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No. 197

Indian Naval Effectiveness for National Growth

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Singapore

7 May 2010

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ABSTRACT

The core Indian national interest until 2025, which is the time frame of this paper, will continue to be socio-economic growth. In consonance with this, the primary military objective of the Indian Navy (IN) is to promote a secure and stable environment in the Indian Ocean Region (IOR), to facilitate this growth by being able to effectively deter potential adversaries. This paper examines the geo-strategic environment leading to the emerging maritime balance of power in the IOR. China's rapidly growing maritime power is the most recent factor in this balance. This has caused much concern in the region and is, therefore, discussed in some detail.

The Indian response to the emerging challenges is discussed next, in terms of maritime interests, naval objectives, force levels and capabilities being acquired, as well as cooperation and partnerships being forged with other navies in the region. There are several constraints to the IN in becoming a truly effective force towards meeting its objectives. These pertain to inefficiencies in the overall defence apparatus resulting in budgetary and indigenization constraints, among others. A political decision is essential to carry out long-pending reforms to integrate the military effectively into the system. Without this, the navy cannot achieve the planned capabilities in the given time frame. The paper finally argues that an effective decision-making apparatus for timely use of the capability is as important as the naval capability itself for credible deterrence to be in place.

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Indian Naval Effectiveness for National Growth

Introduction

The economic reforms of the 1990s ushered an era of unprecedented growth and development in India, long overdue since gaining independence in 1947. The eight to nine per cent annual growth rates of GDP achieved since 2005 have been instrumental in the government launching several additional human as well as infrastructural development schemes for the betterment of the masses. However, the Indian economy must continue to grow at this rate—if not better—for the next 20 years for the country to achieve the remaining targets of development and poverty alleviation. The core national interest of the country during this period is, therefore, continued socio-economic growth. Accordingly, the main national security objective for the Indian Armed Forces, including the IN, is to ensure a peaceful, secure and stable environment to facilitate this aim.

The area of primary interest to the IN is the IOR, which has been the focus of the world's attention not only for the energy resource but also for the ongoing international security challenges in Iraq, Afghanistan, Pakistan, Iran and the rampant maritime piracy emanating from Somalia. In an increasingly globalized and economically interdependent world, there is an apparent and ongoing shift of power towards Asia. The traditional trade routes criss-crossing the Indian Ocean have been further magnified in importance by the growing economies of China, India, Japan, South Korea and the ASEAN states. Eighty per cent of the total trade conducted over the Indian Ocean is extra-regional, with only 20 per cent being between littoral countries of the region.¹ This fact brings out the importance of the IOR to extra-regional powers and explains their continued presence in the region through their navies, e.g. the United States, the United Kingdom and France, as well as the emerging presence of new powers like China.

This paper aims to first scan the geo-strategic environment in the IOR, where the IN has been playing a proactive and responsible role towards maintaining peace and

¹ *Indian Maritime Doctrine 2009*, p. 58

stability. This has often been done in cooperation with other regional as well as extra-regional navies. The preponderant extra-regional navy in the IOR is the U.S. Navy, with whom the IN has achieved a degree of comfort as well as interoperability over the last decade. On the other hand, the Chinese Navy, or the Peoples' Liberation Army Navy (PLAN), as it is called, has been making rapid strides in terms of platforms as well as capability enhancement and, since 2008, has also started making its presence felt in the IOR. This has been a cause for concern not only for India but also for other stakeholders in the region. This paper, therefore, attempts to take a more detailed look at the reasoning and stated compulsions for this accelerated development of the PLAN, as well as its likely deployment in the IOR. Finally, the paper examines Indian naval development in the context of India's maritime interests and challenges, budgetary realities, force levels and capabilities, partnership and cooperation with other navies and the degree to which the naval objectives towards ensuring peace, security and stability are likely to be met. The paper brings out that in order to fulfil the IN's primary military objective of deterrence, a strong and assertive national posture is as important as the navy's demonstrated capability and professionalism.

Geo-Strategic Environment

Much has been written about the growing importance of the IOR in the emerging Asian century.² However, this section will endeavour to present some salient features and statistics that have a bearing on this paper and then discuss the geo-strategic environment in the region, leading to the maritime balance of power.

Resources and Connectivity: The Indian Ocean is nearly 10,000 km wide from west to east at the southern tips of Africa and Australia, respectively, while extending nearly 13,500 km north to south, from the Persian Gulf to Antarctica.³ It is encompassed by a land rim on three sides—west, north and east, with maritime access

² *Indian Maritime Doctrine 2009*, p. 58
07; *Indian Ocean Naval Symposium: Contemporary Transnational Challenges: International Maritime Connectivities*, New Delhi, Knowledge World and National Maritime Foundation, 2008; Robert D. Kaplan, "Center Stage for the 21st Century-Power Plays in the Indian Ocean", *Foreign Affairs*, March/April 2009; Ellen Laipson and Amit Pandya (eds.), *The Indian Ocean Resource and Governance Challenges*, Washington, D.C., Stimson Center, 2009, among others.

³ *Indian Maritime Doctrine 2009*, India's Maritime Environment, p. 56

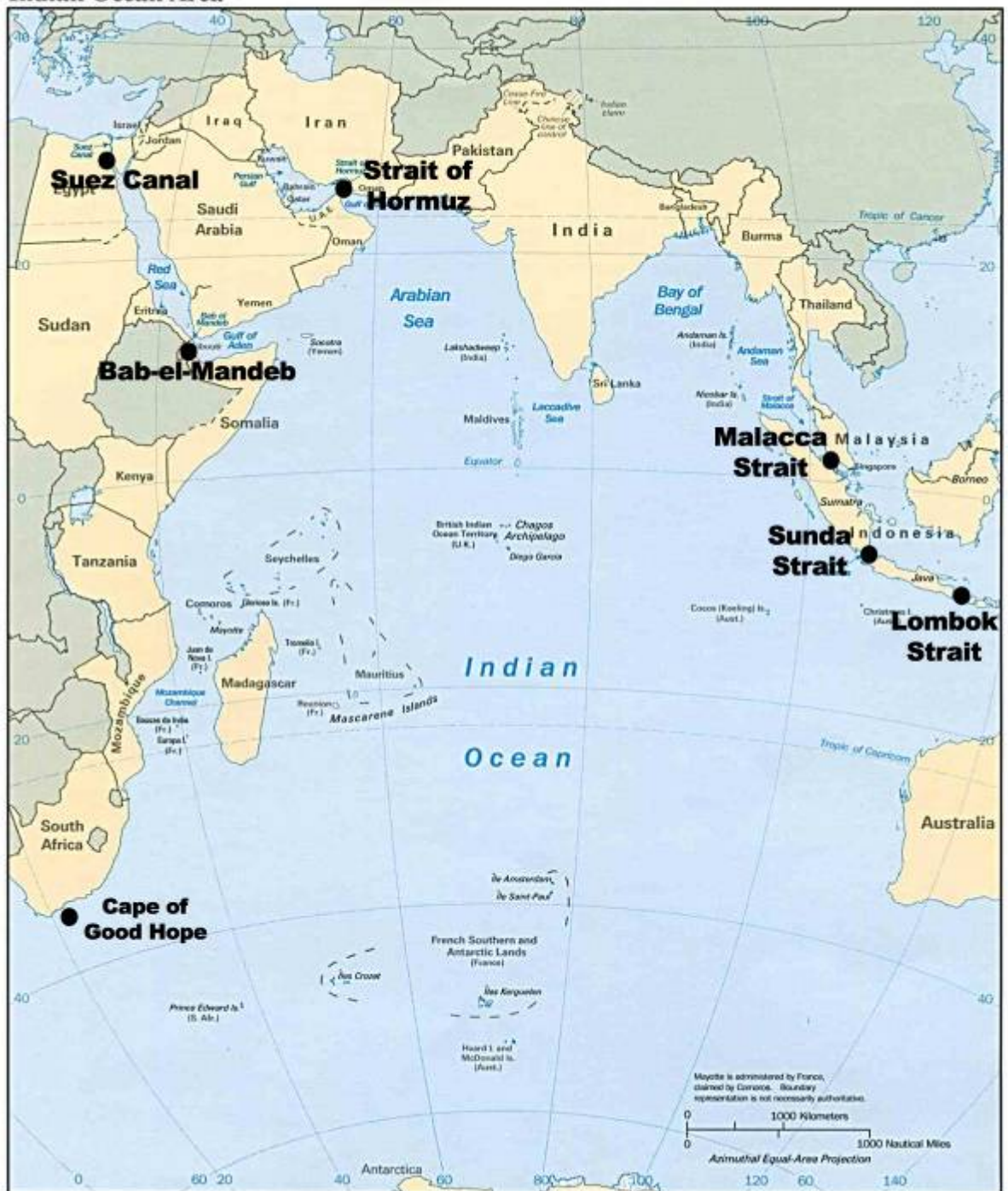
to the region possible through seven established gateways or choke points.⁴ To the west, the Strait of Hormuz connects the Persian Gulf to the Indian Ocean and the busiest shipping lane passes through it. To the east, the Malacca Strait is the primary route which connects the South China Sea to the Indian Ocean and through which more than 50,000 vessels transit annually. Overall, the Indian Ocean accounts for the transportation of the highest tonnage of goods in the world, with almost 100,000 ships transiting its expanse every year, carrying two-thirds of the world's oil shipments, one-third of the bulk cargo traffic and half the world's container shipments.⁵ The IOR came into focus with the discovery of oil in the Persian Gulf. The region became strategically important with the first oil shock in the mid-1970s. With around 60 per cent of the world's oil resources, the Persian Gulf is a major oil-producing area. It also accounts for 26 per cent of the global natural gas reserves. As a corollary, whereas 70 per cent of the total traffic of petroleum products passes through the Indian Ocean, 40 per cent of all traded crude oil passes through the Strait of Hormuz alone.⁶

⁴ See Indian Ocean Area map on next page, downloaded from the University of Texas website www.lib.utexas.edu/maps/ and the choke points marked by the author. The blocking of any of these can cause disruption of seaborne trade leading to scarcity of available resources and goods, thereby strangulating the global economy.

⁵ "World Oil Transit Chokepoints", *Country Analysis Briefs*, Energy Information Administration (EIA), January 2008, at www.eia.doe.gov.

⁶ Robert D. Kaplan, "Center Stage for the Twenty-first Century – Power Plays in the Indian Ocean", *Foreign Affairs*, March/April 2009, p. 20

Indian Ocean Area



- China and India:** The pre-eminence of the Indian Ocean as an energy transportation corridor will further increase as global energy needs are likely to increase by 45 per cent between 2006 and 2030. It is of strategic interest to note that almost half of this growth in demand is likely to be from China and India. Whereas China's demand for crude oil doubled between 1995 and 2005,

it is likely to double again in the following 15 years.⁷ More than 85 per cent of the oil and oil products bound for China cross the Indian Ocean and pass through the Strait of Malacca. On the other hand, India is dependent on oil for nearly 33 per cent of its energy needs, out of which it needs to import 65 per cent. With this growing demand, India is soon likely to become the world's fourth-largest energy consumer, after the United States, China and Japan.⁸

Shifting Power Structure

Since economics is acknowledged as the driver of strategy in today's modern world, it is appropriate to discuss this feature first. The phenomenal economic growth in the developing countries of China, India, South Korea and the ASEAN nations has brought about a transformation in Asia. This is highlighted by the fact that, at 2007 growth rates, the standard of living in Asia is likely to rise a hundred-fold or 10,000 per cent within a human life span, as compared to changes of 50 per cent because of the industrial revolution in the West.⁹ According to projections, the eight largest economies in 2025, in descending order, will be: the United States, China, India, Japan, Germany, the United Kingdom, France and Russia.¹⁰ Economic strength is a pre-requisite to military capability and hence may be termed as a major determinant of comprehensive national power (CNP). Given the fact that the present gap between China and India, which is almost four times in GDP terms,¹¹ is likely to continue to grow, it is relatively clear that the United States and China will predominantly influence the international power equilibrium in the next 15 years or so. The initial glimpses of this were apparent during the deliberations of the global summit on environment and climate change at Copenhagen in December 2009.

