

The structure of the indian navy



**ASSIGN
BUSTER**

“ It follows than as certain as that night succeeds the day, that without a decisive naval force we can do nothing definitive, and with it, everything honourable and glorious.”

George Washington

INTRODUCTION

1. The closing decades of the twentieth century witnessed sweeping changes in the security perception of most nations. There have also been major changes in the security environment in the Indian Ocean. India has made great strides towards economic progress and is continuing to do so. This momentum cannot be sustained unless a certain measure of internal and external security is ensured. Traditional state-centred geopolitics of the past was too narrow and parochial in conceptualising, both, geography and politics, and, appreciating the impact of oceans on politico-economic forces. More than ninety percent of India's trade is sea borne, in addition to which, the country has a huge EEZ with enormous reserves of minerals, energy and food. Protection of India's maritime interests, which form a major chunk of the country's economic interests, is therefore vital. It is necessary to plan ahead and prepare for this inevitable transformation, in which the maritime element will become more and more important. Potential threats interfering with our maritime interests will have to be overcome, firmly and resolutely and efforts made to coax regional players into maritime co-operation for mutual protection of economic interests.

2. In the past, India's attention has been deliberately diverted to its land frontiers, thus, preventing its strategic gaze from focussing on the maritime surge enveloping the country from the East and West. Historical evidence

indicates that a nation, without a commitment to build a world class Navy, cannot be a world class player. India deserves to aspire to play the role of a regional power in South Asia and a facilitator for regional cooperation. Since independence, India has made substantial progress in establishing its pre-eminence in the Indian Ocean region. Its involvement in the liberation of Bangladesh, peacekeeping operations in Sri Lanka and suppression of the coup in Maldives are some examples of its superior power status in the region.

3. India's potential lies in its geo-strategic location, size and distribution of its island territories in the Indian Ocean. It has vast natural maritime resources, only a limited amount of which have been exploited. In addition, its economic resurgence has led to India being viewed as a regional power and the only country capable of competing with the ever-growing influence of China in the region. The emerging maritime environment has thrown open numerous security challenges and has brought about quantum changes in maritime warfare. Navy being a sovereign tool of maritime power is self contained not only to deal with emerging security challenges across the spectrum of conflict but also has a unique capability to achieve geo-strategic objectives during peace time. The Indian Navy would need to deal with future extra regional challenges and to protect India's burgeoning strategic assets particularly maritime trade and energy security. The Navy, therefore, needs to develop assets to undertake the responsibilities of safeguarding the vital maritime interests as also having a strategic reach and an out of area projection capability. The naval force structuring inadvertently has large gestation periods and in a manner is irreversible once set into motion.

Therefore, it is imperative that the planning and development of the Indian Naval capabilities be carried out in a rational and coordinated manner keeping in mind the challenges likely to be encountered in the future.

AIM

4. The aim of this paper is analyse the future roles of the Indian Navy and suggest a perspective force structure for the Navy in 2025.

MARITIME INTERESTS OF INDIA

5. The Indian Ocean washes the shores of three continents and 35 littoral states, some of which are the fastest growing economies of the world.

Geographically India enjoys a unique position jutting some 2000km into the sea making it the most prominent landmass in the Indian Ocean. This unique geographical position brings nearly half the IOR within a 1500 km arc from the mainland Indian Territory[1]. The outlying islands provide it a further extended reach. Thus strategically, India enjoys the geographic advantage to project military power into the Indian Ocean and the Indian Navy is the ideal apparatus for the same.

6. Considering the likely environment and the future security challenges raised by the growing geo-strategic and geo-economic importance of the Indian Ocean, India would need to develop a proactive strategy to protect its maritime interests. With the envisaged growth and emergence of India as a regional power its maritime interests would need to assume a much wider canvas and not be restricted to its ports, harbours and coastal sovereignty.

7. Key Maritime Interests. The national interests of India would entail fostering a secure environment for economic growth. In order to ensure this

it would be in India's interest to maintain peace and stability in its region of interest and nurture a low threat stable environment at sea and the littorals in the Indian Ocean. In addition, coastal sovereignty of the far flung islands would continue to remain a key maritime interest.

8. Economic Security. The fostering of economic security for India in the maritime sphere would include the protection of trade, energy supplies and the ocean resources. The criticality of these is enumerated in the following paragraphs:-

(a) Trade. India's international trade is overwhelmingly (90 percent in volume and 77 percent in value) carried on the seas[2].

