shandong-commissioning/135830.article>. Accessed on December 31, 2022.
 62. "China's 2nd Aircraft Carrier Group Holds 1st Drill in S.China Sea, 'Training for Combat Preparedness'", *Global Times*, May 2, 2021, <https://www.globaltimes.cn/page/202105/1222578.shtml>. Accessed on January 26, 2023.
 63. Press Trust of India, "China Launches Most Advanced 3rd Aircraft Carrier, Eyes Extended Range into Indo-Pacific", *The Indian Express*, June 17, 2022, <https://indianexpress.com/article/world/china-3rd-aircraft-carrier-indo-pacific/>. Accessed on December 30, 2022.
 64. Sumeda, "China's New High-Tech Aircraft Carrier *Fujian* and its Advanced Catapult System", *The Hindu*, June 29, 2022, <https://www.thehindu.com/news/international/>

Fig 3: Area of Shandong's Military Drill in April 2023



Source: Minnie Chan, "China Says PLA Rocket Force Joined Shandong Carrier Group in Drills near US Base in Western Pacific", *South China Morning Post*, May 10, 2023, <https://www.scmp.com/news/china/military/article/3219989/china-says-pla-rocket-force-joined-shandong-carrier-group-drills-near-us-base-western-pacific>. Accessed on January 6, 2023.

Press reports in December 2021 stated that China has developed a second generation J-15 Flanker, an upgraded, catapult capable version of the CATBAR (Catapult Assisted Take-off But Arrested Recovery), with improved range/payload which will be operated from the new Type 003 carrier equipped with the CATBAR system.⁶⁵ With a combat radius of 1,500 km, the J-15 Flanker

[china-aircraft-carrier-advanced-catapult-system-emals/article65556194.ece](https://www.scmp.com/news/china/military/article/3219989/china-says-pla-rocket-force-joined-shandong-carrier-group-drills-near-us-base-western-pacific). Accessed on January 17, 2023.

65. AndreasRupprecht,JonGrevattandAlessandraGiovanzanti,"ShenyangProducesFirstCatapult-Capable J-15," *Jane's Defence Weekly*, December 16, 2021, [https://www.janes.com/defence-news/news-detail/shenyang-produces-first-catapult-capable-j-15#:~:text=China's%20Shenyang%20Aircraft%20Corporation%20\(SAC,to%20images%20released%20by%20AVIC](https://www.janes.com/defence-news/news-detail/shenyang-produces-first-catapult-capable-j-15#:~:text=China's%20Shenyang%20Aircraft%20Corporation%20(SAC,to%20images%20released%20by%20AVIC). Accessed on November 10, 2022; David Axe, "China's Next Carrier Fighter Is A Lighter, Meaner J-15," *Forbes*, December 20, 2021, <https://www.forbes.com/sites/davidaxe/2021/12/20/chinas-new-carrier-fighter-is-a-lighter-meaner-j-15/?sh=251c41da7e5a>. Accessed on January 16, 2023.

can strike targets up to the middle of the Bay of Bengal from the South China Sea, especially from Cambodia's Ream naval base where China has secretly conducted renovation work "for the exclusive use of its military" on the northern portion of the base on the Gulf of Thailand, and with a 2-mile-long runway being built by China at the airport of Dara Sakor.⁶⁶

China's Southern Theatre Command (STC) is primarily responsible for the Indian Ocean operations. As the maritime command as well as due to its proximity to the Indian Ocean, the STC's operational area is the South China Sea but it is also responsible for assuring the security of the SLOCs. Given the strategic significance as well as the vastness of the maritime areas to be covered, the STC has been the first command to receive maritime strike bombers.⁶⁷ The H-6J bombers took part in the PLA's coordinated air and naval forces exercise in the East China Sea in June 2022, and three H-6 bombers (two H-6J and H-6K) flew past Miyako Strait into the Pacific Ocean, a demonstration of its long range precision strike capability.⁶⁸ One H-6J can carry four YJ-12 anti-ship cruise missiles, while the PLAAF's H-6K is equipped with electronic counter-measure pods for jamming enemy radar, apart from carrying six Land Attack Cruise Missiles (LACMs).⁶⁹ Similarly, China's second carrier, the *Shandong*, entered service in 2019 in the Southern Theatre Command.⁷⁰ Besides, China has equipped various military outposts in the artificial islands in the South China Sea with hangars for fighter aircraft and installed advanced anti-ship and anti-aircraft missile systems,

66. Ellen Nakashima and Cate Cadell, "China Secretly Building Naval Facility in Cambodia, Western Officials say", *The Washington Post*, June 6, 2022, <https://www.washingtonpost.com/national-security/2022/06/06/cambodia-china-navy-base-ream/>. Accessed on December 16, 2022.