- **Stronger Trade Linkages:** With its growing economy, India has been developing ever stronger trade ties. China overtook the United States as

⁷ Gabriel B. Collins, Lyle Goldstein, Andrew Ericsson (eds.), *China's Energy Strategy: The Impact on Beijing's Maritime Policies*, Naval Institute Press, 2008. The International Energy Agency estimates that by 2020, China can import around 7 million barrels of crude oil per day, making her the world's second-largest net oil importer by 2015.

⁸ Robert D. Kaplan, "Center Stage for the Twenty-first Century – Power Plays in the Indian Ocean", *Foreign Affairs* March/April 2009, p. 20

⁹ Kishore Mahbubani, *The New Asian Hemisphere*, New York, Public affairs, 2008, p. 10

¹⁰ Goldman Sachs, "Global Economics Paper No:99", Oct 2003, quoted in *Global Trends 2025*, National Intelligence Council USA, 2008, p. 7

¹¹ CIA World Fact Book 2009 data accessed from www.cia.gov/library/publications on 22 February 2010 gives India's GDP as US\$1.243 trillion and China's as US\$4.758 trillion

India's largest trading partner in 2008–09 with total trade of US\$36 billion as compared to US\$34 billion India-U.S. trade.¹² India signed a free trade agreement with ASEAN, its fourth largest trading partner, in August 2009, which is effective from 1 January 2010 and is expected to boost trade by 20 per cent within a year.¹³ Similarly, China is the second largest trading partner of the United States, after Canada, with total trade of US\$409 billion in 2008.¹⁴ China has also become the largest trading partner of Japan for the first time in 2009, registering a trade of 20.4 per cent of Japan's overall overseas trade.¹⁵ These growing trade links between key players of the emerging geo-strategic balance of power should evoke responsible behaviour towards international norms and in resolving/managing security related issues among one another.

- **Non-State Actors:** Another reality of our modern world is the gradually increasing power of non-state actors. Whether it is multinational corporations, non-governmental and religious organizations, terrorist/insurgent groups or drug cartels, with their legitimate capital or slush funds, the list is endless, and their role and influence on world affairs is only growing. It is common knowledge that the rampant corruption, especially in most of the developing world, runs a parallel and possibly equal black market economy, both influential and powerful. What needs to be noted in the context of this paper is that this shifting of power away from the nation-state, makes the traditional application of national power, both economic and military, less effective¹⁶, as well as the joint resolution of disputes/issues between nations more difficult.
- **The United States as the Most Dominant Power:** According to the U.S. National Intelligence Council analysis in 2008, the United States will find itself as one of a number of important actors on the world stage by 2025, but still the most powerful one. The report adds that even militarily, the United

¹² www.indiaonestop.com/tradepartners and www.financialexpress.com both accessed on 12 January 2010

¹³ www.thehindu.com/2009/08/14 and www.timesofindia.com/biz/india-business/FTA-with-ASEAN

¹⁴ U.S. Census Bureau website www.census.gov/foreign-trade/statistics/highlights

¹⁵ <http://english.peopledaily.com.cn>

¹⁶ Fareed Zakaria, *The Post-American World*, New York, W.W. Norton & Company, 2008, p. 4

States will continue to have an edge over all other states. However, advances by others in science and technology, irregular warfare, proliferation of long-range precision weapons and growing use of cyber warfare will constrict U.S. freedom of action.¹⁷ Such an environment will necessitate strong partnerships with like-minded nations, to be able to have an influence in world affairs.

Emerging Maritime Balance of Power in the IOR: The U.S. Navy will remain the most powerful in the IOR through 2025, the time frame of this study. It will also continue to be robustly postured in the Indian Ocean/Arabian Sea and the Western Pacific, as clearly stated in the U.S. Joint Maritime Strategy document brought out in 2007.¹⁸ This presence will continue even beyond the time frame of the two ongoing operations in Iraq and Afghanistan/Pakistan. It may be remembered that the U.S. naval presence in the region predates these operations by several decades. The other aspect that is clear is that despite the changing nature of predominant threats at sea which focus more on littoral warfare/challenges, the U.S. Navy will continue to maintain power projection capabilities in the form of carrier battle groups.¹⁹ The long-term focus of the United States in the region is also brought out by the creation of a new theatre command, the U.S. Africa Command, in 2008. However, the roles envisaged in Africa are more in keeping with policing/law enforcement, anti-piracy and humanitarian assistance and disaster relief (HADR). The U.S. naval ships deployed in the IOR, including the aircraft carriers, are being increasingly tasked for such non-traditional roles. As the pressure on Al-Qaida and other terrorist groups in west/south Asia increases and they shift base to Africa, e.g. Yemen presently, the relevance of this presence/posture will further increase. In addition to deterring and winning wars, another stated objective of the U.S. Navy is to ensure the uninterrupted flow of the global economic system over the seas.²⁰

¹⁷ U.S. National Intelligence Council in *Global Trends 2025*, p. xi

¹⁸ The first Joint Maritime Strategy document of the U.S. Navy, Marine Corps and Coast Guard promulgated in October 2007, "A Cooperative Strategy for 21st Century Sea Power", clearly states this. This is an important geographic shift of focus for the U.S. Maritime Military Power from the Atlantic and further drives home the point of overall shift of power to Asia

¹⁹ Admiral Gary Roughead, CNO, in U.S. Navy FY 2010 Posture Statement before the House Subcommittee on Defense Appropriations, 03 June 2009, stated that the U.S. Navy would continue to remain centred around 10/11 Carrier Battle Groups.

²⁰ U.S. Maritime Strategy document "A Cooperative Strategy for 21st Century Sea Power", October 2007

- **Perception – IN:** Perception is a very important aspect in international relations and in the security paradigm. This fact is better illustrated with an example. The extra-regional U.S. naval presence in the IOR was seen with anxiety and as obtrusive by India and the IN until the 1990s. Thereafter, with gradual improvement in relations between the two countries to the point of declaration of a strategic partnership in 2005, the two navies have been cooperating in a substantial manner.²¹ The U.S. naval presence in the IOR is today seen by the IN as promoting security and stability.
- **Views – PLA Navy:** The PLAN, on the other hand, views the U.S. Navy to be the one capable of interfering with China’s use of the maritime medium, in the eventuality of escalation of hostilities on the Taiwan issue. Since China’s dependence on the maritime medium is continuing to grow in parallel with her growing economy, the security concerns have also grown even though the Taiwan issue is presently on the back-burner. China’s modernization and expansion of her naval capability has been continuing with greater fervour during the last decade.
- **Perception about China in the Region:** China has unresolved maritime boundary disputes with a large number of countries in the Asia Pacific region.²² Due to the way China has conducted herself during deliberations about the same, often with an aggressive stance, her lack of transparency with respect to defence spending, and also probably due to the political structure of the country, China’s growing naval capability has raised security concerns among most of her maritime neighbours.²³ This is apparent from the ongoing,

²¹ The annual bilateral joint naval exercises with increasing scope and intensity over the last decade, purchase/transfer of naval platforms for the Indian Navy including crew training, as also regular interaction of personnel at various levels, have entirely changed the complexion of the relationship between the two navies.

²² China has old disputes with Japan, the Philippines, Vietnam, Malaysia and Brunei, and new ones with the two Koreas and Indonesia. In recent years there have been many confrontations between China and Japan, Vietnam, the Philippines and Malaysia, as they have stepped up measures to reinforce their claims.

²³ Gary Feuerberg in the Epoch Times dated 22 February 2010, “China Reverts to Aggressive Stance in South China Sea” reports that at an all-day hearing on 04 February 2010 on Capitol Hill conducted by the U.S.-China Economic and Security Review Commission, the testimony on China’s activities in SE Asia brought out China’s increasing willingness to use force and threats to back up its territorial claims. Bronson Percival from the Center for Naval Analysis testified during the proceedings that since late 2007 China has increased naval patrols, pressured foreign energy companies to halt operations in

very active naval capability enhancement in the region. The Japanese Maritime Self Defence Force (JMSDF), already the most capable in the region with 16 submarines, 44 destroyers and 8 frigates, has commissioned two new 13,500 ton Hyuga class helicopter destroyers during 2009, capable of carrying and operating 11 helicopters.²⁴ Japan plans to build four to six such ships.²⁵ In addition, all the navies of Australia, Malaysia, Singapore, South Korea and Vietnam, have new submarine acquisition plans, besides other surface ships and aircraft platforms²⁶, which will make the naval capabilities in the region very potent indeed. The economic growth in the region is making these naval expansion plans viable. What remains to be seen is whether this will also make the region secure and stable, through some degree of mutual deterrence, for continued growth and prosperity.

The role of the U.S. Navy as a stabilizing force in the region is likely to continue. Unlike the PLAN, the IN is considered to be benign by most nations in the Asia-Pacific region, and her ongoing growth/development is not viewed with concern, but rather as a factor for promoting stability and security. The IN, as a result, has ongoing bilateral relationships with a number of navies in the region, the more substantial ones being those with the navies of France, Japan, Singapore, the United Kingdom, the United States and Vietnam. The JMSDF can also be a crucial factor in the security of the region with its substantial capability, once the political aspect of its exact role is resolved internally within the country. The most recent factor in the emerging maritime balance of power in the IOR is the rapidly developing PLA Navy, which is discussed in some detail in the next section.

contested waters, taken steps to appropriate the Paracel and Spratley Islands, and unilaterally imposed fishing bans in parts of the seas.

²⁴ Jane's Fighting Ships accessed online on <http://jfs.janes.com/docs/jfs>, 12 January 2010

²⁵ Rajaram Panda, "Japan Beefs up its Naval Capability", IDSA New Delhi Issue Brief available on www.idsa.in/system/files/IB_JapanNavalCapacity

²⁶ Jane's Fighting Ships 2009–10, as accessed on www.englishnews@chosun.com on 08 February 2010, Heritage Foundation, USA report titled "Submarine Arms Race in the Pacific" of February 2010 states that South Korea, with its submarine building plans, will have the second largest submarine fleet in Asia by 2018, after China. The report mentions about submarine building plans of Australia and India as well.

The Developing PLA Navy and Implications

The PLA Navy has been growing together with China's economy, at least for the last two decades. This growth has been viewed with concern by the United States and by the other maritime states of Asia, as highlighted by numerous writings that have analysed its implications.²⁷ Likewise, there has been a definite growth of writings/discussion by scholars/observers in China on maritime strategy and the growth/roles of the PLAN during the last decade. While the U.S. establishment appears focused on the PLAN, Chinese scholars/strategists also appear focused primarily on the U.S. Navy. Most of the analysis of the PLAN developments tends to generate alarm. On the other hand, these developments can be viewed as purely legitimate aspirations of a growing major power. This section will, therefore, first bring out the logic/justification for the growing capabilities of the PLAN, as stated by China and as possibly perceived by a balanced, neutral observer. Thereafter, an attempt will be made to see as to how these capabilities, if and when deployed in the IOR, can have a bearing on the IN.

