

# IDSA

## *Issue Brief*

# Aircraft Carriers – The Keystone to India's Maritime Security

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October 30, 2019

## **S***ummary*

Sea-based aviation has historically played a critical role in naval operations. There was no better display of this than during the World War II, when the great carrier battles changed the course of the war. Since then, the aircraft carriers have formed the bulwark of major fleets across the world regardless of the eternal debate on the efficacy of this expensive naval asset. Compelling operational advantages have kept this asset worth investing. India has been operating aircraft carriers since 1961 and is now looking at building and maintaining three aircraft carriers. It is time India took a 'leap of faith' to bolster its aircraft carrier capabilities to secure its strategic interests.

After spending a day at sea on board INS Vikramaditya, on September 29, Defence Minister Rajnath Singh conveyed the essence of sea power by referring to the aircraft carrier as the “Sikandar of Samundar” (emperor of the seas).<sup>1</sup> This statement assumes significance in the context of the ongoing debate on the viability of investing in the aircraft carrier programme.

Historically, sea-based aviation has played a vital role in naval affairs. The legendary carrier battles of World War II symbolised its utility and diverse mission sets, which continued to be demonstrated in various combat operations since 1945. The carrier has retained its prestige, making it an essential component of navies and indispensable to their strategic interests.

However, the aircraft carrier is the largest and most complex of all warships and, in most cases, also the most expensive, which stirs the quintessential debate within policy circles over the advisability of investing in carriers. Considering the proliferation of numerous anti-access/area denial (A2/AD) integrated weapon systems with navies across the world, the naysayers have fashionably sounded the carrier’s death knell for the umpteenth time, arguing that the world’s biggest warships cannot hide in an era of precision-guided missiles and reconnaissance satellites. This criticism notwithstanding, mature and strong navies have continued to build, operate and exploit this lethal platform for a multitude of roles including power projection, land attack from sea, securing sea lines of communication (SLOCs), security of island territories, and diplomacy and numerous non-combat missions.

## Aircraft Carriers with World Navies

All major maritime powers have aircraft carriers in their naval inventories. The United States (US) operates 11 nuclear powered carriers, with the intent to maintain a twelve-carrier force into the future.<sup>2</sup> The United Kingdom (UK) recently commissioned HMS Queen Elizabeth, with a second carrier, HMS Prince of Wales, in the final stages of construction. Russia, Italy and France all operate one aircraft carrier each, while Japan is in the process of converting its helicopter carrier into an aircraft carrier.<sup>3</sup> The Chinese People’s Liberation Army (PLA) Navy today is operating two operational aircraft carriers and the third is under construction. It is likely that the PLA Navy will have four operational aircraft carriers by 2028, with the eventual aim of having a 10 aircraft carrier navy by 2049.<sup>4</sup>

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<sup>1</sup> Defence Minister of India, [Twitter Post](#), September 29, 2019, 1:43 AM.

<sup>2</sup> Kris Osborn, [“The U.S. Navy Wants 12 Aircraft Carriers. Here Is How They Plan To Do It,”](#) *The National Interest*, March 22, 2019.

<sup>3</sup> Michael Zennie, [“President Trump Visited Japan’s Biggest Warship Since World II. Here’s What to Know About the JS Kaga,”](#) *Time*, May 28, 2019.

<sup>4</sup> Manu Pubby, [“China Planning 10 Aircraft Carriers, We Need at Least 3: Navy Chief,”](#) *The Economic Times*, August 29, 2019.

## India’s Experience

In 1961, India joined a select band of nations that had mastered the arduous task of carrier operations with the commissioning of Vikrant. 25 years later, India became one of the few nations to operate two aircraft carriers with the acquisition of Viraat in 1986. India currently operates only one carrier, INS Vikramaditya (erstwhile Admiral Gorshkov of Russia), which was commissioned in 2013. Even as India’s first indigenous aircraft carrier (IAC-I), to be named Vikrant, is being manufactured by the Cochin Shipyard Limited (CSL) and is supposed to be completed in 2021<sup>5</sup>, it has already embarked on its follow-on induction, likely to be named Vishal (IAC-II), which is expected to be much larger and more potent. A three-carrier force would allow the Indian Navy to operate one carrier task force (CTF) comfortably on each seaboard.