67. Department of Defence, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China for 2021*, October 2021, <https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF>. Accessed on January 19, 2023.

68. Amber Wang, "China's H-6 Bombers in Show of Air-Navy Coordination near Southern Japan, Military Experts say", *South China Morning Post*, June 28, 2022, <https://www.scmp.com/news/china/military/article/3183271/chinas-h-6-bombers-show-air-navy-coordination-near-southern>. Accessed on December 10, 2022.

69. PLA operates three prime variants of the H-6 bomber: the H-6K (conventional bomber), the H-6J (maritime strike role), and the H-6N (nuclear missile capable).

70. n. 5.

and military jamming equipment.⁷¹ In early 2020, the PLA deployed KJ-200 anti-submarine warfare and KJ-500 airborne early warning aircraft at Fiery Cross Reef.⁷² Apart from artificial islands in the South China Sea, China can extend its aerial coverage into the Indian Ocean from Cambodia's Ream naval base and Dara Sakor air base at Sihanoukville in the Gulf of Thailand (Fig 4). Since the Ream base is close to the eastern side of the Indian Ocean, China could monitor the Indian Navy's activities in the Bay of Bengal as it could get a bird's eye view over the Kra isthmus.

Fig 4: Combat Radius of J-17 Thunder of 1,700 km from Dara Sakor Air Base and Mischief Reef



Source: Prepared by the author.

China has been consistently improving the weapons and other mechanisms in its aircraft carriers to match the latest US carriers. It has developed a

71. Ibid.

72. H I Sutton, "Chinese Military Surveillance Ship, Aircraft Spotted at Contested South China Sea Reef", *UNI News*, June 10, 2021, <https://news.usni.org/2021/06/10/chinese-military-surveillance-ship-aircraft-spotted-at-contested-south-china-sea-reef>. Accessed on November 10, 2022.

carrier-capable variant of its J-20 fifth generation stealth fighter aircraft, now designated the J-35, an upgraded version of the J-31 that was first flown in 2012, and the first flight reportedly took place in October 2021.⁷³ Since the J-35 is a twin-engine aircraft, it can carry less payload than the US carrier version of the F-35C, which is a single-engine aircraft, while the J-35 requires more fuel to run two engines, and the range will also be slightly lower than that of the F-35C.⁷⁴ The J-35 can carry four PL-15 medium-range air-to-air missiles in the internal weapons bay and two short-range PL-10 missiles for dogfights on external hard points.⁷⁵ China is reportedly also developing “a carrier-based Airborne Early Warning (AEW) aircraft, called the KJ-600, that is similar to the U.S. Navy’s carrier-based E-2 Hawkeye AEW aircraft, and also a stealth drone aircraft”.⁷⁶ Both the J-35 and KJ-600 are slated to operate from the newly built Type 004 fourth conventional/nuclear aircraft carrier.

China’s naval aviation has land-based airplanes which include 24 Russian made SU-30 MKK2 Flanker land based fighters. The PLANAF comprises 2 regiments with H-6DU/G/J bombers, 1 brigade with J-10A/S Firebird; SU-30MK2 Flanker G, 1 brigade with J-11B/BS Flanker L, 1 brigade with J-11B/BS Flanker L; JH-7A Flounder, 1 brigade with J-8F Finback; JH-7A Flounder, and 1 regiment with J-15 Flanker.⁷⁷ The PLANAF has 1 brigade with ground attack capability with JH-7 Flounder and 2 regiments of anti-submarine warfare with KQ-200.⁷⁸ PLANA’s ELINT/ISR/ASW capability includes 1 regiment

73. Nick Childs and Douglas Barrie, “Catapulting China’s Carrier Capabilities”, *IISS Military Balance Blog*, June 10, 2022, <https://www.iiss.org/blogs/military-balance/2022/06/catapulting-chinas-carrier-capabilities>. Accessed on January 21, 2023.