Development Strategy: The primary strategic concept of the PLAN until the mid-1980s was one of coastal defence. In 1982, PLA Navy commander, Admiral Liu Huaqing, formulated the strategy of offshore defence, which entailed the development of the PLAN into a world-class sea power by 2040.²⁸ The development plan chalked

²⁷ These writings are somewhat dominated by the American thought process, as it is perceived that the ongoing PLA naval development has the potential of challenging the supremacy of the U.S. Navy, in the foreseeable future. The assessments of the PLA Navy by the U.S. administration take the form of annual reports by the Office of Naval Intelligence (ONI), the Department of Defence (DOD) annual report to Congress on Military Power of the People's Republic of China as mandated by U.S. law, several Congressional Research Service (CRS) papers and reports/writings from the professional military service institutions like the Navy/Army War Colleges. The U.S. National Defense Authorisation Act 2000 provides that the Secretary of Defense shall submit a report "in both classified and unclassified form, on the current and future military strategy of the PRC through the next 20 years".

The China Maritime Studies Institute (CMSI) was established at the U.S. Naval War College in 2006 as a centre for excellence in the study of Chinese maritime development. CMSI has reportedly assembled extensive Asia-Pacific expertise over the last decade and uses a variety of methodologies, including a strong focus on Chinese language sources. CMSI and even the Strategic Studies Institute at the U.S. Army War College have been publishing some very insightful analysis and reports about the Chinese naval developments and its likely implications.

²⁸ Srikanth Kondapalli, *China's Naval Power*, New Delhi, Knowledge World, 2001, p. 10. The 3 phases of the "offshore defence" strategy are outlined as :

Till 2000, the focus of the first stage will be on training and enhancing existing formations, renovation and improvement of the conventional naval vessels, including DLGs/DDGs. (Objective : to deter regional threats and to fight battles quickly and at low risk.)

out by Admiral Liu almost 30 years ago appears to be accomplishing, albeit with a few changes. It did appear to be a phase of consolidation for the PLAN till the 1990s, with the newer generation of ships and submarines being commissioned only during the last 10 to 15 years. It is also perceived that it will be in the time frame of 2020 and beyond that the PLAN is likely to attain blue-water status, as envisaged by Admiral Liu. The plan is also an excellent example of the capacity of the Chinese system for long-term policy formulation and implementation. Institutions, including the military, need long-term planning, but more specifically the navy, where hardware gestation periods are particularly long. For such a plan to be put in place in the early 1980s, when China still had far greater security concerns from her land borders, illustrates that the leadership had a long-term, strategic vision, in addition. The 1996 “Taiwan” crisis is recognized as a turning point in Chinese defence policy. The show of force by the U.S. Navy, by sending two aircraft carrier groups to the Taiwan Strait, made it clear to China that the United States would intervene on behalf of the island state in the case of an eventuality. Accordingly, Beijing began to shift focus towards developing capabilities almost exclusively for a future Taiwan contingency, namely to coerce Taipei and to deter Washington. This shift has meant that the blue-water plan for the PLAN has taken longer to accomplish.²⁹

New Vision for China’s Defence Policy: Keeping in view China’s expanding national interests overseas, President Hu Jintao laid down a new vision for China’s defence policy in 2004. This vision was later enunciated in China’s 2006 National Defence White Paper (NDWP), reaffirmed in the Chinese Communist Party’s constitution in 2007 and reissued in the 2008 NDWP. The mission statement specifically tasks the PLA to “provide a solid security guarantee for sustaining the important period of strategic opportunity for national development, provide a strong

From 2001 to 2020, the second stage will concentrate on construction of several light aircraft carriers of 20,000 to 30,000 tons, with STOVL aircraft, purchasing several warships to supplement the carrier task force in order to improve the strength of the fleet and to bolster PLAN’s offshore combat capability. (Projection of PLAN not only in Western Pacific but exploring the oceans around the world with aircraft carriers and high-tech equipment.)

From 2021 to 2040, the third phase will transform the PLAN as a major sea power with blue-water capability. (Capability to maintain surveillance, etc.)

²⁹ According to Lieutenant General Shi Yunsheng, Commander of the PLAN from 1996 to 2003, the PLAN had to achieve three primary missions: “contain and resist foreign aggression from the seas, defend China’s territory and sovereignty, and safeguard the motherland’s unification and marine rights.” James R. Holmes and Toshi Yoshihara, *Chinese Naval Strategy in the 21st Century*, New York, Routledge, 2008, p. 38.

strategic support for safeguarding national interests, and play a major role in maintaining world peace and promoting common development”.³⁰

Naval Modernization Aims: It is rather clear that the aims of China’s naval modernization will be to develop military options with respect to Taiwan, to defend China’s claims related to her maritime jurisdiction and the EEZ, to protect her SLOCs and finally, as stated from 2004 onwards, to enhance the security and stability of the international system, towards ensuring world peace. The last two aims will be relevant in the context of this study, as the PLAN will need to extend its area of operations to the IOR towards their fulfilment. The primary areas of interest for the IN, till the 2025 time frame, are across the north Indian Ocean.³¹ Let us, therefore, now take a look at the platforms/capabilities of the PLAN, which will be deployable for these aims in the north Indian Ocean, starting with surface ships, followed by submarines and aircraft.

- **Aircraft Carrier:** Informed reports emanating from Taiwan, academic discussion in the Chinese media, statements by the Chinese leadership as well as U.S. DOD and ONI assessments, all confirm that China is firmly on the road to an aircraft-carrier programme.³² It is appreciated that the ex-Russian Navy “Varyag” which has been undergoing renovation since 2002, is likely to become operational by 2012, and will be used to develop basic proficiencies in carrier operations. In addition, China’s indigenous carrier programme is assessed to be gearing up to build up to six aircraft carriers, the first one completing in the 2015–2020 time frame.³³

³⁰ China’s 2008 National Defense White Paper issued in January 2009 and available on www.gov.cn/english/official/2009-01/20/content-1210227.htm

³¹ *Indian Maritime Doctrine INBR* 8, 2009, pp. 65–68 lists the primary areas of interest for the Indian Navy as, “Maritime Zones of India, covering the territorial waters, contiguous zone and EEZ, up to 12 nm, 24 nm and 200 nm respectively from the national baseline, the Arabian Sea and Bay of Bengal, which largely encompass our island territories and EEZ, and their littoral reaches, the choke points leading to and from the Indian Ocean, the Persian Gulf, which is the source of majority of our oil supplies, and the principal ISLs crossing the IOR and island countries located in their vicinity.”

³² *U.S. DOD report to the Congress 2009*, p. 40, *U.S. ONI report on PLAN*, August 2009, p. 19, Channelnewsasia.com 05 November 2009, “Taiwan says China has started building Aircraft Carrier”, and Prasun K. Sengupta, “Full Steam Ahead”, *Force*, November 2009, pp. 52–53

³³ *U.S. ONI report*, August 2009 and Ronald O’Rourke, *CRS Report for Congress*, 23 November 2009, p. 10. Prasun K. Sengupta states that the first two indigenous aircraft carriers, each displacing 50,000 tons, will be built at Changxing Shipbuilding Base off the coast of Shanghai at a cost of USD 10 billion. Simultaneously, China is focusing on acquiring the Su-33 aircraft for carrier-borne operations

- **Other Surface Ships:** The PLAN surface force currently consists of a mix of modern and older platforms, equipped with a variety of weapons and sensors. During its rapid modernization drive over the last 15 years, the PLAN has imported proven and highly capable ships from Russia, while concurrently producing advanced indigenous platforms. The focus of naval procurement has shifted from large numbers of low-capacity, single-mission platforms to a smaller force with modern, more capable, multi-mission systems. The major surface fleet comprises of 27 destroyers, 49 frigates, 55 amphibious ships and about 50 major auxiliaries.³⁴
- **Surface Ships – Enhanced Capabilities:** The most notable capability enhancement in surface ships has been in area-air-defence (AAD).³⁵ The new SAM systems are linked with advanced air-surveillance radars.³⁶ This AAD capability will enable the PLAN surface ships to operate outside their shore-based air cover, as it makes them capable of engaging air targets outside the air-to-surface weapons range. The second major up-gradation has been in anti-ship warfare capability with the induction of advanced surface-to-surface missiles (SSMs).³⁷ The associated use of ship-borne helicopters, the Mineral-ME radar and data-link facilities, provides the PLAN with improved over-the-horizon-targeting (OTHT) data.³⁸ The addition of the Yuzhao-class LPD and the Fuchi-class replenishment ships indicates the emerging focus on longer-range operations. Together with some of the other auxiliaries like the Anwei-

from Russia/Ukraine, including the option of indigenous production. Overall training effort for the induction of these platforms into the PLAN reportedly commenced in 2005, with the help of the Ukrainian Navy.

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³⁴ *Jane's Fighting Ships (JFS) 2009–2010* and *U.S. ONI Report*, p. 18

³⁵ *Ibid.*, p. 18. The four different types of surface-to-air missile (SAM) systems available are the Russian SA-N-7 on board the Sovremenny and Luyang I-class destroyers, range 20 miles, the Russian SA-N-20/RIF-M on board the Luzhou-class, range 80 miles, the Chinese HHQ-9 on board the Luyang II-class, range 55 miles, and the new, vertically-launched HHQ-16 on board the Jiangkai II-class frigates, with a range of 40 miles

³⁶ *Ibid.*, The Russian Tombstone and Top Plate, and the Chinese Dragon-Eye phased-array radar, visually similar to the SPY-1 of the Aegis system.

³⁷ *Ibid.*, The four Sovremenny-class destroyers are equipped with the SS-N-22 Sunburn, range 130 miles, the Luyang II with the newly developed YJ-62, range 120 miles, and most other ships carry the YJ-8A with a range of 65 miles

³⁸ *Ibid.*

class, they can also be effectively utilized for non-traditional security roles like disaster relief and humanitarian assistance.

- **Newer Submarines and Capabilities:** Like the surface fleet, the PLAN submarine force has also seen a modernization thrust since the mid-1990s. The PLAN envisions a smaller but more lethal force, equipped with advanced weapons and sensors, and capable of sustained long-duration patrols. The submarine force currently consists of three nuclear ballistic missile submarines (SSBN), six nuclear attack submarines (SSN), and 53 diesel attack submarines (SS).³⁹ At current building rates, this total of 62 submarines is likely to increase to 75, by 2025.⁴⁰ The more advanced platforms have better weaponry and are quieter.⁴¹
- **Naval Aviation Capabilities:** With the induction of AAD capable ships in the PLAN, the original role of the PLAN Air Force (PLANAF) to provide air-defence cover for navy ships at sea, has expanded to cover maritime patrol, ASW, maritime strike, airborne early warning and logistical support. However, till the commissioning of an aircraft carrier, the PLANAF will remain a primarily land-based force, with the exception of a few ship-borne helicopters. The PLANAF fixed-wing aircrafts of interest in this paper are the maritime patrol aircraft (MPA), the airborne early warning (AEW) and the AEW and control (AEW&C) aircrafts. The Y-8X is the primary Chinese MPA, which is a licensed version of the Russian

³⁹ *JFS 2009–10 and Ronald O’Rourke, CRS Report for Congress, 23 November 2009.* The first Jin-class SSBN (type 094) was commissioned in 2007 and is an improvement over the older Xia-class. Two new Shang-class SSNs (type 093) have been commissioned, one each in 2006 and 2007, out of a total of five expected. In addition to the four Kilo-class SS acquired from Russia in the 1990s, eight more have been commissioned between 2004 and 2006. All eight newer boats are armed with the SS-N-27 Sizzler anti-ship missile (ASM), with a range of 120 miles. The indigenous SS inducted into service since 1995 are of the Ming-class (type 035), the Song-class (type 039) and the currently building Yuan-class (type 041).

