Indian Naval Development - Need for Review

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A striking feature of the recent Presidential Review of the combined fleets in Bombay harbour was the romance of the Navy, VIP guests and the media with VIRAAT and VIKRANT. During a press conference on the eve of the Review, the Chief of the Naval Staff forecast the presence of the first indigenously constructed aircraft-carrier in a Review in 1998. He was, however, silent over the future size or shape of our submarine and shore-based naval air arms.

There have been articles in the press and naval magazines advocating a multi-carrier Indian Navy. The present Chief seems to be following his predecessor's policy of designing the navy around Carrier Task Groups. The object of this article is to examine against the backdrop of technological and other changes, costs and naval history, the wisdom of the path of naval development.

For the sake of clarity and perspective, it is desirable to look back into history. Designing a major navy in the nineteenth century was a simple task. The unambiguous aim of naval strategy was to acquire colonies, bases, trading rights and preserve them to ensure almost limitless flow of resources. Navies were largely homogenous in that they consisted primarily of surface combatants. Hence Mahan's doctrine of absolute command of the seas through decisive surface feet actions to render enemy surface fleet units as fugitives at sea, fascinated the Chancellories and Admiralities of aspiring naval powers. Navies got designed around battleships and later aircraft carriers. Naval power was measured by counting ships and tonnage. Brilliant performance by low-technology submarines without any support from friendly aircraft and ships, in World Wars I and II and mauling of British aircraft carriers in the relatively restricted waters of Europe and the Mediterranean were indicators of a wind of change in the long-hugged concept of maritime strategy-like no longer fought like. The need for a balanced navy emerged.

As a result of technological revolution, since World War II, in propulsion of ships, submarines and aircraft, electronics, explosives and precision-guided munitions, rules of naval game have undergone a sea-change. The maximum beneficiaries of this technological revolution are submarines and aircraft.

Submarines now run deeper, are more silent and faster with considerably enhanced endurance - almost limitless in case of nuclear propelled variants. They have become extremely difficult to detect - in Indian Ocean region in particular. Like high performance aircraft, they can take swift evasive action in both horizontal and vertical planes. Finally, ability to fire long-range precision guided high speed torpedoes against high-value ships or launch cruise and ballistic missiles against ships and targets deep inland, make them invaluable for accomplishing a wide range of tactical and strategic tasks in the teeth of stiff opposition.

Similarly, aircraft fly faster and further with remarkable manoeuverability for both offense and defence. They can carry a wide range of pay-loads including stand-off, anti-aircraft, anti-ship missiles and anti-submarine depth bombs and torpedoes. Shore-based maritime aircraft are increasingly becoming multi-purpose or capable of quick change of roles.

Developments in naval propulsion technology, data-processing and transfer, technique of computation, communications, Electronic Safety Measures and missiles have undoubtedly enhanced the capabilities of surface combatants. Rotary wing helicopters capable of operating from relatively small platforms like destroyers and frigates, provide valuable support to forces at sea.

Above virtues notwithstanding, surface combatants are constrained - at present level of technology - to operate in a medium contiguous to two other mediums, ie hydrosphere and atmosphere where submarines and aircraft enjoy a decisive edge. Alliance between submarines and aircraft compound the problem of survival of surface ships. Further, due to their distinctive and easily identifiable electro-magnetic, infra-red and accoustic signatures, surface ships can no longer hide in the wide oceans but have become highly detectable by submarines, aircraft and military spy satellites. This increases their vulnerability to detection and attacks by modern submarines and aircraft.

Unemotional and objective study of naval history since World War II, highlights this vulnerability. Whilst Carrier Task Groups carried out their tasks and missions with aplomb in Korea, Suez, Vietnam, Grenada and during Indian naval operations against erstwhile East Pakistan, it needs to be recognised that in all cases, the Carrier Task Groups operated from a virtually sanctuary situation against marginal, if any, opposition from naval or air forces of the target countries.

The Falklands War, 1982 - the only exclusively naval war since World War II - was a different ball game. The war marks a watershed in the

development of navies by demonstrating the vulnerability of Carrier Task Groups and ascendency of modern submarines and shore-based maritime aircraft operating under most trying conditions.