74. Parth Satam, “‘Battle Of 35s’: US F-35 Or China’s J-35 Stealth Aircraft, A Battle Of Equals Or Comparing Apples With Oranges?” *Eurasia Times*, December 18, 2022, <https://eurasiatimes.com/american-f-35-vs-chinese-j-35-stealth-aircraft-a-battle-of-equals/>. Accessed on December 28, 2022.

75. Parth Satam, “Rejected By PLAAF, China ‘Re-Launching’ Its Second Stealth Fighter Jet; Appears Similar To American F-35s”, *Eurasia Times*, July 25, 2022, <https://eurasiatimes.com/china-re-launching-its-second-stealth-fighter-jet-appears-similar-to-f-35s/>. Accessed on January 22, 2023.

76. CRS Report 2022, “China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress”, Congressional Research Service, March 8, 2022, pp. 22-23, <https://sgp.fas.org/crs/row/RL33153.pdf>. Accessed on November 13, 2022.

77. *Military Balance 2021* (London: IISS, 2021), p. 253.

78. *Ibid.*

with Y-8JB/X; Y-9JZ; KQ-200, Airborne Early Warning and Control comprises 3 regiments with Y-8J; KJ-200; KJ-500, and 1 regiment transportation with Y-7H; Y-8C; CRJ-200/700.⁷⁹ It has a total of 426 combat capable aircraft, which include 45 bombers (27 H-6G/G mod and 18 H-6J), FTR-24 J-8F Finback, FGA-153: 16 J-10A Firebird; 7 J-10S Firebird; 72 J-11B/BS Flanker L; 34 J-15 Flanker; 24 SU-30MK2 Flanker G, ATK -120: 48 JH-7; 72 JH-7A Flounder, and 16+ KQ-200 for Anti-Submarine Warfare (ASW)⁸⁰ (Table 1).

Table 1: Southern Theatre Command's Aerial Inventory in 2022

| S.No. | Inventory | Type | Quantity |
|-----------------------------------------------------|----------------------------------|----------------------------------|----------|
| 8th Bomber Division, PLAAF | | | |
| 1 | H-6K | Bomber | 36 |
| 2 | JH- 7A | Bomber | 24 |
| 3 | J-10A | Fighter aircraft | 48 |
| 4 | J-10C | Fighter aircraft | 24 |
| 5 | J-11A | Fighter aircraft | 24 |
| 6 | J-16 | Fighter aircraft | 24 |
| 7 | J-20A | Fighter aircraft | 24 |
| 8 | SU-35 | Fighter aircraft | 24 |
| 9 | SU-30MKK | Fighter aircraft | 24 |
| 10 | H-6U | Tanker | 24 |
| Naval Aviation (3rd Naval Aviation Division) | | | |
| 1 | KQ-200 | ASW | 18 |
| 2 | KJ-500 | AEW&C | 18 |
| 3 | H-6DU/G/J | Maritime strike bomber | 18 |
| 4 | J-15 | Carrier based fighter aircraft | 18 |
| 5 | J-11B | Maritime strike fighter aircraft | 36 |
| 6 | JH-7A | Maritime fighter-bomber | 12 |
| 7 | Y-7G; Z-8; Z-8J; Z-8S; Z-9C/D | Helicopters | 18 |
| 8 | <i>Shandong</i> | Aircraft carrier | 1 |

Source: n. 5, p. 244.

79. Ibid.

80. Ibid.

PLANAF's ship based helicopters are 13 for ASW, 8 heavy lift, 8 medium lift, and 22 medium lift/ASW. It has 18 multipurpose helicopters, 11 for search and rescue, and 10 for airborne electronics warfare. The PLAAF operates two types of unmanned aerial vehicles; heavy BZK-005 and medium BZK-007. It has long range and short range Surface-to-Air Missiles (SAMs) for air defence purposes.