⁴⁰ *U.S. ONI Report, August 2009, p. 21.* A total of five or six of the Jin-class SSBNs are scheduled to be commissioned at two-year intervals, and each will be armed with 12 JL-2 nuclear-armed submarine-launched ballistic missiles (SLBMs). With a range of 3,800 miles, the JL-2 SLBM is likely to enter service in 2010.

⁴¹ *U.S. ONI Report, August 2009, pp. 22–23 and Ronald O’Rourke, CRS Report, November 2009, p. 6.* The Song SS, the Yuan SS and the Shang SSN are armed with the YJ-82 ASM, in addition to the traditional torpedoes and mines. The Yuan, which is China’s most advanced diesel submarine, may be fitted with an air-independent-propulsion (AIP) system, which will enhance its underwater endurance. A great deal of work is also reportedly underway towards submarine noise-level reduction.

AN-12 Club aircraft.⁴² The PLA Air Force's airborne warning and control system (AWACS) aircraft KJ-2000 is based on the much larger Russian IL-76, and is similar in capability to the Y-8 AEW&C variants.⁴³

- **Asymmetric Warfare Capability:** Starting with the 1991 Gulf War, when the U.S. military first displayed its high-technology-based surveillance and precision guided weapons prowess, China has been acutely aware of her capability gap. It has, therefore, undertaken a sweeping military modernization over the last decade that has transformed its ability to fight high-tech wars. One of the primary areas of focus of this modernization is “information dominance”, which will include the optimum use of information by PLA forces through a fully networked architecture, while at the same time establishing control over the adversary's information flow.⁴⁴ This information dominance is viewed by Chinese military strategists as the precursor to overall success in a conflict.⁴⁵ Analysis of this strategy suggests that CNO tools will be widely employed in the earliest phases of a conflict, and possibly pre-emptively, against an enemy's information and C4ISR systems.⁴⁶ The PLA aim appears to close the large technology/capability gap with the U.S. military by denying it the use of its high-end capability, through information dominance.

Overall Impact of China's Growing Maritime Power: China's maritime power has been growing with her economy as per a long-term plan and has achieved a respectable status. Continued economic growth is the foremost priority for the Communist party to stay in power. All dimensions of this enhanced maritime power will, therefore, be used to facilitate this aim, by trying to ensure a secure and stable

⁴² U.S. ONI Report, August 2009, p. 25 The AEW and AEW&C variants, which feature various types of radar for both air and surface detection and tracking, have also been based on the same basic airframe.

⁴³ Ibid. It is reported that four Y-8X MPAs and two KJ-2000 AWACS are in service, while another three KJ-2000 prototypes have been undergoing tests since 2002.

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⁴⁴ *U.S.-China Economic and Security Review Commission Report*, “Capability of the PRC to Conduct Cyber Warfare”, October 2009, p. 6 and M.E. Kabay, “U.S. DOD Annual Estimates of Information Warfare Capabilities and Commitment of the PRC 2002–2009”, p. 8, http://www.mekabay.com/overviews/dod_prc_iw.pdf.

⁴⁵ Ibid. The strategy relies on simultaneous application of electronic warfare and computer network operations (CNO) against an adversary's command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) networks.

⁴⁶ *U.S.-China Economic and Security Review Commission Report*, October 2009, p. 7.

environment for continued growth. China's military modernization plan over the last 15 years has given the navy a range of new capabilities, deployable at longer ranges, through multi-mission platforms. The PLAN will acquire blue-water status once the indigenous aircraft carrier is operational, around 2020. Till then, groups of destroyers and frigates, supported by replenishment ships, can operate in the IOR for specific roles, as in the case of the ongoing anti-piracy mission. China is conscious of its emerging big power status and has probably decided to become a stakeholder in the international security calculus. The other cooperative deployment missions that the PLA Navy can take part globally are counter-terrorism, humanitarian assistance and disaster relief. The new destroyers and frigates have adequate capability and can be deployed in the SLOC protection role in the IOR, as and when that requirement is perceived. For strategic deterrence, the Jia-class SSBN will provide China with a credible, long range, second-strike capability. The SSNs can be deployed for long-range intelligence, surveillance, reconnaissance (ISR) and ASuW missions, whereas the conventional submarine fleet can carry out the same missions closer home. The limited MPA/ AWACS effort is likely to be deployed in the regional context. The overall focus of operations of the PLA Navy till the 2020 time frame is likely to remain in the Yellow Sea and the East and South China Seas. Though China does not want to escalate the Taiwan issue politically for the time being, militarily it remains one of the major contingencies for the PLA Navy. With the attention of all maritime states growing seawards for resources, the boundary disputes and EEZ issues are likely to gain prominence, thereby further tying the PLA Navy down to a regional focus.

Indian Response to the Emerging Challenges

In this section, an attempt will be made to first briefly highlight Indian maritime interests and the likely challenges, followed by a discussion on Indian naval objectives. Thereafter, the developing IN will be discussed in terms of budgetary realities and force levels/capabilities being acquired, along with the constraints being faced by the navy. Finally, naval partnerships/cooperation being forged with other navies in the region, as per long-term plan, are discussed.

Indian Maritime Interests:

- **Trade:** Like China, India's growing economy is also critically dependent on the seas for conduct of trade. More than 90 per cent of India's trade by volume and 77 per cent by value is transported over the seas.⁴⁷ For continued economic growth and with new free-trade agreements being signed, this dependence on the seas will continue to grow.
- **Energy:** India's domestic oil production has remained steady and, therefore, with a growing economy/industry, oil imports have been increasing. The dependence on imported crude oil is expected to increase from more than 75 per cent in 2008–09 to nearly 95 per cent by 2024–25.⁴⁸ The major sources of this crude oil import are in the Middle East, followed by Africa, and are not likely to change significantly in the next 15 years. India is also investing in hydrocarbon assets overseas, like the ONGC Videsh Limited joint ventures in Russia, Vietnam, Africa and South America. Presently listed under "secondary areas" of maritime interest, the IN will need to factor these into its overall security framework, based on a longer-term threat perception.⁴⁹
- **Exclusive Economic Zone (EEZ):** India's EEZ is 2,013,410 square km in area, which is equal to 66 per cent of the land mass, to which another 530,000 sq km is likely to be added as an extension to the continental shelf.⁵⁰ The country has exclusive rights over the oil, gas, minerals and other living/non-living resources available in this area. Some of these resources like oil, gas and fish are being utilized, but further advances in technology are required to make the extraction of other resources more cost effective. Unlike China, which has a number of maritime boundary disputes inhibiting this resource utilization, India has demarcated her maritime boundary with the Maldives, Sri Lanka, Myanmar, Indonesia and Thailand.⁵¹ The problems in delimitation

⁴⁷ *Indian Maritime Doctrine 2009*, p. 63.

⁴⁸ *India's Maritime Military Strategy 2007*, p. 49 and <http://us.asiancorrespondent.com/Indianomics/2009/07/09>

⁴⁹ *Indian Maritime Doctrine 2009*, p. 68.

⁵⁰ *Ibid.*, p. 58.

⁵¹ *India's Maritime Military Strategy 2007*, p. 57.

of the same with Pakistan and Bangladesh are being addressed for early resolution.⁵²

- **Coastal Areas as Economic Hubs:** A substantial part of India's industrial and economic activity is located within the EEZ, along the 7,516 km long coastline. The country's 1,197 islands have further potential. India has 12 major and 187 minor ports, with a large number of new ports under development.⁵³ The major ports, in addition, are adjacent to large metro cities, which are regional commercial centres. The offshore oil and natural gas infrastructure are expanding on both the west and east coasts, and is a strategic national asset. The fisheries sector is an important part of India's socio-economic development, with about 15 per cent of the coastal population dependent on fishing as its livelihood.⁵⁴

Maritime Challenges: The likely roles, objectives, missions and tasks of the IN are enumerated in the Indian Maritime Doctrine.⁵⁵ The maritime interests of India outlined above, dictate that there should be free flow of trade, including import of energy/other natural resources, as well as security of coastal infrastructure from seaborne attack. As a result, in addition to be able to deter an adversary, the foremost military missions of the navy should be SLOC protection, protection of off-shore assets and seaward defence. The areas of primary interest where the IN will be required to carry out the SLOC protection role are extensive and listed in the Indian Maritime Doctrine.⁵⁶ These cover almost the entire expanse of the Indian Ocean and include the entry/exit or the choke points.⁵⁷ Let us now see the specific challenges that the IN is likely to encounter in the given time frame.

- **Pakistan:** Relations with Pakistan, with whom India has had a series of wars/conflicts since independence in 1947, continue to be problematic. In the

⁵² Ibid., p. 58

⁵³ *Indian Maritime Doctrine 2009*, p. 63.

⁵⁴ Ibid.

⁵⁵ *Indian Maritime Doctrine 2009*, pp. 89–122.

⁵⁶ Ibid., pp. 65–66.

⁵⁷ Ibid., These are listed as the Persian Gulf, the St. of Hormuz, Bab-el-Mandeb, the Cape of Good Hope, the Mozambique channel, the Six-degree channel, the Eight/Nine-degree channels, the St. of Malacca and Singapore, the Sunda Strait and the Lombok Strait.

overall military context, both nuclear as well as conventional deterrence are said to be in place. The Pakistan Navy's major assets include nine frigates, eight submarines including three midgets, one replenishment tanker and about five maritime patrol aircraft.⁵⁸ Though numbers alone do not signify much, their overall capability will be no match for the IN. However, taking advantage of the close proximity of the two countries, Pakistan has been indulging in asymmetric warfare through non-state actors, including terrorist groups, for the last 20 years. The normal route of this infiltration is across the land border. Giving cognizance to the fact of much greater commercial activity being on the coast, a seaborne terrorist attack was carried out on the port city of Mumbai in November 2008. It was later determined that the group of about 10 terrorists had been launched from Pakistan. This exposed large gaps in the surveillance and security of the coastal areas, which had been the responsibility of a number of civil organizations, the coast guard and the navy. In an effort to bring about greater efficiency, the navy has now been made overall responsible for maritime security, which includes coastal and offshore security.⁵⁹

- **China-Pakistan Combine:** The naval forces that China can deploy in the IOR have been discussed in the previous section. For most part of the next 15 years, these will comprise a few destroyer/frigate task groups and submarines. An aircraft-carrier group can be deployed around 2020. The PLAN and the Pakistan Navy (PN), in collusion, can have a force-multiplier effect. Most of the new generation of ships and aircrafts being inducted in the PN are of Chinese origin. Whereas this will facilitate interoperability, the availability of PN base facilities will give a logistic and operational turn-around boost to the PLAN. The information-dominance strategy of the PLA can lead to suppression/non-availability of information systems and be one of the biggest threats encountered, even before the actual outbreak of hostilities. Since China was responsible for Pakistan acquiring both nuclear weapons and missiles,

⁵⁸ *Jane's Fighting Ships 2009–10*

⁵⁹ Government of India, *Ministry of Defence Annual Report 2008–09*, para 1.26 and Vice Admiral R. N. Ganesh, "Evolving Maritime Challenges", *Indian Defence Review*, Vol. 24 (3), Jul–Sep 2009.

thus altering the basic threshold of warfare in the sub-continent, India will need to be prepared for such a combined approach.