## Maritime Security Environment

There are a number of reasons why a regional power like India needs to maintain aircraft carrier capability.<sup>6</sup> To begin with, India is in the midst of a region with rapidly changing security dynamics – the Indo-Pacific. The region includes countries with the fastest growing economies as well as fastest increasing military expenditures. In future, it might also witness the fiercest competition over natural resources and possibly the gravest strategic exigencies and security threats. In effect, the region is expected to have an important influence on future global security.<sup>7</sup> Clutched into this, is the fact that 90 per cent of India’s trade by volume and 70 per cent by value transits the seas. Additionally, as 80 per cent of the global maritime oil trade passes through these waters, it is therefore hardly a surprise that hundreds of military assets from many extra-regional countries maintain a near continuous presence in the region.

Adding to the security complexity is PLA Navy’s increasing forays into the Indian Ocean Region (IOR). With 85 per cent of China’s energy requirements being met through its ‘life-line’ connected to the Persian Gulf via the Arabian Sea and the Indian Ocean, it remains concerned about the safety and security of its SLOCs running through the region. Therefore, the PLA Navy seeks to maintain a sizeable presence in the IOR, which it has been doing since 2008, with submarines including nuclear-powered ones entering the mix since 2014 onward.<sup>8</sup> Having already established a military base in Djibouti, as also presence in Gwadar, it is only a matter of time before the Chinese aircraft carrier sails into the IOR. With big power competition intensifying in the Indo-Pacific, coupled with India’s expanding strategic interests,

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<sup>5</sup> Rajat Pandit, [“Indian Navy Builds Case for 3<sup>rd</sup> Aircraft Carrier,”](#) *The Economic Times*, October 01, 2019.

<sup>6</sup> See Gurpreet S. Khurana, [“Relevance of Aircraft Carriers for India: An Assessment,”](#) *National Maritime Foundation*, July 12, 2018.

<sup>7</sup> Brahma Chellaney, [“A Challenging Time for the Indo-Pacific,”](#) *Livemint*, March 14, 2018.

<sup>8</sup> [“China’s Growing Presence in Indian Ocean a Challenge for India: Navy Chief Lanba,”](#) *The Economic Times*, March 14, 2019.

the future regional security environment will necessitate a multi-carrier capability for the Indian Navy.

### **Arguments Against Aircraft Carriers**

It has been argued that the aircraft carriers and other warships that accompany them in a carrier battle group constitute a lucrative target and losing an aircraft carrier could be a national trauma. However, it must be remembered that the last aircraft carrier to be sunk in wartime was the Japanese aircraft carrier Amagi in Kure Harbour in July 1945.<sup>9</sup> The aircraft carriers have continued to be the keystone of naval operations worldwide, without any further loss, since then. It is also telling that major navies have continued to bankroll aircraft carrier programmes with the unflinching intent of projecting power beyond their shores. However, arguments and counter arguments continue to proliferate. The following is a counter to the ones oft-repeated:

#### ***Ease of Detection***

It is widely believed that the current advances in space-based surveillance have made the aircraft carrier more prone to detection. However, accepting this argument uncritically would be naïve. While it is true that the battlespace has been increasingly becoming transparent, the above assertion does not reckon with the inherent mobility of the aircraft carrier and the in-depth three-dimensional defences of a carrier battle group. The aircraft carrier along with its escorts is an intimidating force in both offence and defence and therefore targeting a carrier battle group is never going to be an easy task for the adversary. Successful targeting of such a massive force would require the adversary to coordinate simultaneous strikes by multiple weapon systems from different platforms. Further, they would need to hedge against a failed operation, which could trigger a massive retaliation from the carrier battle group.<sup>10</sup>

#### ***Exceedingly Expensive***

Without any misgivings, it will need to be accepted that the aircraft carriers are expensive assets, but only when one considers its initial cost of acquisition. When this cost is divided over the average life of an aircraft carrier, which could be anywhere from 40 to 45 years, it works out similar to two destroyers with an average life span of 25 years.<sup>11</sup> This includes the fact that an aircraft carrier over its lifespan might service squadrons from two different technological generations. Added to this, when an aircraft carrier is constructed indigenously, like India’s Vikrant and Vishal, it creates enormous job opportunities, encourages indigenous shipbuilding and provides business to local industries.