(b) Ocean Resources. India has an EEZ of 2. 02 million square km which is likely to increase to 2. 54 million square km[3]. India's main interests include exploitation of living and non-living resources as an alternative to fast depleting land based resources.

(c) Energy Requirement. India is highly dependant on oil imports to meet its energy requirements. Almost 80 percent of India's oil requirements are imported. This is a major factor for sustaining the rate of growth and is, therefore, essential.

9. Regional Co-operation. India is keen to enhance bilateral and multilateral co-operation as also to foster stability in the region. Hence, the maritime domain could be transformed to an area of cooperation rather than conflict. The areas of naval co-operation and initiatives that are envisaged are as follows:-

(a) Conduct of combined exercises and providing advance information about exercises and manoeuvres.

(b) Setting up of joint task force to tackle natural calamities.

(c) Making joint efforts to tackle maritime pollution, conservation of maritime environment, piracy, global smuggling, poaching and SAR.

(d) Ensuring the safety of SLOCs by establishing presence in a mutually acceptable manner and by carrying out joint patrolling.

THREAT PERCEPTIONS

10. Maritime Security Concerns. India's maritime security concerns due to its geo strategic location in the continent indicate the following:-

(a) To the West is the Gulf oil area and Pakistan, simmering on the flash point of a global energy and nuclear crisis.

(b) To the East is the steadily growing economy of the ASEAN states coupled with China's vigorous exertions that tend to spill over into our maritime zone.

(c) To the South lie the vast majority of the IOR's developing states that are potential hotbed for extra regional intervention.

(d) Sitting astride the principal ISLs of the IOR, India can not but remain the central focus of security concerns in the region.

11. Threats to Economic Security. The major threats that would hamper economic security are:-

(a) Disruption of SLOCs.

(b) Closure of choke points.

(c) Piracy.

(d) Competition for resources.

12. Threats to Regional Security. The perceived threats to the regional security around India are as follows:-

(a) Maritime terrorism.

(b) Internal conflicts.

(c) Dissolution of states and regimes.

(d) Proliferation of arms and WsMD.

(e) Ethnic fundamentalism.

13. China. China's rising defence budget and military modernisation do not leave any doubt about its regional objectives. It has ambitions of dominating regional affairs and is continuously striving to achieve the capability to do so. A major strategic priority would be to establish a presence in the Indian Ocean. Towards this aim, China has established strategic presence in various locations in the Indian Ocean, from Myanmar to Sri Lanka to acquiring rights for a base in Mauritius and assisting Pakistan in the development of Gwadar deep sea port. These along with its aircraft carrier project and acquiring an offensive blue water capability are a clear indication that the Chinese would possess the capability to project force in the IOR by 2025.

14. Pakistan. Pakistan has been and will continue to be a source of trouble for India. It sits astride the critical energy lifelines from the Persian Gulf to India. Its submarine fleet offers it a credible sea denial capability. In addition its plans for acquiring more P3C Orion from USA would further enhance its surveillance capabilities and would be a continual threat to Indian assets.

15. Extra Regional Presence. A CBG operating off the coast of a country is like a new neighbour and not necessarily a wanted one. This neighbour can move 500 nm in a day and could threaten a different part of a nation on every alternate day. The extra regional presence is a real threat and countries like the USA, UK, Russia and France are capable of exerting this presence.

MARITIME DOCTRINE AND NAVAL ROLES

16. In the military context doctrine is defined as the fundamental principles by which military forces guide their actions in support of national objectives. The overall military doctrine is also the formal expression of the national attitude towards war and towards the use of military as a means to achieve political ends. The maritime doctrine fulfils this function for the use of military power at and from the sea[4]. The maritime doctrine provides the guidelines within which the actual force structure is created. It is thus important to study the maritime doctrine to arrive at a suitable force structure.

17. The doctrine brings out the diverse and complex missions the Indian Navy would be required to undertake in the future. The various roles of the

Navy as defined in the Maritime Doctrine are military, diplomatic, constabulary and benign.

18. Military Role. The military role defines certain key objectives for the Indian Navy which are relevant in today's geo-strategic scenario and would continue to be relevant in the future. These objectives are defined as follows[5]:-

- (a) Deterrence against war or intervention.
- (b) Decisive military victory in case of war.
- (c) Security of India's territorial integrity, citizens and off-shore assets from sea-borne threat.
- (d) Influence affairs on land.
- (e) Safeguard India's mercantile marine and maritime trade.
- (f) Safeguard India's national interests and maritime security.