- **Chinese Basing Facilities in the Indian Ocean:** A number of western as well as Indian authors have speculated about a “string of pearls” strategy having been adopted by China, to get naval footholds in the Indian Ocean, in a bid to overcome her perceived SLOC insecurity. The string refers to port development activities funded primarily by China, and being executed by Chinese companies in Pakistan, Maldives, Sri Lanka, Bangladesh and Myanmar. However, more detailed analysis based on recent facts points out that most of these ventures are currently entirely commercial in nature.⁶⁰ However, recent discussion in China does point towards growing interest in basing facilities in the IOR for PLAN ships. This will not only be logical but also essential if the PLAN was to establish a more permanent presence in the region. As brought out in a recent analysis in India, the likely PLAN base can well be outside the perceived string, and in Seychelles.⁶¹ The IN will need to monitor this development closely as it can facilitate the positioning of the growing PLAN capability much closer home.
- **Non-Traditional Challenges:** As brought out while landscaping the geo-strategic environment earlier, state versus state wars are unlikely in the given time frame. This is also borne out by the actual employment of the IN since 1971, when the last such war was fought by India. During this fairly long period of 39 years, in addition to peace time exercises including those with foreign navies, the IN has been largely deployed for humanitarian assistance and disaster relief (HADR) missions, evacuation of people of Indian origin from troubled areas overseas, anti-piracy patrols and escorting of merchant ships. Of course, post 2008 Mumbai incident, the navy is investing greater time and effort in augmenting coastal security, also primarily against non-state

⁶⁰ Jonathan Holslag, “The Persistent Military Security Dilemma between China and India”, *Journal of Strategic Studies*, Vol. 32, No. 6, December 2009 and Gurpreet S. Khurana, “China’s String of Pearls in the Indian Ocean and its Security Implications”, *Strategic Analysis*, Vol. 32, Issue 1, January 2008.

⁶¹ Commander KK Agnihotri, “Chinese Quest for a Naval Base in the Indian Ocean-Possible Options for China” dated 12 February 2010 on the National Maritime Foundation, New Delhi website www.maritimeindia.org

actors. With the growing power and mushrooming of non-state actors discussed earlier, threats emanating from piracy and terrorist groups are likely to grow. In addition, the increasing effects of global warming in the form of sea-level rise are likely to bring unprecedented HADR challenges in coastal areas. All this once again reiterates the importance of the littoral areas over the high seas, as far as the emerging challenges for the navy are concerned.

Indian Naval Objectives: The full range of operations which the IN may be required to participate in is vast, ranging from high intensity war-fighting at one end to humanitarian assistance and disaster relief (HADR), at the other. These operations can be classified into four types of roles, which are termed as Military, Diplomatic, Constabulary and Benign.⁶² This paper will specifically look at the military role of the IN in terms of it being able to safeguard security and stability in its areas of interest.

Military Role of the IN: The very essence of any navy is its military character, and that is to ensure that no hostile maritime power can degrade national security and maritime interests discussed earlier in this section. The navy's military role is characterized by the threat or use of force at and from the sea. This includes the application of maritime power in both offensive operations against enemy forces, territory and trade, and defensive operations to protect own forces, territory and trade.⁶³ The primary military objective for the IN is to deter military adventurism against the country.⁶⁴ This paper will focus on this deterrent objective, because it is crucial to the attainment of the aim laid down for the navy in the paper. As stated in the Indian Maritime Doctrine, in case deterrence fails, the navy's objective would then be to attain a decisive military victory. However, that would mean that the country would have to go to war, and so the navy would have failed to achieve its primary objective of maintaining security and stability in the region.

⁶² *Indian Maritime Doctrine 2009*, p. 91 and *India's Maritime Military Strategy 2007*, p. 71. While the military role is the traditional role of navies and encompasses all situations which require the use of military force, the diplomatic role involves the use of maritime forces in support of national political objectives and foreign policy. Maintaining good order at sea is the primary objective of the constabulary role, and HADR operations are undertaken under the benign role⁶².

⁶³ *Indian Maritime Doctrine 2009*, p. 91

⁶⁴ *Ibid.*, p. 92

Deterrence: The most important task of the IN during peace and in crises is to deter war. Only attributes of conventional deterrence will be discussed in this paper.⁶⁵ Conventional deterrence is achieved through conventional maritime forces with superiority in terms of overall strength, capability and morale.⁶⁶ The Indian Maritime Military Strategy document goes on to state that when dealing with a more capable adversary, deterrence can also be achieved by the formation of partnerships, thereby combining capabilities of maritime forces, or presenting a picture of solidarity. As brought out earlier, the IN does have overall superiority over the PN, but not over the PLAN. However, the supposed deterrence vis-à-vis Pakistan has worked only in a limited manner. There has been no full scale war, but as brought out under maritime challenges, numerous incursions have been taking place from the Pakistan side, including from the sea. This aspect of only a limited deterrence against Pakistan will be discussed later under national/political posture. The IN has been going about building partnerships in a long-term planned manner. These robust partnerships, particularly the ones with the navies of the United States, Japan, Singapore and Vietnam, should go a long way in presenting a picture of solidarity and building a combined, credible deterrence vis-à-vis China. However, navies need to continuously work towards maintaining a credible deterrence. The first and foremost enabler towards this is to maintain a robust military capability and posture.⁶⁷

- **Robust Military Capability:** The IN is involved in long-term planning and acquisition of modern platforms/capabilities to maintain a potent, three-dimensional force. This is clearly stated in the navy's vision statement⁶⁸ issued in 2006 and is also discussed in this paper under naval force levels/capabilities. It may be noted that there is a strong indigenous element in the development of surface forces, including a breakthrough in the field of weapon systems. This sends a positive signal with regards to the capabilities of a navy and the nation. However, much more needs to be done to enhance warship-building facilities, as well as to develop indigenous capabilities for

⁶⁵ India has yet to establish a sea-based nuclear deterrence, and also because the scope of this paper is generally limited to conventional forces/capabilities

⁶⁶ *India's Maritime Military Strategy 2007*, p. 76

⁶⁷ *Indian Maritime Doctrine 2009*, p. 93

⁶⁸ The Vision Statement states that the Indian Navy is determined to create and sustain a three-dimensional, technology enabled and networked force capable of safeguarding maritime interests on the high seas and projecting combat power across the littoral.

production of submarines and aircrafts.⁶⁹ Most importantly, urgent reform to integrate the military fully in the defence and security establishment is essential to bring efficiency into the system⁷⁰, including in budgetary matters.

- **Military Posture:** The IN first articulated a doctrine in 2004, which was updated in 2009. A maritime military strategy was also published in 2007. Both these initiatives are commendable as they make the task of naval planners/decision makers as well as practitioners throughout the country simpler, thereby also bringing about greater efficiency. These initiatives are equally important for the outside world because they bring about transparency in the envisaged roles and missions of the navy. A robust military posture is best depicted by an alert navy which demonstrates its professionalism and readiness to carry out tasks, during peace time and in crises, in a proactive manner. Few operations can equal the action by IN ships in rescuing a Maldivian cabinet minister from Tamil mercenaries on board a freighter in 1988, in the aftermath of a failed coup attempt.⁷¹ Again in an exemplary manner, the IN mobilized itself in full force in the North Arabian Sea during the Kargil conflict in 1999, and together with the joint army/air force response, was able to deter Pakistan from escalating the conflict into a full-scale war.⁷² The IN's large-scale response in reaching out to neighbouring countries, within hours after the "tsunami" struck Asia in 2004, is another very good example of this. The IN was also one of the first navies to start anti-piracy patrols off Somalia in 2008, to safeguard international merchant shipping and crew.⁷³ Unlike most other navies, which have been rather

⁶⁹ Admiral Arun Prakash, "Chinks in the Armour", in *Force*, New Delhi, February 2010, accessed from National Maritime Foundation (NMF), New Delhi website www.maritimeindia.org

⁷⁰ Admiral Arun Prakash, "Pitfalls of a Blinkered Vision" accessed from the NMF website and "India's Deterrent Capabilities", talk delivered at the Netaji Bose Memorial Lecture on 23 January 2010.

⁷¹ *Indian Maritime Military Strategy 2007*, p. 22 and Vijay Sakhuja, "The Indian Navy's Agenda for Maritime Security in the Indian Ocean" in the Jamestown Foundation Publication, *Terrorism Monitor*, Vol. 8, Issue 8, 26 February 2010. The operation demonstrated lessons in command and control, rules of engagement, negotiation skills and strategic communications.

⁷² From an account of the "1999 Kargil Conflict" on the website www.globalsecurity.org

⁷³ The Indian Navy was presented a special UN certificate for its ant-piracy role in the Gulf of Aden off Somalia in November 2009. IANS reported on 25 November 2009 that the Indian Navy had escorted 700 merchant ships, including about 600 foreign flagged vessels from 45 countries, through the Gulf of Aden since October 2008. Accessed from <http://blog.taragana.com/politics/2009/11/25/un-commends-indian-navy>

restrained, it even sank two pirate vessels which did not pay heed to warnings⁷⁴, highlighting a robust and proactive posture of the navy.

- **National/Political Posture:** India is a sovereign, democratic republic, in which the armed forces operate under the national, civil leadership. Therefore, the national posture demonstrated to the outside world by the political leadership is as important as the naval posture, if not more, and is critical in establishing deterrence. India has been found wanting in this critical aspect of deterrence, which can be borne out by a few examples. In two separate incidents involving hijacking by Somali pirates, the Indian government took inordinately long to decide whether to allow the navy to intervene and secure the safety of the Indian vessels and crew.⁷⁵ Such dithering and indecision at the national level dilutes and even negates the attempts of the IN at portraying an otherwise strong, proactive posture. At a larger, national level, it comes out clearly that the Indian leadership does not understand this critical aspect of conveying a strong, decisive and a rather proactive posture towards establishing credible deterrence. This is apparent from the fact that within two days of the 26/11 attack on Mumbai, the Indian government stated that war was not an option.⁷⁶ This demonstrated that lack of a national will/resolve to use military force, as and when required, to secure national interests, is probably the single major factor in deterrence not being fully effective vis-à-vis Pakistan.
- **Maritime Domain Awareness(MDA):** The most important area, which impinges on the attainment of all military objectives, including deterrence, is maritime domain awareness. It is an all-encompassing term that involves being aware of the position and intentions of all actors, whether own, hostile or

⁷⁴ Admiral Arun Prakash (retd.), “The Menace of Piracy: India, the International Community and a UN Response” in New Atlantic, Policy and Analysis Blog, 21 May 2009, accessed from www.acus.org/new_atlantic/menace-piracy-india-international-community-un-response

⁷⁵ Ibid. One incident of the Indian dhow MV Bhakti Sagar in 2006 and the other of MV Stolt Valour with Indian crew on board in September 2008. It is reported that the navy had requested the government on both occasions to allow her to despatch ships, readily available in the vicinity, to intervene in a timely manner but there was a great deal of fumbling and groping in the corridors of power before the government can formulate a very delayed response.