CHALLENGES AND LIMITATIONS

China faces considerable challenges in extending its air cover into the Indian Ocean—from geographical disadvantages to doctrinal issues and capability problems. Firstly, since China doesn't have foreign air bases in the Indian Ocean Region (IOR), it has to depend on home-based aerial assets, while for aircraft carriers, it has to cross narrow channels in the Southeast Asian archipelago. For home-based air coverage, geography creates the most obstacles for aircraft to operate freely in the Indian Ocean. Unlike ships which can pass through narrow channels, either between two islands (Sunda and Lombok) or the waters dividing nations like the Malacca Straits, as they are called international shipping lines, fighters cannot fly freely through the air space of Southeast Asia: if they have to transit 'sovereign air space' it requires the host-country's consent.⁸¹ The 1944 Chicago Convention on International Civil Aviation stipulates that state aircraft (military, police, and customs) are not allowed to traverse the sovereign air space unless it is authorised by some special agreement, and also the necessary arrangements have to be made to ensure safety while navigating the state aircraft.⁸²

Moreover, overflights of sovereign territory are subject to tracking and interdiction, which may lead to becoming counter-productive. Besides, the

81. "Sovereign Air Space" corresponds to the air space above sovereign territory, including territorial waters. International air space is not under the control of any state. The 1944 Chicago Convention on International Civil Aviation facilitates the overflight of sovereign air space by commercial [but not military] aircraft, although China and Russia are not parties to the convention.

82. Article 3 of the Chicago Convention on International Civil Aviation (1944) 15 U.N.T.S. 295, <https://www.refworld.org/pdfid/3ddca0dd4.pdf>. Accessed on 28, 2023.

refusal of countries to grant overflight rights can create significant operational problems. In a hostile environment, even friendly countries may not grant permission to use their air space. For example, US strike aircraft based in Britain were not allowed to fly over the air space of France and Spain for air strikes on Libya in 1986, and had to fly over international waters, including the Strait of Gibraltar.⁸³ As a result, the search for air power access to the IOR from the home-based assets remains an insurmountable task for the PLAAF.

Firstly, the PLAAF's operational experience beyond the East Asian theatre has been very limited. The PLAAF lacks real-time combat experience as it has never been involved in aerial combat, not even in the 1962 border conflict with India or the Vietnam War of 1979. It has also not participated in any of the peace-keeping missions, humanitarian assistance and disaster relief missions, or any other limited military tasks under the United Nations (UN). The UN's international peace-keeping missions with other countries' forces in distant regions are considered operational experiences in unfriendly environments. Only once in the PLAAF's history did it participate in Military Operations Other Than War (MOOTW): this was in 2011 during the Libyan crisis when Chinese nationals were evacuated from Libya. However, after the Libyan evacuation, the Chinese government conducted a few more Noncombatant Evacuation Operations (NEOs) in the IOR and nearby areas, including in the Ebola crisis in November 2014, and evacuation of Chinese nationals from Iraq in 2014 and from Yemen in 2015.⁸⁴

Secondly, China currently pursues a defensive military posture towards the Indian Ocean. As mentioned elsewhere, the PLA's priority is to defend the near seas while its far seas mission is to "protect maritime rights and interests and nuclear counter-attacks".⁸⁵ The far seas mission is predominantly the PLAN's objective and strategic submarines are used for nuclear counter-attacks from oceans. Its aircraft carrier is not yet ready to take up operational missions in the Indian Ocean, and is still undergoing operational training in

83. Robert E. Harkavy, *Bases Abroad: The Global Foreign Military Presence* (Oxford: Oxford University Press, 1989), p. 95.

84. Garafola, n. 15.

85. n. 11.

China's overseas Djibouti base or any MSR (Maritime Silk Route) asset in the Indian Ocean littoral area is inadequate to facilitate the PLAAF's requirements. Only at Gwadar, in Pakistan, China has built a seaport and airport nearby which can be utilised for military purposes because of the close military relationship between the two countries.

the East and South China Seas. Similarly, using the airfields of either the Indian Ocean littoral states or Southeast Asian countries, including Cambodia, for aerial missions, is going to be highly improbable due to the pressure from the US as well as India. New Delhi can leverage the Quadrilateral Security Dialogue (QUAD) partnership to dissuade the regional countries from using their territory or air space against India as the US has considerable influence over them compared to that of India.