19. Diplomatic Role. Naval Diplomacy entails the use of naval forces in support of foreign policy objectives. The diplomatic objectives are as follows[6]:-

- (a) Strengthen political relations and goodwill.
- (b) Strengthen defence relations with friendly states.
- (c) Portray credible defence posture and capability.
- (d) Strengthen maritime security in IOR.

(e) Promote regional and global stability.

20. Constabulary Role. The increasing evidence of maritime crime has brought into sharp focus the constabulary role that navies have to perform. In this role forces are employed to enforce law of the land or an international mandate. The constabulary objectives are as follows[7]:-

(a) Coastal defence.

(b) Security of EEZ.

(c) Good order at sea.

21. Benign Role. The benign role is so named because violence has no part to play in its execution, nor is the potential to apply force a necessary prerequisite for undertaking these operations. The main objectives of this role are[8]:-

(a) Promote civil safety and security.

(b) Project national soft power.

22. Roles and Capabilities of the Future Navy. The diplomatic role of the Navy is likely to grow in the future. Forces offering greater leverage, capable of operating in distant waters would be the need of the hour. Maintaining stability in the littorals would mean emphasis on power projection and littoral operations. However, sea control would continue to be a prerequisite. SLOC protection and interdiction would also maintain their importance.

Asymmetric threats and combating piracy, drug and gun running, maritime

terrorism would gain importance as also the ability to provide relief during natural calamities.

FORCE STRUCTURE PLANNING FACTORS

23. World class navies are 'Built' and not 'Bought'. Therefore, indigenisation and self reliance in warship production, weapons and sensors will play an important role in realising the navy's dream of acquiring regional power projection capabilities. With the economic resurgence, well established industrial base and strides made in warship production, India has demonstrated its intention to be a 'Builders Navy'.

Fiscal Forecast

24. Gross Domestic Product. The GDP of a nation is a productive capacity of its people and dictates the share of the pie that the services are likely to get. The GDP has grown at an average rate of seven percent over the last few years. The share of defence, as part of GDP is estimated at 13.5 percent of revenue expenditure. For planning purposes, GDP growth rate is taken as 6.5 percent and defence expenditure is taken at 2.75 percent of GDP. At the present growth rate, a figure of three percent is considered realistic between 2020 and 2025.

25. Trends in Naval Budgets. The naval budget as percentage of defence budget has varied from 13.25 percent in 1995-96 to 15 percent in 2010-11. This figure is likely to go up to 20 percent by 2025. Presently, the Navy's capital to revenue share is 60:40 percent[9]. The Navy being a capital intensive service, this ratio is likely to increase to 65:35 percent by 2025. Two major components of capital budget include 'Naval Fleet', and 'Air

Craft and Aero Engines'. Naval fleet roughly accounts for 75 % of the capital outlay and caters for the acquisition of ships and submarines.

26. The force levels are directly proportional to the number of annual acquisitions and the period for which it is in service. The larger the ship, the longer is the time taken to design and build it. Taking a typical destroyer/frigate, it takes around 10 to 12 years from government approval to commissioning, if the ship is designed and built in India. Assured funding, therefore is absolutely essential for any planned modernisation. Historically, the fate of navies has been linked to the fate of their country's economy[10]. Fortunately, the Indian economy is doing very well and funding for modernisation in the future should not be a problem.

Warship Production Capability

27. The hull accounts for one third the cost of the ship, whilst weapons and sensors account for 42 percent with machinery and auxiliaries accounting for balance 25 percent. The Indian Navy has achieved self reliance in hull and machinery components, however, the real challenge remains the weapons and sensors, a majority of which are still imported. The capabilities of our shipyards and the DRDO would play a major role in achieving the desired force structure.

28. Yard Capabilities. There are three defence shipyards under the Ministry of Defence, the Mazagaon Dock Ltd (MDL), Garden Reach Ship Builders and Engineers (GRSE) and Goa Shipyard Ltd (GSL). The Cochin Shipyard (CSL) and Hindustan Shipyard Ltd (HSL) are the other two Government Sector Undertakings, involved in ship building. These shipyards have displayed

major advancements in ship designing and indigenisation of platforms, although there are still some inadequacies that need to be addressed. The capability of building ships in itself is not enough, it is the rate at which they are built along with their cost effectiveness and capabilities that is important.