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<sup>9</sup> C. Peter Chen, [“Amagi,”](#) World War II Database, October 2007.

<sup>10</sup> Abhijit Singh, [“The ‘Unsinkable’ Island is No Substitute,”](#) *Lowy Institute*, June 27, 2018.

<sup>11</sup> Mark V. Arena, Irv Blickstein, Obaid Younossi and Clifford A. Grammich, [“Why has The Cost of Navy Ships Risen?,”](#) *RAND Corporation*, 2006, pp. 2-3.

### ***Islands Better than Carriers***

Some posit that Islands could be developed into strategic hubs for power projection, thus replacing expensive and “sinkable” aircraft carriers with “unsinkable” island bases. Mobile military assets are crucial for strategic defence at sea on account of the necessary flexibility and depth for maritime operations. Even if India did set up the requisite infrastructure and based air assets on the Islands, unmindful of the prohibitive cost, it would still be incapable of furthering India’s force projection efforts in the entire IOR and beyond.<sup>12</sup> Therefore, a mobile and flexible capability that concentrates on surveillance effectiveness and firepower will not only remain relevant but perhaps the only prudent option.

### ***Why not Shore-based Fighter Aircraft?***

Another argument put forward is the utility of shore-based fighters bolstered with aerial refuelling against that of carrier borne fighters. Whilst it is true that a shore-based aircraft could theoretically remain airborne for extended durations with aerial refuelling, there are a plethora of considerations that go against it. This includes reduced time on task and combat efficiency over the combat zone, with the added operational constraints of air-to-air refuelling. Further, the long transit flight would be weather dependent, accentuate crew fatigue and would be devoid of the element of surprise, a vital operational constraint. In comparison, an aircraft carrier operating off the enemy shores will have none of these constraints.

### ***Arguments for Aircraft Carriers***

Aircraft carrier acquisition entails a substantial investment of resources, and this coupled with its perceived vulnerability in a hostile environment has made it the favourite ‘fall-guy’ for any negative budget revision. However, strong navies around the world have continued to repose their faith in this versatile naval asset. The possible scenarios wherein carrier capability would be indispensable are many. Some of the more compelling ones are as follows:

#### ***Power Projection***

Nations strive to build maritime assets that can exert influence over a wide spectrum of operations. These include operational assets like ships, submarines and aircraft that are used to influence the outcome of a maritime conflict. There are also assets like survey vessels, hospital ships and humanitarian assistance and disaster relief (HADR) platforms that project ‘soft-power’ and therefore influence the nation’s ability to be a net-security provider for the region. However, the ability to project a nation’s maritime power across the seas, at the very shores of a potential adversary, as a measure of national influence is reflective of the nation’s maritime strength.

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<sup>12</sup> Abhijit Singh, n. 10.

Justifiably, the only asset that can claim to exert such influence over large nautical distances is the aircraft carrier.<sup>13</sup>

### **Battlespace Dominance**

The increasing utility of aircraft carriers as a ‘maritime mobile runway’ can be better explained by the 70/80/90 rule. Water covers about 70 per cent of the earth’s surface – approximately 80 per cent of the world’s population lives in the littorals – and about 90 per cent of all trade travels by sea.<sup>14</sup> Therefore, it is the aircraft carrier that will dominate the battlespace in the area of operations for its uniqueness especially the speed at which it can arrive along with its escort group.

### **Support to Land Operations**

During the liberation of Bangladesh in 1971, the Indian Navy employed aircraft on board the carrier INS Vikrant to strike targets deep inside the erstwhile East Pakistan. This was a classic case of using the aircraft carrier in support of continental wars.<sup>15</sup> There will always be a case for employment of carrier borne aircraft in support of land operations, as long as there is potential for a border conflict. This would also mean application of force by a carrier battle group on a second or third front, so as to influence the land battle. Here it will have to be understood that guns and missiles on board other warships cannot match the range, volume and cost effectiveness of ordnance delivered by carrier borne aircraft.