Thirdly, China's overseas Djibouti base or any MSR (Maritime Silk Route) asset in the Indian Ocean littoral area is inadequate to facilitate the PLAAF's requirements. Only at Gwadar, in Pakistan, China has built a seaport and airport nearby which can be utilised for military purposes because of the close military relationship between the two countries. All other ports that China has built in the IOR, including the Djibouti base, can be blockaded by a joint operation by the Indian and US Navies in a real-time crisis. Similarly, using Pakistan's air space by the PLAAF amounts to being tracked by India as the Indian Air Force actively operates 20 air bases under the Northern and Southwestern Air Commands along the India-Pakistan border. The Indian Navy's Western Naval Command, based at Mumbai, can create a blockade against Pakistan's major ports as in the case of the 1971 Indo-Pak War.⁸⁶ This is the same case for the PLAAF's operations through Myanmar's air space to target India's assets in the eastern Indian Ocean which can be shot down by the Indian Air Force before the aircraft reaches the actual theatre.

86. Shariq Majeed, "1971 WAR: When Indian Navy Blocked Karachi, its Men Became Masters of the Arabian Sea", *The Times of India*, October 18, 2021, http://timesofindia.indiatimes.com/articleshow/87102536.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst. Accessed on January 24, 2023.

Fourthly, it is not proven whether China's advanced aerial systems are technologically efficient in combat. Even though China claims that its latest aerial systems are at par with similar categories of the US' advanced systems, in practice, its modern aircraft are either modified Soviet-era systems or copied US systems, so the technological modernisation is not incremental. For instance, the J-20 is China's fifth generation stealth fighter aircraft but is reportedly developed from technology stolen from the US systems of the F-22 Raptor, and F-35 Lightning, while the J-35 is a stolen technology of the US' B-2 stealth bomber.⁸⁷ The composite material being used in the Chinese aircraft may not technically be at par with the US systems. So the Chinese systems would not have the same kind of agility that an advanced fighter aircraft of the US possesses.

The composite material being used in the Chinese aircraft may not technically be at par with the US systems. So the Chinese systems would not have the same kind of agility that an advanced fighter aircraft of the US possesses.

Fifthly, China critically lacks underwater protection for its aircraft carriers with its ASW system. China's existing ASW strategy is largely dependent on surface ship anti-submarine capabilities; its aviation anti-submarine capability is based on the Z-9C, Ka-28, Helix A, and Z18F helicopters.⁸⁸ However, surface ships are on the surface and face serious threats from underwater, so aviation anti-submarine systems can protect carriers from underwater threats. Helicopters have a limited range, and speed and can carry less ammunition than Maritime Patrol Aircraft (MPA), but China has less than 20 MPAs, and it continues to lack a robust deep-water ASW capability.⁸⁹ Its maritime patrol aircraft, the KQ200 (Y-8Q), entered service in 2018, is

87. Sakshi Tiwari, "Chinese 'Stealth' Espionage! How Beijing-Backed Hackers 'Acquired' Sensitive US Tech Used In Its F-35 Fighter Jet?" *Eurasia Times*, February 3, 2022, <https://eurasiatimes.com/chinese-stealth-espionage-us-tech-used-in-its-f-22-f-35-fighter/>. Accessed on January 27, 2023.

88. Rick Joe, "Chinese Anti-Submarine Warfare: Aviation Platforms, Strategy, and Doctrine", *The Diplomat*, December 16, 2018, <https://thediplomat.com/2018/10/chinese-anti-submarine-warfare-aviation-platforms-strategy-and-doctrine/>. Accessed on January 20, 2023.

89. *Ibid.*

limited in number and largely doing reconnaissance around Taiwan.⁹⁰ The US Department of Defence report in 2022 on China's military power observes that "it will still require several years of training and systems integration for the PLAN to develop robust offensive deep water ASW capability".⁹¹

Finally, an aircraft carrier is costly, worth around \$3-5 billion and losing one is a heavy loss for the nation. Even though it has an inbuilt defensive mechanism, it is not fully safe against an aerial or underwater attack. Besides, the sinking of an aircraft carrier would indeed be a strategic shock for the nation. With the supersonic BrahMos cruise missiles, India can target a Chinese aircraft carrier the moment it enters the Indian Ocean water, crossing the narrow straits of the Southeast Asian archipelago, from Thanjavur air base where the Indian Air Force has deployed one squadron of Sukhoi SU-30 MKI fighter aircraft.