29. Indian Yards are notorious for cost and time over-runs and even today we have to import ships to meet the demands of the growing Navy. The primary reason for this is the antiquated equipment and building methods in our shipyards. Time and cost overruns can seriously put the Force Structuring off track. Therefore, shipyard productivity has to improve to a level where they can meet all the requirements of the Navy. To modernise the Navy, we must first modernise our shipyards so that they are capable of delivering quality ships on schedule.

Technology

30. The advancement in technology has had far reaching effects on naval operations leading to new concepts of operations. Technology will improve operational availability, reliability and sustainability of forces. The induction of force multipliers like satellites, UAVs and improved weapons and sensors can help in overcoming the numerical limitation of force levels. Technology has increased the transparency of the battlefield and with advanced PGMs, made it possible to deliver a large volume of fire very precisely and simultaneously in different areas of operation. Therefore, technology will play a major part in moulding the force structure of the Navy in the future.

FORCE STRUCTURE IN 2025

31. The Indian Navy's perspective planning in terms of 'force-levels' is now driven by a conceptual shift from 'numbers' of platforms, that is, from the old 'bean-counting' philosophy to one that concentrates upon 'capabilities'. There are presently 40 ships and submarines on order. The preferred choice of inducting ships has been through the indigenous route. There are presently 34 ships and submarines on order from Indian shipyards and the induction programme is continuing apace[11].

32. The present force level is heavily biased towards older ships. Almost 50 percent of these ships would complete their service life by 2025. Also, the present force composition is biased towards smaller ships with lesser number of ships that can actually project the 'Blue Water' capability of the Navy. The present force structure points toward the need for urgent modernisation of the Indian Navy for India to play its desired role in the maritime area of interest.

Major Combatants

33. Aircraft Carriers. The Indian Navy would need to have a minimum of three aircraft carriers with one operating on each coast and one under maintenance. These carriers would form the Carrier Battle Groups (CBG) that are the foremost instruments in achieving sea control. The Indian Navy is on track to achieve this with Vikramaditya and the two AD ships being built at Cochin shipyard, albeit one after another. Viraat is likely to be decommissioned by 2015, therefore, the IN should have at least three carriers by 2025.

34. Nuclear Submarines. The nuclear submarine is an ideal strategic weapon and possesses a credible second strike capability. The Navy should aim to have at least four such submarines by 2025, so that at least one, if not two, are on patrol at all times. This is a distinct possibility with India achieving the capability to build its own SSN with the launch of Arihant and the induction of Akula class SSNs from Russia.

35. Destroyers and Frigates. These ships are the real workhorses of the Navy, both in peace and war. The Indian Navy presently has 13 frigates out of which 6/7 will be decommissioned by 2025. The Navy should aim to have at least 20 frigates by 2025. The two remaining Shivalik class(Project 17) and the three follow on Talwar class frigates should be in service by 2014. Seven Project 17A frigates will be built at MDL and GRSE. An additional order for three to five more such frigates would enable the Navy to achieve the requisite force levels by 2025. The Navy has eight destroyers on date and should aim to have at least 12 by 2025. The R Class destroyers would need to be replaced between 2015 and 2025. Three Kolkata Class(Project 15 A) destroyers are being built at MDL. Four more ships are planned as follow on of the Kolkata class under the Project 15 B. Therefore, an additional order of three destroyers needs to be placed to achieve the desired force levels by 2025.

36. Submarines. Submarines are a vital part of the Naval Fleet and are ideal for sea denial operations. Their operational value in our waters is far greater than anywhere else as the hydrological conditions afford many advantages to the submarine. The Navy has 15 submarines, including the Kilo class and the German 209 class. However most of these would be nearing the end of

their operational lives by 2025. The MDL is already building six Scorpene class submarines under TOT from France. The Indian Navy needs to have at least 16 conventional submarines by 2025. Therefore, there is a need for the Navy to order eight to ten additional submarines. An RFP for six submarines has been raised under Project 75(I), with a proposal to construct three at MDL and one at HSL with the other two being directly imported. There would still be a shortage of four submarines which will have to be made good with an additional order under the same project.

37. Amphibious Forces. We have a modest amphibious capability to look after amphibious assault requirements in our immediate neighbourhood. The Navy urgently needs an expeditionary capability to undertake our regional responsibility. The LSTs would not be able to meet such a capability. The Navy has to look at inducting LPDs, the first of which has been received from USA. Jalashwa would be decommissioned by 2025 but the force level of LPDs that needs to be held in 2025 is at least four. A plan to design and build the same is being put into force and the Navy should have its four LPDs by 2025.