⁷⁶ Admiral Arun Prakash, “India’s Deterrent Capabilities”, talk delivered at the Netaji Bose Memorial Lecture on 23 January 2010.

neutral, in the constantly evolving maritime environment in the areas of interest.⁷⁷ The key to maintaining a sound MDA is surveillance of the areas of interest.⁷⁸ Indian naval ships and aircrafts carry out surveillance as a matter of routine while engaged in peace-time tasks of showing presence, patrols and exercises at sea. In addition to the primary areas of interest enumerated earlier, the surveillance effort needs to be extended to areas of secondary interest⁷⁹, which are gradually becoming more important due to growing economic/strategic interests. Since the areas involved are large and the density of prevailing traffic in the areas is high, maritime surveillance is a long drawn out and time consuming task, for which maritime patrol aircrafts are naturally better suited. The IN must, therefore, plan to come to an optimal ratio of 1:1 between major warships and long-range maritime patrol aircrafts.⁸⁰

Budgetary Realities

- **Shortfalls:** The IN had first drawn out plans for a three-carrier force in the 1950s.⁸¹ However, the same has not materialized on account of budgetary realities. With a series of four land wars since independence in 1947 till 1971, involving Pakistan and China, with active land borders/disputed territories with both, a largely continental outlook of the national leadership is not difficult to understand. It is only in the 1980s that the naval share of the defence budget started increasing from the earlier 10 per cent or less. Between 1990–91 and 1995–96, the naval share was approximately 13 per cent.⁸² This was despite the Government of India (GOI) Committee on Defence Expenditure under Arun Singh recommending in 1991 that the naval share of

⁷⁷ *Indian Maritime Doctrine*, p. 74.

⁷⁸ This can be carried out through a range of systems, including satellites, naval aircrafts, warships, shore-based direction-finding chains, merchant ships and human intelligence.

⁷⁹ *Indian Maritime Doctrine 2009* lists the areas of secondary interest as the southern Indian Ocean, the Red Sea and its littoral states, the South China Sea, other areas of west Pacific Ocean and friendly littoral countries located therein.

⁸⁰ *Indian Maritime Military Strategy 2007*, pp. 112–113.

⁸¹ Vijay Sakhuja, “Indian Navy: Keeping Pace with Emerging Challenges”, in Laurence B. Prabhakar, Joshua Ho, Sam Bateman (Eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific*, Institute of Defence and Strategic Studies, Singapore, 2006, p. 100.

⁸² Rahul Roy-Chaudhury, *India’s Maritime Security*, New Delhi, Knowledge World, 2000, p. 146.

the defence budget should be increased to 16–18 per cent.⁸³ The naval share rose to an average of 15 per cent between 1996–97 and 2005–06⁸⁴, before increasing to almost 19 per cent in 2006–07. However, instead of continuing with the incremental increase, the naval share of the defence budget has been coming down for the last three years⁸⁵, and is 14.5 per cent in 2009–10, which is even less than its share nine years ago in 2001.⁸⁶ This repeated pruning of the budgetary projections for the necessary acquisitions/modernization, by the GOI⁸⁷, has led to a far lesser number of naval platforms than planned/directed.⁸⁸

- **New Acquisitions and Inadequate Capital Budget:** Naval platforms have the longest gestation periods from the drawing board to actual availability, taking an average of at least five to six years for medium platforms like frigates and destroyers, and much longer for bigger/more complex platforms like aircraft carriers and submarines. Budgetary commitments for new platforms, therefore, need to be made for a longer term and in an assured manner. The effects of any reduction to this commitment will be seen only after five to 10 years. The naval capital budget, which is the portion of the budget responsible for funding new acquisitions, has recently increased to 60 per cent of its total budget for the year 2008–09, amounting to 120.86 billion rupees or US\$2.5 billion, out of a total naval budget of about US\$4 billion.⁸⁹ This is a very modest amount, which will be apparent if one compares it with some of the other naval budgets in Asia. For the same year, the naval budgets

⁸³ Ibid., p. 151. The Tenth Finance Commission further recommended in 1994 that the naval expenditure be increased to 30 per cent of the defence budget, in two stages.

⁸⁴ Harsh V. Pant, “India in the Indian Ocean: Growing Mismatch Between Ambitions and Capabilities”, in *Pacific Affairs*, Vancouver : Summer 2009, Vol. 82, Iss.2, pp. 279–97, pp. 183–4.

⁸⁵ Government of India, Ministry of Defence Annual Reports for the relevant years and Laxman K. Behera, “India’s Defence Budget 2009–10: An Assessment” accessed from IDSA, New Delhi website www.idsa.in/idsastrategiccomments/IndiasDefenceBudget2009-10_LKBehera. The naval share of the defence budget came down to 17 per cent in 2007–08, to 15 per cent in 2008–09, and down further to 14.5 per cent in the current year 2009–10, which is even less than its share nine years ago in 2001.

⁸⁶ Vice Admiral P. S. Das (retd.), “China and India at Sea – Growth vs. Decline”, in *the Business Standard*, 31 January, 2010

⁸⁷ Rahul Roy-Chaudhury, op. cit., p. 148. For example, there was a vast shortfall of 19–58 per cent in the capital budget of the navy between 1995–96 and 1999–2000.

⁸⁸ Laxman Kumar Behera, “Asian Military Expenditure Trends” in *Asian Strategic Review 2009*. In 2003, the Parliamentary Standing Committee on Defence had directed that naval force levels consisting of both ships and submarines should not come down below 140. However, the number came down to 135 in 2006–07 and further down to 129 in 2008–09.

⁸⁹ Laxman K Behera, “Asian Military Expenditure Trends”, *Asian Strategic Review 2009*

of China, Japan and South Korea, in US\$, were 32 billion, 11.6 billion and 4.2 billion respectively.⁹⁰

- **Long Term Planning and Commitment of Funds:** Because of the long lead times involved in acquisition of new capabilities, the armed forces prepare a 15-year Long Term Integrated Perspective Plan (LTIPP). From this are supposed to flow the five-year defence plans of the Ministry of Defence (MOD), and the Finance Ministry (MOF) is supposed to base its annual defence allocations on these five-year plans. In reality, the LTIPP for 2007–2022 has still not been approved by the MOD, and the MOF does not recognize the five-year defence plans.⁹¹ As a result, against a planned defence budget of 1541.56 billion rupees or US\$32 billion demanded by the MOD for 2009–10, only 1417.03 billion rupees or US\$29 billion was allocated by the MOF at the budgetary stage.⁹² This will be further reduced at the revised estimates stage, half way down the financial year.⁹³ This kind of ad-hoc, annual budgetary provisions, without much heed to long-term planning, further add to the financial woes of the armed forces, particularly the navy.

Force Levels and Capabilities: Indian naval staff did plan for a balanced, three dimensional navy from the early years. However, in addition to the severe budgetary shortfalls brought out earlier, there was the constraint of non-availability of advanced platforms. Advanced military hardware transfer has always had strategic considerations and political strings attached, and is normally not just a commercial transaction. Even though almost all the Indian naval ships had been acquired from the British till the mid-1960s, including the aircraft-carrier Vikrant, the United Kingdom refused to sell submarines to the IN. This was the period soon after the debacle with

⁹⁰ Accessed from www.imdexasia.com and *Japan Defense White Paper 2009*. China's GDP is four times that of India but the PLA Navy's annual budget is eight times that of the Indian Navy, demonstrating the importance being given by China to the development of her navy. Japan's GDP is also about four times that of India's, but her defence budget is restricted to less than one per cent of her GDP. Despite this limitation, Japan's naval budget is almost three times that of India's because it is a much higher 22.8 per cent of the Japanese defence budget.

⁹¹ Sushant K. Singh and Mukul Asher, "Making Defence Expenditure More Effective" in *Pragati*, February 2010, accessed on www.nationalinterest.in

⁹² *Ibid.*

⁹³ *Ibid.*, for example, the capital defence budget was slashed by Rs.7000 crore at the revised estimate stage in 2008–09, amounting to a reduction of 38 per cent in the funds originally allotted for new acquisitions.

China in 1962, when India was rethinking her overall defence preparedness, including overseas partnerships. As a result, a strategic partnership emerged with the USSR, especially after 1971, and India started acquiring not only submarines, but most of her defence hardware from the erstwhile Soviet Union.⁹⁴ This hardware was purchased at political prices and was normally about one-fourth the cost of a comparable platform in the international arms market.⁹⁵ The IN was, therefore, commencing in the late 1960s, able to acquire a fairly modest capability through till the 1990s, despite relatively meagre budgetary provisioning. This included two classes of submarines, destroyers, patrol vessels, missile boats and a range of naval aircrafts. After the breakup of the USSR, an economy-conscious Russia has been continuing to provide advanced naval weapons/platforms and technology, but at international prices. This has affected naval acquisitions adversely and has also put the naval budgetary constraints under sharper focus.

- **Indigenization:** The IN is the first armed force of India to promote indigenization of hardware. However, the production of her indigenous ships has been bogged down with time-delays and consequent cost over-runs.⁹⁶ The result has been that the navy is unable to maintain its force levels. The IN needs five new ships a year to maintain its strength, whereas India's defence shipyards produce at the most just three ships a year.⁹⁷ In a bid to keep pace with depleting force levels, the navy has had to resort to ordering ships from foreign shipyards, in addition to the indigenous construction.

⁹⁴ Rajiv Sikri in "Why Russia and India Matter to Each Other?" in *South Asia Analysis Group Paper* No. 2111 accessed on www.saag.org/common and www.history-of-india.net/foreign_relations.htm

⁹⁵ From personal experience of the author, who was part of the crew of a destroyer purchased in the 1980s, the price paid for which to the USSR was Rs.90 crore, as against the prevailing cost of Rs.400 crore for a similar ship in the international market.

⁹⁶ *Jane's Fighting Ships 2009-10*. The first three indigenous destroyers of the Delhi-class, built at Mumbai commencing in the 1980s, as also the first three indigenously designed frigates of the Brahmaputra-class, built at Kolkata, took an average of nine years per ship. This compares very unfavourably with international standards of just three to four years per ship.

⁹⁷ As reported by *Defense News* and accessed on www.defensenews.com, the Chief of Naval Staff, Indian Navy, Admiral Nirmal Verma, at a media briefing on 02 December 2009 stated that the navy's major concern related to the delays in construction of ships, and attributed the delays to the basic method of construction in Indian shipyards. The navy had ordered 34 ships from three different yards but the delivery rate was only one ship per year. The specific report regarding the Indian Navy requiring five ships a year to maintain force levels is in "Indian Navy Supports Local Shipbuilding" accessed from www.marinetalk.com/articles-marine-companies/art/Indian-Navy-Supports-Local-Shipbuilding

- Challenges and Diversification:** The IN, therefore, is still overcoming the challenges of budgetary shortfalls, lack of a sustained, long-term budgetary commitment from the government, as well as time/cost over-runs in indigenous ship construction, during its efforts at maintaining and enhancing its capabilities. The breakup of the Soviet Union and international prices being charged by Russia has meant that naval acquisitions from overseas are now based more on capabilities and requirements, rather than the country of origin. With the strategic partnership with the United States maturing, key capabilities are now also being procured from that country, for example, the new Boeing P-8I long-range maritime surveillance aircraft. At the same time a new class of submarines, the *Scorpene*, is being acquired from France, and two naval tankers are being built in Italy. The Talwar-class frigates are continuing to be built in Russia. With this backdrop, let us now examine the actual availability of ships, submarines and naval aviation assets.
- Aircraft Carriers:** The lone aircraft carrier, Viraat, is being kept operational well beyond her originally envisaged life span, awaiting the Vikramaditya (ex-Admiral Gorshkov) from Russia, on completion of modification. The revised price of the extensive refurbishment was finalized in December 2009 as US\$2.3 billion, and the ship is likely to be delivered in 2012.⁹⁸ The indigenous carrier, Vikrant, being built at Kochi since 2005, is likely to be launched in 2011 and commissioned in 2015.⁹⁹ Plans for another bigger carrier have been reported, which may be laid after the launch of the Vikrant at Kochi.¹⁰⁰ This implies that the IN will be able to field a fleet of two aircraft carriers by 2015, with a third carrier probably joining by 2020.
- Destroyers and Frigates:** The IN currently has a total of 23 destroyers/frigates, which comprise the major, ocean-going ships. These include five Rajput-class destroyers procured from the USSR during the 1980s

⁹⁸ *Hindustan Times*, New Delhi dated 17 December 2009 and *Jane's Fighting Ships 2009–10*

⁹⁹ *Jane's Fighting Ships 2009–10* and Cmde Ranjit B. Rai (retd.) and Gulshan R. Luthra, "Indian Navy Power Packed for A Strong Nation" in *India Strategic*, December 2009. While the Viraat operates VSTOL Sea Harriers, both the new carriers will operate the Russian Mig-29K, 45 of which have been contracted.