IMPLICATIONS FOR INDIA

In recent times, China has been enhancing its aerial capabilities to dominate the overwater domain in the western Pacific theatre. Chinese warplanes frequently intrude into the Air Defence Identification Zones (ADIZ) of Taiwan and Japan, demonstrating China's assertiveness as well as its proven capabilities to confront them. China's air force modernisation with fifth generation fighter aircraft and hypersonic weapons has led to a competition for aerial dominance in East Asia; Japan is vying for developing a sixth generation fighter aircraft programme in collaboration with the United Kingdom and Italy,⁹² while the US is going ahead with the B-21 Raider

90. Olli Pekka Suorsa, "The Anti-Submarine Warfare Component of China's Sorties in Taiwan's ADIZ", *The Diplomat*, November 4, 2021, <https://thediplomat.com/2021/11/the-anti-submarine-warfare-component-of-chinas-sorties-in-taiwans-adiz>. Accessed on January 10, 2022.

91. Department of Defence, *Annual Report of Congress, "Military and Security Developments Involving the People's Republic of China 2022*, November 29, 2022, p. 53, <https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>. Accessed on December 30, 2022.

92. Brad Lendon, "Japan, Britain and Italy Plan Sixth-Generation Fighter Jet to Rival World's Most-Advanced Warplanes", *CNN*, December 9, 2022, <https://edition.cnn.com/2022/12/09/asia/japan-uk-italy-new-fighter-plane-deal-intl-hnk-ml/index.html>. Accessed on January 12, 2023.

bomber, the world's first sixth generation jet and a strategic bomber.⁹³ Until China resolves the Taiwan question, it will be preoccupied with the East Asian theatre. But, at the same time, a two-ocean navy means that the PLAAF has to provide aerial coverage for the PLAN in both the Pacific Ocean and Indian Ocean theatres simultaneously.

In recent times, China has started enhancing its aerial capabilities in its western region to prepare for two-front wars, against the US and its allies in the western Pacific, while neutralising Indian threats in the western theatre as well as in the Indian Ocean. China fears that India might launch a simultaneous attack on its western region if a US-China war breaks out over Taiwan. Similarly, India may attempt to interdict Chinese SLOCs in the Indian Ocean which will force China either to end the war quickly or surrender because without the energy coming from the Middle East and Africa, China cannot prolong the war. In this scenario, China would ensure that a simultaneous attack by India would prove too costly for New Delhi. It is now greatly fortifying its Western Theatre Command with a number of new airfields as well as strengthening the existing airfields with hangars for strategic bombers that can be used against Indian assets in the Indian Ocean.⁹⁴

Besides, China could also launch an independent air operation against India in the Indian Ocean, following a land skirmish in the Himalayas between the two. China could arm-twist its close partners, Pakistan and Myanmar, or the Southeast Asian states to operate from their air space, if the US does not prevent them from giving their air space to China for using against India. In this situation, China's Western and Southern Theatre Commands could simultaneously launch aerial operations against Indian aircraft carriers, platforms ships, command and control stations in the peninsula, and Indian military assets in the Andaman and Nicobar Islands.

93. Majid Alam, "First 6th Gen Jet & Stealth Bomber: US Air Force to Unveil 'Most Advanced Military Aircraft' Today | Explained", *News18.com*, December 2, 2022, <https://www.news18.com/news/world/first-6th-gen-jet-stealth-bomber-us-air-force-to-unveil-most-advanced-military-aircraft-today-explained-6518479.html>. Accessed on January 14, 2022.

94. Chaudhary, n. 39.

China's PLAAF is becoming an expeditionary force and will be able to provide aerial coverage for the PLA's 'far seas protection' strategy by 2030 when China completes its aircraft carriers programme.