38. Support Ships. To be a true ‘Blue Water’ Navy, the capability of operating anywhere in the Indian Ocean and beyond is a must. To enable this, the Navy needs more fleet tankers. The navy should have at least four tankers by 2025 to support the two CBGs. Presently, the Navy has two tankers and two have been ordered from Italy and are likely to be commissioned by 2010 and 2012 respectively. Therefore, the Navy would be able to achieve the desired force level well before 2025.

LND Forces

39. Corvettes. The navy has 20 missile corvettes but only four ASW corvettes. The former are in adequate number, however the ASW corvettes are grossly inadequate. Four are being built at GRSE but these will only replace the ones already in service. The Navy needs to substantially enhance this capability and should have at least 12 ASW corvettes by 2025. Also, the missile corvettes in service will need to be replaced as they complete their service life.

40. Mine Counter Measure Vessel. Mine warfare has been effectively used in the past and the Indian Navy needs to have credible capability to counter it. The Navy's MCM vessels will be decommissioned over the next few years. The Navy has to develop a credible mine hunting capability and a force level of at least 12 such vessels is a must by 2025.

41. Offshore Patrol Vessels. Presence and surveillance is an important mission of the Navy and high value ships like destroyers and frigates should not be utilised for this. Presently, the Navy has only five OPVs with four under construction at GSL and an additional order for five placed on Pipavav Shipyard. The force level envisaged by 2025 is 12 to effectively patrol the ODA and islands as also monitor the shipping lanes.

42. Fast Attack Crafts. LIMO is a clear and present danger in the present day scenario. The high speed FAC is ideally designed to counter this threat. Each major naval port should have at least four FACs by 2025. The GRSE is building 10 water jet FACs for the Navy, some of which are already in

commission. An additional order for at least 10 more FACs needs to be placed.

Aircrafts

43. MR Aircraft. Long Range Maritime Patrol and Surveillance capability is a major weakness of the Indian Navy. The TU-142 and the IL 38 are the mainstay of our MR capability, however, most of them will be out of service by 2025. The Navy is acquiring Eight P8 I Poseidon from the USA. The desired force level of MR aircraft is 16 by 2025 and thus the Navy should look at acquiring more such aircraft on a progressive basis.

44. Strike Aircraft. The strike aircraft fleet of the Navy presently comprises of the Sea Harriers. The Harriers are likely to be phased out by 2015. The first squadron of MiG 29K has been commissioned to augment the strike capability and operate onboard Vikramaditya. The Naval LCAs would replace the Harrier and would operate from the AD ship. The Navy should envisage having four strike squadrons by 2025, two each of LCAs and MiG 29s.

45. Helicopters. The current helicopter fleet of the Navy is ageing and will soon become obsolete. The force structure in 2025 should have at least 24 multi role helicopters and 30 to 36 light utility helicopters.

46. UAVs. UAVs are a major force multiplier. The present strength of the UAVs needs to be increased such that there is a UAV flight in each major naval port by 2025.

CONCLUSION

“ Whoever controls the Indian Ocean dominates Asia. This Ocean is the key to the seven seas. In the 21st century, the destiny of the world would be decided on its waters.”

Alfred Thayer Mahan

47. Modernisation of warfare strategies and techniques, and adoption of technologically advanced concepts are futile exercises if the basic structure of the Navy is not given the timely attention that is due. The creation of a balanced Navy is an essential aspect of any modernisation, and the shortfall has to be made good by the political commitment to a sustained building programme. Assured funding and indigenisation are absolutely essential towards achieving the envisaged force structure. Improving the shipbuilding capabilities of our yards and the developmental capabilities of DRDO are absolutely essential for the Indian Navy to be a force to reckon with by 2025.

48. India is a maritime country and its future lies at sea in more ways than one, not just for ‘ Nuclear Deterrence’ but also for trade, economic prosperity, influence, diplomatic initiatives and a host of other things. Today, more than ever before, India is reaching out, engaging the world, talking to the world and trading with the world. That world lies across the Oceans, not across the Himalayas. To reach that world, to engage that world, to influence that world and to ensure and enhance our security, we need to expand and modernise our Navy. While the Indian Navy has come a long way since independence, and is today steady and on course towards a bright future, the pace of expansion and modernisation needs to be speeded up if it is to

adequately support India's standing in the comity of nations in the twenty first century[12].

(AS Sangha)

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