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INDIAN NAVAL AVIATION CAPABILITIES & CRISIS



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AIRCRAFT CARRIERS IN INDIAN NAVAL AVIATION

The commissioning of INS Vikrant is a big event for India but it is not enough considering the ongoing geo-political situation. Who emerges on top of the struggle for power and influence in the Indian Ocean Region will largely depend on India and how it moves forward regarding its naval capabilities.

India is emerging as one of Asia’s most significant military forces. It imports more weapons than any other country in the world and its defence spending has more than doubled in the last ten years. Since the country’s independence in 1947, it has aimed to become a significant naval power in global politics. Back then, India decided to not align with either of the emerging East-West power blocs. Instead, it became a part of the Commonwealth and received “reconditioned Second World War warships from Britain’s reserve fleet” which were mostly “vessels that were surplus to British requirements” (Hiranandani, 2002).

The Indian Navy is a rapidly expanding enterprise that has been accumulating resources, skills, and expertise. It has acquired quite some critical platforms including aircraft carriers, amphibious ships, refuelling tankers, airborne maritime surveillance assets, transport aircraft, and unmanned aerial vehicles that aid in

expanding “its reach to the Indian Ocean littoral and beyond”. The Indian Navy’s extensive list of current and future inventories demonstrates how urgently the force has sought to get out of the British shadow and has reinvented itself.

Aircraft carriers are seen as “the most visible symbol of contemporary naval power” (Rajagopalan, 2022). The history of the aircraft carriers contributes

to their reputation and aura as they “were at the center of some epic battles fought in World War II”. As the war ended, the US was the only major nation left with a formidable carrier force. Others, such as the UK, decided to reduce their holding, mostly as a result of economic and political pressures (Mathew, 2000).

The Indian Navy was one of the few regional navies that believed that having a sea-based air arm was



HAL Dhruv MK-III onboard INS Vikrant during its fourth sea trail.



crucial for fulfilling its envisioned role. As a result, in 1961, it acquired its first aircraft carrier—also the first in South Asia. It was one of the six Majestic Class ships envisioned for the British Navy during World War II whose construction was suspended after the war. However, it was given new life when India expressed interest in it in 1957 and four years later, the refurbished ship was added to the Indian fleet as INS Vikrant

(Mathew, 2000). India then acquired its second carrier, the ex-British carrier, HMS Hermes, which began its service in the Indian Navy in 1987 as INS Viraat. It was the “first Indian carrier equipped with a ski jump”.

INS Vikrant was decommissioned in 1997 while INS Viraat was decommissioned in 2017. As the Viraat was growing older, India bought an ex-Soviet Kiev-



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The Indian Navy is a **rapidly expanding** enterprise that has been **accumulating resources, skills,** and expertise



The indigenous aircraft carrier provides an airfield in the sea, facilitating to extend our air power beyond natural barriers.



On the occasion of 67 Years of Indian Naval Aviation- IndNavAir67 and INS Garuda.

class aircraft carrier in 2004 and renamed it INS Vikramaditya, which was inducted into the Indian Navy in 2014 and continues to be in service to date. This article evaluates the role played by aircraft carriers in the sphere of Indian naval aviation. It especially highlights the recent developments made in the field with the introduction of India's first indigenous aircraft carrier, its importance to the Indian Peninsula, the relevant shortcomings and issues, and emphasizes the need for an improved focus.

Latest Developments In Indian Naval Aviation

The Indian Navy has pursued air power at sea ever since India's independence. The foundation of India's Naval Air Arm, which turned 69 earlier this year, was laid in 1953 with the introduction of the Sealand amphibians and the commissioning of the first naval air station at Cochin, INS Garuda (Singh, 2021). From the Goa Liberation of 1961 and the Indo-Pak War of 1971 to the present-day natural disasters, it has been vital both in times of war and peace.

India's security concerns have traditionally suffered from "a steadfast land fixation" (Mathew, 2000). However, the developments in the Indian Ocean in the last decade, especially China's increased presence, have forced India to acknowledge that the Indian Navy needs to establish its presence in the distant seas and "enhance its expeditionary and military intervention capabilities" by adopting modern naval technologies (Singh A. , 2012).

Indian Naval Indigenization Plan (INIP) 2015-2030 has been formulated to upgrade the Indian

Navy to high-end technologies. INS Valsura hosted a workshop on "Leveraging AI for Indian Navy" in January 2022 to determine the advantages of cutting-edge AI technology for the Indian Navy. Furthermore, the Indian Navy has proposed the development of at least 75 new indigenous technologies or products through a project named SPRINT (Supporting Pole-Vaulting in Research & Development). It has signed an MoU with the Indian Institute of Science (IISc) to collaborate on aviation research. It has also partnered with the Drone Federation of India to promote homegrown research, testing, and manufacturing of drones, counter-drones, and related technology for the navy.

The Indian Navy has historically prioritized aircraft carriers since air operations at sea are integral to its operational philosophy. An aircraft carrier functions as a "mobile and territorially independent airbase" (Ho, 2018), allowing a nation to maintain air dominance in far-off waters where land-based aircraft cannot operate and protect its sea lines of communication (SLOCs). It is a prime instrument for modern



Workers at Indigenous Aircraft Carrier (IAC) Vikrant at Cochin Shipyard, in Kochi on 26 August 2022.