To overcome the bottlenecks for the PLAAF in the Indian Ocean, China may establish a dual use airfield, on the lines of dual use MSR ports, in the littoral countries, notably in the East African region. The US Department of Defence in its 2022 report to Congress on the *Military and Security Developments Involving the People's Republic of China 2022*, stated, "The PRC is likely already considering and planning for additional military logistics facilities to support naval, air, and ground forces projection", other than the Djibouti base, in faraway regions.⁹⁵ A dual use airport in the African continent on the western side of the Indian Ocean and a naval base and an airfield in Dara Sakor from the eastern part would be enough to provide aerial support for the PLAN operations in the Indian Ocean. Undoubtedly, Chinese MSR ports along the littoral and dual use airports on both sides of the Indian Ocean would mount significant challenges to India in its backyard.

CONCLUSION

China's PLAAF is becoming an expeditionary force and will be able to provide aerial coverage for the PLA's 'far seas protection' strategy by 2030 when China completes its aircraft carriers programme. It could then spare one aircraft carrier exclusively for the Indian Ocean operations which could be docked at various MSR ports in the IOR. From Mischief Reef and Dara Sakor airfields in the South China Sea, the PLAAF could provide direct aerial cover, with one air refuelling, and then, almost the entire Indian Ocean waters would come under the PLAAF's aerial coverage. Besides, if Pakistan and Myanmar allow use of their territory, then the PLAAF's aircraft will be able to operate from airfields in western China. In recent times, China has enhanced its airfields in western China, including the Hotan, Gar Gunsa, Kashghar, Hopping, Dkonka Dzong, Linzhi, and Pangat air

95. n. 91.

bases in the Xinjiang and Tibet region. The PLAAF has already deployed Sukhoi-30s and six H-6 bombers with KD-63 cruise missiles at the Kashgar air base in Xinjiang.⁹⁶

To counter China's military expansionism towards the Indian Ocean, India has to develop an A2/AD system centered on the Andaman and Nicobar Islands. Strengthening the Andaman and Nicobar Command by modernising airfields and also installing air defence systems, including powerful long-range radars, and SAMs, could deter the Chinese aerial threat.⁹⁷ Similarly, India has to build alliance cohesion with its strategic partners, particularly the US for Air Domain Awareness (ADA), which would help in getting early warning communication from various installations that the US has established to monitor China in all the domains—land, sea, and space—to deter incoming missiles as well as bombers and fighter aircraft. Aircraft carriers may not be deployed offensively in the Indian Ocean, at least in this decade, due to lack of operational experience for the crew as well as induction of offensive systems on board, including air defence systems.⁹⁸

As of now, the aerial threat would likely come from the home-based airfields under the Southern and Western Theatre Commands as well as the new base in Cambodia. With A2/AD on the eastern side of the Indian Ocean and close cooperation with the US for ADA, India can effectively deter the PLA's aerial operations in the IOR.

Besides, the IAF has a large number of air bases in the peninsular region and also air stations in the Andamans, closer to Southeast Asia. The mainstay of air

With A2/AD on the eastern side of the Indian Ocean and close cooperation with the US for ADA, India can effectively deter the PLA's aerial operations in the IOR.

96. Chaudhary, n. 39.

97. Air Marshal Anil Chopra, "Unsinkable Aircraft Carriers: India's Island Territories have Great Strategic Potential Which Must be Realised", *Firstpost*, September 23, 2022, <https://www.firstpost.com/opinion-news-expert-views-news-analysis-firstpost-viewpoint/unsinkable-aircraft-carriers-how-indias-island-territories-are-great-strategic-potential-11314321.html?s=08>. Accessed on December 25, 2022.

98. "What to Make of China's New Aircraft-Carrier", *The Economist*, June 23, 2022, <https://www.economist.com/china/2022/06/23/what-to-make-of-chinas-new-aircraft-carrier>. Accessed on January 30, 2022.

power of the IAF is the SU-30 MKI and its operational radius of action is 1,500 km, which can increase to over 2,000 km with one aerial refuelling and can be operated from many international airports, major naval air bases, and its air force stations at Trivandrum, Sullur, and Thanjavur as well as from the Andamans. From the Andaman air base, the SU-30 MKI can cover a significant part of the South China Sea, thus, India can effectively deter China's aircraft carrier even before it enters the Indian Ocean. In short, it will be an insurmountable task for the PLAAF to conduct an aerial operation in the Indian Ocean against India.