¹⁰⁰ *Ibid.*

and three Talwar-class frigates from Russia more recently.¹⁰¹ Another class of destroyers, the modified Delhi-class, is under construction in India as the Kolkata-class.¹⁰² At the same time, another three ships of the Talwar-class are being built in Russia and are likely to be commissioned between 2011 and 2012.¹⁰³ Considering the number of ships on order, the capacity of Indian shipyards and the number of ships likely to be decommissioned¹⁰⁴, the total number of destroyers/frigates with the IN by 2020 should be about 29, that is, only six more than the current number.

- **Other Surface Ships:** The medium-range ships comprise 24 corvettes, 21 offshore patrol vessels (OPVs), including those of the coast guard, and about 10 amphibious ships (LSTs).¹⁰⁵ One Austin-class ship, the Jalashwa, an amphibious transport dock (LPD) was transferred from the U.S. Navy in 2007, and has given a boost to the amphibious capability.¹⁰⁶ The destroyers/frigates and the medium-range ships like corvettes, OPVs and the LSTs with the navy, together total up to about 65. In addition, the navy has an equal number of smaller crafts for seaward defence, coastal security and minesweeping duties. In the overall context, the ship construction plans in place will be able to barely cater for replacing the ships which will need to be phased out due to ageing.¹⁰⁷
- **Surface Ships-Capabilities:** The IN is, therefore, not likely to be able to field a numerically larger fleet by 2020. However, the capability of each successive

¹⁰¹ Times of India, 22 January 2010, accessed on <http://timesofindia.indiatimes.com> and JFS 2009–10. The other ships have all been built indigenously starting with the three Nilgiri-class frigates (1970s), the three Godavari-class frigates (1980s), the three Delhi-class destroyers (1990s) and the three Brahmaputra-class frigates inducted 2000 onwards. In addition to the three Shivalik-class ships of project-17, which are under different stages of construction with the first one likely to be commissioned in 2010, approval for another seven modified project-17A frigates was accorded in 2009, to be built in India with foreign collaboration.

¹⁰² JFS 2009–10. The three ships of this class are likely to be commissioned between 2011 and 2013. Another four ships were approved in 2009, as a follow on to the Kolkata-class, called project-15B.

¹⁰³ Ibid. Considering a fairly large number of ships becoming due for phasing out and the much longer construction time in Indian shipyards, another three ships of the Talwar-class are likely to be ordered from Russia. This will make a total of nine frigates of this class with the Indian Navy by 2020.

¹⁰⁴ The normal average age of ships of this type (destroyers/frigates) is 30 years.

¹⁰⁵ *Jane's Fighting Ships 2009–10*

¹⁰⁶ Ibid and Express News Service, 13 December 2009. It is reported that there are plans to build four more LPDs based on an indigenous design.

¹⁰⁷ *Jane's Fighting Ships 2009–10*, Vice Admiral PS Das, op. cit., Cmde Ranjit B. Rai & Gulshan R. Luthra, op. cit.

platform has seen an impressive enhancement during the last 10 years. While doing this, the navy is also trying to overcome two major issues prevalent in earlier years. Firstly, to overcome the problem of a very diverse inventory of equipment, there is an attempt at standardization of weapon systems and sensors on the different platforms under construction, in India and abroad.¹⁰⁸ Secondly, almost all weapon systems were earlier imported, giving rise to problems of ready availability of spares/maintenance facilities. India has developed the Dhanush surface-to-surface missile, which is the naval version of the Prithvi, and has been successfully retrofitted on board two offshore patrol vessels.¹⁰⁹ The joint Indo-Russian surface-to-surface missile Brahmos has also been a big success and has replaced the existing systems on three Rajput-class destroyers.¹¹⁰ These weapon systems are now likely to be the standard fits on Indian naval platforms.

- **Nuclear Submarines:** The indigenous, 6,000 ton, nuclear powered submarine (SSN) Arihant was launched in 2009 and it is stated that it will be commissioned in 2011, after completion of trials.¹¹¹ She will be armed with the indigenously developed K-15 Sagarika missile, of range 700 km.¹¹² A total of three SSNs are expected to be built. In the interim, a larger, 12,000-ton Akula-II class SSN, the Nerpa, is scheduled to join the IN on lease from Russia in 2010.¹¹³ Therefore, the IN will have SSN capability with one submarine from 2010 onwards, and with up to two submarines by 2014.
- **Conventional Submarines:** The 16 conventional submarines currently with the IN range from the oldest two of the Russian Foxtrot-class, of 1970s vintage, the four German type 209/1500 of the Shishumar-class inducted in

¹⁰⁸ *Jane's Fighting Ships 2009–10*. For example, the weapon/sensor fit on the Talwar-class being built in Russia and the Shivalik-class frigates being built in India includes the SS-N-27 Klub-N surface-to-surface missiles, range 120 nautical miles, the SA-N-7 Kashmir surface-to-air missiles, range 13.5 nautical miles, and the indigenous HUMSA sonars.

¹⁰⁹ Cmde Ranjit B. Rai & Gulshan R. Luthra, op. cit.

¹¹⁰ Ibid. Both these indigenous missiles are contemporary in their class, even by world standards, and have a range of 350 km (157 nautical miles)

¹¹¹ *Jane's Fighting Ships 2009–10*, Cmde Ranjit B. Rai and Gulshan R. Luthra, op. cit. However, the author feels that it will take at least five years for a submarine of this complexity—the first one to be built in India—to overcome all issues and be an effective naval platform.

¹¹² Ibid.

¹¹³ Cmde Ranjit B. Rai and Gulshan R. Luthra, op. cit. and *the Hindu*, 29 December, 2009 accessed from www.thehindu.com/2009/12/29

the 1980s, to the 10 Russian Kilo-class inducted between 1986 and 2000.¹¹⁴ Replacement plans include six Scorpene-class submarines, two of which are to be delivered by France and the remaining built in India, all by 2017.¹¹⁵ By 2020, in the best case scenario, the IN will have only about 14 conventional submarines, unless, of course, they decide upon a delayed phasing out of existing submarines to maintain numbers, as has frequently been resorted to.

- **Naval Aviation:** While the current aircraft carrier *Viraat* flies the Sea Harriers, both the new carriers being inducted shortly, the *Vikramaditya* and *Vikrant*, will operate the Mig-29K Fulcrum.¹¹⁶ With an operational speed of 750 knots, it will be 100 knots faster than the Harrier and will also have almost twice the range at 1400 miles.¹¹⁷ The long-range surveillance and ASW role is currently being carried out by the eight TU-142M and five IL-38 aircrafts, all procured from Russia during the 1970s and 1980s.¹¹⁸ With the induction of eight Boeing P-8I Poseidon long-range maritime patrol (LRMP) aircrafts commencing in 2013, this particular role will get a considerable boost because of the much better capabilities envisaged in these aircrafts.¹¹⁹
- **New Initiatives for Coastal Surveillance:** In a bid to close the gaps highlighted during the 26/11 incident, it is reported that among other measures, a 1000-man Sagar Prahari Bal (SPB) is being raised with a fleet of 80 fast, 50-knot Interceptor boats.¹²⁰ It is further reported that the government has decided to double the strength of the Coast Guard, which currently has

¹¹⁴ *Jane's Fighting Ships 2009–10*. The Kilo-class boats are fitted with the SS-N-27 Klub missiles which have active radar homing to 97 nautical miles, and SS-N-30 terrain following/Satnav guidance, land attack missiles of range 162 nautical miles.

¹¹⁵ *Ibid.* However, there have been delays that will also affect the ordering of another six boats, to be selected from the Scorpene/German type 214/Russian Amur 1650 classes.

¹¹⁶ *Jane's Fighting Ships 2009–10* and Cmde Ranjit B. Rai, op. cit.

¹¹⁷ *Jane's Fighting Ships 2009–10*. 16 Mig-29K aircrafts were ordered along with the Gorshkov deal in 2004 and another 29 are being ordered in 2010, which would make a total of 45 aircrafts available for the two carriers.

¹¹⁸ *Ibid.* They have been upgraded from 2001 onwards, including fitment of air-to-ship missiles.

¹¹⁹ *Ibid.* They are to be equipped for modern ASW, ASUW and intelligence, surveillance and reconnaissance (ISR). Incidentally, the Poseidon aircraft will be inducted into the Indian Navy almost simultaneously with the U.S. Navy, which has ordered a total of 117 aircrafts.

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¹²⁰ Cmde Ranjit B. Rai, op. cit. Some of these will be imported initially, before setting up facilities to manufacture them in India.

7,000 personnel, 70 ships and 40 aircrafts.¹²¹ It is felt that a number of practical, working level measures need to be taken to bring greater efficiency and coordination in the working of the various agencies involved, the navy, coast guard, customs, local police and even the local coastal population, including fishermen. Judicious use and a pragmatic balance of technological means like a coastal radar chain, satellite/aerial surveillance, as well as a local human surveillance and intelligence network, will be essential to bring about effective maritime domain awareness in the coastal areas.

- **Overall Naval Capabilities:** It is clear that in the overall analysis, IN will be no match for the PLA Navy numerically, in the 2020–25 time frame. Probably faced with this reality, Admiral Nirmal Verma, the Chief of Naval Staff, IN, stated in December 2009 on the occasion of navy day that there was a conceptual shift in the IN’s perspective plan from “number of platforms” to “capabilities”.¹²² However, even in terms of capabilities, the PLAN will have a definite edge in long-range strategic deterrence, with the induction of the 3,800 nautical miles SLBM in 2010. With the induction of Nerpa SSN on lease from Russia in 2010, the IN will be operating a nuclear submarine for the first time after a gap of almost 20 years, and will need time to gain expertise. Similarly, the PLA Navy is likely to start operating an aircraft carrier for training by 2012 and operationally around 2020, and will need several years to master the nuances of carrier-borne aviation. The improved surface-to-air missile capability of the PLAN ships will provide fairly good air-defence cover to the fleet, even without an aircraft carrier. With a dedicated, indigenous, naval communication satellite being launched in 2010¹²³, there is likely to be an improvement in connectivity and network-centric warfare in the IN, enhancing effectiveness of operations. In addition, the induction of eight Boeing P-8I long-range maritime surveillance and ASW aircrafts commencing in 2013, will bring about a quantum jump in these

¹²¹ Ibid.

¹²² Cmde Ranjit B. Rai and Gulshan R. Luthra, op. cit.