A MIG-29K aircraft of the Indian Navy is seen on the flight deck of the Indigenous Aircraft Carrier (IAC) Vikrant.

The Indian Navy has **proposed** the development of at least **75 new indigenous technologies** or products through a project named **SPRINT**

navies like India that are focused on sea control.

Keeping pace with the latest technological advancements, in a momentous step, India's first Indigenous Aircraft Carrier (IAC), INS Vikrant was commissioned on 02 September 2022. It joined the

45,000-tonne INS Vikramaditya, India's only operational aircraft carrier at the moment. Built at \$2.5 billion, INS Vikrant is a ski-jump carrier with a similar Short Take-Off but Arrested Recovery (STOBAR) design, a design feature also found in INS Vikramaditya. This 262-meter-long

and almost 60-meter-wide vessel can carry around 1,600 crew members along with a fleet of 30 aircraft that comprises MiG-29K fighter jets, Kamov-31, MH-60R multi-role helicopters, as well as indigenously manufactured Advanced Light Helicopters (ALH) and Light Combat Aircraft (LCA) (Ozberk, 2022). Apart from these, the Indian Navy is planning to equip its latest carrier with F/A-18 Super Hornets and Rafale-M fighters (Thomas, 2022).

While INS Vikrant will be fully operational by the end of 2023 due to a current lack of jets, India



The Indian Navy said the aircraft carrier would be commissioned into the force on 03 September 2022 and it would bolster India's position in the Indian Ocean Region (IOR) and its quest for a blue water Navy.

has already set into motion its plan for IAC-II, INS Vishal which is expected to be larger, better, and equipped with updated technologies including the Electromagnetic Air-Lift Systems (EMALS) which is also found on the US Navy's Ford-class supercarriers (Thomas, 2022). This 65-000 tonne Catapult Assisted Take-Off but Arrested Recovery (CATOBAR) carrier would be able to launch and recover heavy strike aircraft as well as early warning aircraft like the E-2 Hawkeye, unlike INS Vikrant or Vikramaditya (ANI, 2021). It is also following the Indian Navy's 'Maritime Capabilities Perspective

Plan 2022 which caters to three aircraft carriers and is supposed to serve alongside INS Vikramaditya and INS Vikrant by 2030 (Katoch, 2019).

Shortcomings And Other Concerns

While the latest modernization efforts by the Indian Navy are being lauded, some concerns should be confronted. These concerns include the structural issues with INS Vikrant, the lack of helicopters, India's need for three aircraft carriers, and China's increasing presence in the Indo-Pacific region.

INS Vikrant suffers several limitations due to its ski jump mechanism and the small size of its air wing. Aircraft can take off utilizing the ski-jump system without the need for a sophisticated catapult. However, it severely limits the number of aircraft that can be operated simultaneously, as well as the range and payload capacity of the aircraft, which impairs performance (Prajapati, 2022). A portion of a carrier's air wing is devoted to self-defence but owing to the small size of Vikrant's air wing, the carrier will only have a minimal number of aircraft left



India commissioned the first indigenous aircraft carrier, INS Vikrant, with a ceremony held in Cochin Shipyard on 02 September 2022.

for “power projection” after having tied a portion for self-defence. With technological advancements, threats from submarines and anti-ship missiles have also increased.

The Indian Navy is also facing a dire helicopter situation. Despite its induction, INS Vikrant is not yet fully operational because of a lack of jets and helicopters. The current availability of ALH and MH-60R multi-role helicopters is not enough to cater to the needs of the Indian Navy, especially given the aging Sea King helicopters and about a dozen more capital ships in construction (Singh A. , 2021).

There has been an ongoing debate on the need for a third carrier. However, it has been deemed desirable to have a third carrier given India’s 7,500 km long coastline and 14,500 km of navigable waterways, increased hostilities on both sides of the peninsula, and the long maintenance cycles required by aircraft carriers that can extend to up to two years.

India is emerging as **one of Asia’s** most significant **military** forces

There is also India’s geopolitical concern regarding China’s presence in the Indian Ocean on top of its maritime prowess’ rapid expansion and modernization. India has been surpassed by China in terms of aircraft carriers which are bigger and have enormous firepower, submarines, and other warships, especially destroyers and frigates. China even has more naval vessels than the US Navy (Rajagopalan, 2022). Moreover, the conflict between India and Pakistan cannot be ignored especially given the latter’s friendship with China.

Conclusion

India has worked to establish itself as a significant naval power since its independence in 1947. Despite having such lofty goals, India has not yet attained

this position. Indian Navy is modernizing and has a vital role to play in the Indo-Pacific owing to the shift in the global balance of power to the east with the Indian Ocean Region at the center of this shift. However, the navy’s growth has been slow and there can be no simple solution to this long-term issue. There have been several debates on the relevance of aircraft carriers in India. As a sea-based asset, these carriers can greatly improve India’s maritime might. The commissioning of INS Vikrant is a big event for India but it is not enough considering the ongoing geo-political situation. Who emerges on top of the struggle for power and influence in the Indian Ocean Region will largely depend on India and how it moves forward regarding its naval capabilities. 