### **Safeguarding SLOCs**

India’s SLOCs, through which 90 per cent of its trade flows by volume, remain the jugular to its energy security and economic progress. With regional tensions threatening to overflow at any time, these routes always remain vulnerable. Added to this is the quick constriction that can be applied on India’s energy routes by China from its bases in Djibouti and Gwadar. In the event of a crisis, there are few assets like an aircraft carrier with its battle group that can give comprehensive protection to India’s energy routes.<sup>16</sup>

### **Securing Island Territories**

India has close to 1200 island territories. Out of these, the Andaman and Nicobar Islands, situated around 1200 Km to the east from the Indian mainland, has close to 570 islands, while the Lakshadweep and Minicoy situated around 380 Km to the west has close to 40 islands. For the protection of islands, the mainland based aircraft and amphibious operations have severe limitations. A carrier battle group is the only viable alternative that can provide battlespace dominance close to the islands and a viable deterrent against any misadventure.

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<sup>13</sup> Abhijit Singh, [“Vikramaditya’s Induction: High-point for the Indian Navy,”](#) *IDSA Comment*, November 27, 2013.

<sup>14</sup> Juan Garcia III, [“America’s Navy: Crucial to National Defense,”](#) *Navy Live* (The Official Blog of the U.S. Navy), October 25, 2011.

<sup>15</sup> Gurpreet S. Khurana, no. 6.

<sup>16</sup> Gurpreet S. Khurana, [“Aircraft Carriers and India’s Naval Doctrine,”](#) *Journal of Defence Studies*, IDSA, 2 (1), Summer 2008, pp. 98-108.

### **Better-suited for Sea Control**

The Indian Maritime Doctrine defines sea control as “a condition where one is able to use a defined sea area, for a defined period of time, for one’s own purposes and at the same time deny its use to the adversary.”<sup>17</sup> Considering a prolonged conflict, this would translate to enforcing credible power projection and maritime trade blockade (against Pakistan) and trade intervention (against China). In today’s context, the only naval platform that can enforce this is the aircraft carrier. The carrier air wing can keep under surveillance areas up to hundreds of miles around it, while attacking hostile warships directly or cuing other friendly assets to do so. Land based air assets and other naval warships have severe limitations in achieving the same results.

### **Non-Combat Roles**

In addition to its role as a floating airfield, today’s aircraft carrier in many respects is like a floating city. Among other things, it makes and delivers freshwater, produces and distributes electric power, maintains 24x7 food galleys and rations, provides almost all medical facilities, and is a mega communications hub. These attributes along with its capacity to carry massive rotary-wing airlift makes it a floating disaster relief city. It could also dual-hat as a floating command centre and a sea-lift platform for possible evacuation of civilians from a war zone.

### **Necessity for Three Aircraft Carriers**

Putting all this succinctly in the Indian context, the eminent strategic thinker Sardar K.M. Panikkar had said, “The vital feature which differentiates the Indian Ocean from the Atlantic or the Pacific is the subcontinent of India, which juts out far into the sea for a thousand miles. It is the geographical position of India that changes the character of the Indian Ocean...”<sup>18</sup>

India’s central position in the IOR has always provided it the geographic advantage to influence the maritime space in the IOR. However, India’s historical continental fixation and so-called ‘sea-blindness’ had precluded the exploitation of this advantage. Today, in recognition of this fundamental advantage, India has started playing a key role in the maritime security and stability of the IOR, with its wider interests spanning a much wider strategic space, the Indo-Pacific. It also implies a clearer role for the Indian Navy in protecting India’s national maritime interests.

Therefore, considering the wide expanse to be covered on both sides of the Indian Peninsula, and the possibility of concurrent operations on either side, it is imperative that India maintains an operational carrier battle group on both sides, and at all

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<sup>17</sup> **“Indian Maritime Doctrine 2009,”** *Indian Navy*, 2009, p. 77.

<sup>18</sup> K.M. Panikkar, *India and the Indian Ocean: An Essay on the Influence of Sea Power on Indian History*, George Allen & Unwin Ltd., London, 1951, p. 19.

times. Further, taking into consideration the essential requirements of crew training and gestation, coupled with periodic repairs and refits, it is imperative that India retains a three aircraft carrier navy and crew set.

To take the Defence Minister’s thought forward, India would require more ‘Sikandars of Samundar’ like INS Vikramaditya, if it were to preserve its primacy in the maritime space of the Indo-Pacific. For this, India will need to commit to the three aircraft carrier paradigm and fast track the construction of Vishal, the IAC-2.



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