¹²³ Ibid.

capabilities.¹²⁴ Together, these will enhance maritime domain awareness, presently a weak area. The enhanced coastal security mission accorded to the IN in 2008 is bound to affect its traditional blue water war-fighting role.¹²⁵ As stated by Vice Admiral AK Singh, “The term ‘balanced navy’ has now acquired a different meaning altogether; a brown water or coastal force is as relevant and essential as a blue water force.”¹²⁶ It comes out rather clearly that the IN will need to forge partnerships with other navies in its areas of interest, towards accomplishing its maritime objectives.

Naval Partnerships/Cooperation: India has evolved a new paradigm of security cooperation relevant to an emerging multi-polar world, based on the premise that global threats must obtain global responses.¹²⁷ Accordingly by 2005, India had entered into strategic partnerships with the United States, Russia, Japan and the European Union and went on to formalize strategic partnerships with Vietnam in 2007 and with Australia in 2009.¹²⁸ Taking a cue from this, the IN has been forging strong partnerships with a number of navies in the region, the more notable ones being from the United States, France, the United Kingdom, Singapore, Vietnam and Japan. In addition, the IN has been successful in developing multi-lateral cooperation among the Asia-Pacific navies through the “Milan” engagement at Port Blair, in the Andaman and Nicobar islands of India. From four navies, which participated in 1995, the initiative has grown to include 12 navies, whom the IN hosted in 2010. These include Australia, New Zealand, Bangladesh, Brunei, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Sri Lanka, Thailand, and Vietnam. Another regional initiative launched by the IN was the Indian Ocean Naval Symposium (IONS) in 2008, to encourage navies of the IOR to interact with one another and find common solutions

¹²⁴ Ibid., it is reported that the navy can ultimately acquire as many as 20 of these aircrafts. This is essential to move closer to the optimum 1:1 ratio between major war vessels and LRMP aircraft, stated in *India's Maritime Military Strategy 2007*, pp. 112–113.

¹²⁵ Vice Admiral R. N. Ganesh, op. cit. Wherein he states that the navy cannot afford to reduce its capability or lose its effectiveness in meeting the challenge of war, by restructuring to meet lesser threats. He has recommended the creation of another “coastal protection force” responsible for covering the sea-land gap, which is a separate and distinct operational zone, and inaccessible to sea-based forces.

¹²⁶ <http://ajaiashukla.blogspot.com/2009/08/coastal-security>

¹²⁷ As stated by Prime Minister Dr. Manmohan Singh at the combined commanders’ conference of the Indian Armed Forces in 2005

¹²⁸ Dipanjan Roy Chaudhury, “Casting the Net Wide” in *Mail Today*, New Delhi, 25 November 2009.

to the maritime threats and challenges that beset the region. This initiative is being carried forward with the UAE Navy hosting the next IONS meeting in 2010.¹²⁹

- **U.S. Navy:** The most meaningful relationship that the IN has today is probably with the U.S. Navy. This is because of the fact that the two navies have very similar objectives in the IOR, focusing on freedom of the seas and promotion of security and stability to ensure unhindered flow of commerce over the oceans. The navies have been exercising together annually for over a decade, gradually increasing the levels of complexity, and have achieved a good degree of interoperability.¹³⁰ In addition, transfer of major platforms/capabilities has started from the U.S. Navy to the IN with the induction of the Austin-class LPD “Jalashwa” in 2007, which will be followed by eight Boeing P-8I Poseidon aircrafts commencing in 2013. In the context of the level of understanding/cooperation prevalent between the two navies, it is pertinent to mention that the IN had readily escorted high value U.S. vessels through the Straits of Malacca during 2002, when requested by the U.S. Navy during operation Enduring Freedom.¹³¹ It is appreciated that this strong partnership will continue to grow in the foreseeable future.
- **Other Navies:** The IN maintains a close partnership with the navies of the United Kingdom and France, which maintain a presence in the IOR. In addition to annual joint exercises and reciprocal visits at various levels, there is cooperation in training and even enhancement of capabilities. The ongoing Scorpene submarine acquisition programme from France is a good example. Cooperation with the Republic of Singapore Navy is probably one of the oldest, similar to that with the Vietnam People’s Navy (VPN), with which the IN has had a longstanding relationship for over 20 years. Japan feels constrained because of her essential SLOCs running through the IOR, without

¹²⁹ *Indian Defence Review*, New Delhi, 20 February 2010, accessed from www.indiandefencereview.com

¹³⁰ Admiral Nirmal Verma, Chief of the Naval Staff, Indian Navy, during an interview with the Indian Defence Review, New Delhi, in February 2010 stated that in addition to the annual joint naval exercise “Malabar”, the two navies are progressing in the following: (a) Explosive Ordnance Disposal (b) Salvage operations (c) Expeditionary Warfare table top exercise.

¹³¹ Brigadier Gurmeet Kanwal (retd.), “Maritime Cooperation: Indian Navy’s Gallant Efforts” in *Naval Forces Special Issue 2008*, Vol. XXIX.

a commensurate naval presence in the region. Though she has a very capable navy, she is hindered in deploying the same to safeguard her interests, because of her current political posture. Japan has, therefore, been seeking a close maritime relationship with India, including naval cooperation.¹³² Cooperation with Russia for naval hardware, like the ongoing construction of frigates for the IN in Russian yards, has not really translated into a close relationship with the Russian Navy, also because of minimal Russian naval presence in the IOR.

- **Prospects of Cooperation with PLA Navy:** With the foremost aim of both navies to ensure a secure and stable environment for continued socio-economic growth, there is a definite commonality of interests. Both countries have over-stretched SLOCs in the IOR and beyond, in protection of which they can logically cooperate with each other. There are growing signs that the two countries, as well as the navies, may be moving towards such a co-operation, as demonstrated during the G20 and climate change summits, as well as bilateral defence exchanges.¹³³ The first IN-PLAN bilateral exercise took place off Shanghai in 2003 and the two navies have been interacting increasingly since then. The two navy chiefs discussed cooperation in anti-piracy operations in 2009.¹³⁴ More recently, India offered to assist China in keeping vital sea lanes between the Middle East and Asia open.¹³⁵ As India's SLOCs in the Pacific Ocean become more important, China can reciprocate and there will be greater inter-dependence/mutuality of maritime security interests.¹³⁶ However, based upon past experiences and ongoing differences,

¹³² *The Hindu*, 30 December 2009 accessed from www.thehindu.com/2009/12/30/stories The Joint Action Plan concluded between the two Prime Ministers in 2009 has a strong focus on maritime-security.

¹³³ Zhang Yan, Ambassador of China to India, "Bonding at Copenhagen Cemented India-China Relations", in *OutlookIndia.com*, 18 January 2010. He goes on to list several defence exchanges indicating new developments.

¹³⁴ P. S. Suryanarayana in *The Hindu*, 31 May 2009. Admiral Sureesh Mehta, Chairman Chiefs of Staff Committee, India and Lt. General Ma Xiaotian, Chinese Deputy Chief of General Staff also discussed military-to-military academic exchanges on the sidelines of the Shangrila summit in Singapore. Accessed from www.thehindu.com

¹³⁵ Indian Minister of State for Defence Pallam Raju quoted as saying, "India was happy to assist China to keep open vital sea lanes between Middle East and Asia in order to guard against piracy and conflict," as reported on www.defence.pk/forums/india-defence dated 22 February 2010.

¹³⁶ Amardeep Athwal, *China-India Relations: Contemporary Dynamics*, New York, Routledge, 2008. The author makes a strong case that there is growing realization in both countries that there is more to be gained through cooperation.

while pursuing a cooperative approach with China, India must remain vigilant about growing PLAN capabilities in the long term.

The IN should continue to build on these bilateral and multilateral partnerships. These will be of essence while encountering the non-traditional threats of piracy, terrorism and natural disasters. Together, the combined naval power of a number of navies with similar objectives, will also act as a greater deterrent against a rogue state, which may otherwise be foolhardy enough to try and upset the security and stability of the global maritime commons, for narrow, selfish interests, not tenable in international law/norms.

Conclusion

With the global power shifting to Asia, the Indian Ocean is likely to become increasingly important during the twenty-first century. This will be so not only for the economic dimensions of trade, energy and the associated security aspects but also because of the ongoing strife and emerging trouble spots being in this region, as exemplified by the goings-on in Iraq, Afghanistan, Pakistan, Iran, Somalia and, more recently, Yemen. The United States will find itself as one of a number of important actors on the world stage by 2025, though still the most powerful one, including militarily. However, other states will try and close the gap by developing asymmetric warfare capabilities whose net effect cannot yet be fathomed. Other envisaged changes, like those brought about by global warming, may change the complexion of the world in several dimensions. All major states are likely to ensure stability and security in the world order for continued economic growth, and will need to increasingly work together in the face of increasing threats from non-state actors. Full-fledged wars between nation states are unlikely and, consequently, navies are likely to continue to be employed more in littoral areas. However, a greater naval capability is likely to be sought by more nations, commensurate with their growing economic prosperity and increasing dependence on the oceans. It needs to be determined whether this proliferation of naval capabilities will bring about greater stability and security.

China's growing maritime power is in consequence to her growing economy and status as a major global player. China's foremost aim is likely to be to use this maritime power to ensure a stable world order for continued economic growth, at least for the next 20 years. The Yellow Sea and the East and South China Seas are likely to remain the areas of primary focus for the PLAN in this time frame. While the Taiwan issue may remain in the backburner, the maritime boundary disputes in the EEZ are likely to gain prominence and keep China preoccupied. China has taken measures to become a part of the international security framework and is expected to play an increasing role in conformity with her status. This will also mean China attaining a larger presence in the IOR where she has genuine security concerns with respect to her maritime trade and SLOCs. Not only India but also the Asia-Pacific region at large is anxious about this because of the prevailing perception with regard to China on account of a lack of transparency, manifold enhancements of defence expenditure and an increasingly assertive attitude. The developing Chinese naval capabilities, therefore, need to be constantly monitored. It will be difficult to match these capabilities by individual navies—barring the United States—with whom China is actually trying to close the gap. However, in the emerging cooperative security environment predicated mainly against non-traditional threats, a collective response to the PLAN may also follow as a natural progression. This can be dictated by circumstances initiated by China, which are perceived by the international community as going against prevailing international norms and conventions. The IN has a well-thought-out engagement plan and is in partnership with other navies in the region based on common aims, objectives and security concerns.

The IN plans to strengthen its capabilities as a three-dimensional force that comprises ships, submarines and aircrafts to enable her to carry out the legitimate roles in fulfilling her objectives. However, there are considerable obstacles to the navy developing into an effective force in the intended time frame. Most of these emanate from the inherent inefficiencies of the defence apparatus, caused primarily by the prevailing civil-military relationship and long pending reforms. The two major areas of immediate concern are the budgetary and indigenization issues, discussed at some length in this paper, which can be overcome only with a political decision to reform the system. Improving Maritime Domain Awareness to the requisite level will be a herculean task, given the vast sea areas involved. It will require the coordinated

utilization of all assets of the state, including the necessary greater shift in focus to the maritime domain. Another important obstacle in making the navy effective in its primary military objective of deterrence is the lack of a well-demonstrated national resolve and an appropriate decision-making apparatus to use military force in a timely and even proactive manner, to safeguard national interests. This erodes the credibility of the navy's deterrent posture developed painstakingly over time, with alert and robust deployments and action. It is considered essential to integrate the military in higher security decision-making at the national level, as in most democratic nations, to be able to achieve this. Without this integration and a demonstrated national resolve, no amount of military capability enhancement will be able to deter another 26/11, incidents of which nature have been setting the nation back in its path of socio-economic development, time and again.

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