A handful of British submarines - nuclear propelled and diesel-electric - established a maritime exclusive zone 8000 miles away from bases and prevented reinforcement of Argentine Contingent in the Falklands except by C-130s. Sinking of BELGRANO, the Argentine Cruiser by a British nuclear submarine using old torpedoes, resulted in Argentine surface forces including their aircraft carrier sitting out the entire war in the safety of their harbour. Lone Argentine submarine was able to carry out two attacks - unsuccessful because of suspected sabotage by the British - against the British Carrier Task Groups which virtually ran out of its stock of anti-submarine ammunition in frequent attacks against non-submarine contacts. Neither side lost any submarine which, however, profoundly affected the operations and deployment of surface forces.

Inspite of a major strategic blunder by the Argentine Military Junta in not lengthening the Port Stanley airfield for operation by disembarked Argentine naval aircraft, during the long Voyage of the Task Group, Argentine pilots managed to severely maul the British Carrier Group operating at the extreme range of aircraft from the mainland. The British lost two destroyers, 4 frigates, 1 Landing Ship Tank and the giant logistics support ship, the Atlantic Conveyor which had the misfortune of seducing an Exocet missile heading for a British carrier. In addition, 2 destroyers, 14 frigates and 2 Landing Ships were damaged. British losses would have been more fearsome if the bombs delivered by Argentine aircraft were properly armed and Argentine naval aircraft were operating from Port Stanley. Argentine also lost a number of their aircraft to British Sea Harriers, ship launched missiles and gunfire. Perhaps, Argentine aircraft losses could have been considerably less if they had a little more fuel left for evasive manoeuvres and had USA not armed British Sea Harriers with their latest Sidewinder air-to-air missiles.

A major lesson, thus, of naval history since World War II is that whilst Carrier Task Groups are extremely effective against weak coastal powers, their military effectiveness against modern submarines or shore-based high performance aircraft, has sharply declined. While ascendency of modern submarines is well established, it would be unwise to conclude that they do not face credible threat from enemy submarines singly or in alliance with shore-based long-range anti-submarine warfare maritime patrol aircraft. To effectively counter this possible threat, our submarines - nuclear and diesel-

electric - must also operate in close alliance with friendly shore-based aircraft and surface combatants with latest anti-submarine warfare and C^3I capabilities.

Whilst the ultimate test of a navy is its military effectiveness against an enemy, it is also a fact that for the major portion of its existence, a navy is not engaged in combat. Instead, it acts as an instrument of the nation's foreign policy and is called upon to perform a wide range of tasks to serve political ends. Although the efficacy of naval power as the currency for international influence has somewhat declined, it is undeniable that naval power as a force in being, gives the nation considerable flexibility in conduct of foreign relations. Naval power helps the nation to establish its right to be consulted. Peacetime tasks of the navy include rushing aid and comfort to a nation in distress due to national calamities. Rapid sending of such aid becomes a diplomatic asset.

Due to their visibility, endurance, flexibility in deployment, surface combatants are eminently suitable for friendly, flag-showing visits. More awe-inspiring the presence, more vivid is the impression of power in the eyes of the beholder. There is no doubt about the usefulness of battleships, aircraft carriers or cruisers for such ceremonial visits although their military effectiveness has waned. In the context of friendly visits, nuclear submarines are handicapped. They look too menacing and in addition are likely to evoke protests against the supposed incidential dangers to health and safety.

But, flag-showing in an area of tension is quite different from merely ceremonial visits to friendly ports. Such flagshowing may be done by some littoral or extra-regional navies to forestall political or military events in a target state in the Indian Ocean region. To discourage such adventurism aimed at destabilisation, it may be necessary to deploy peace-keeping naval forces which would be credible enough to convey the message of hopelessness of such adventurism by either a littoral state or an extra-regional naval power. Centre-piece of such peace-keeping naval forces would be nuclear submarines.

In modelling a navy for war, peace and peace-time tension, the phenomenon of exponential increase in cost of military equipment including naval, assume extra-ordinary importance for all countries, particularly ours in view of limitation in resources and competitive demands for development. Further, since construction or acquisition cost is only a fraction of the total cost of manning, operating, maintaining, supporting and modernising, a life-cycle cost approach is essential.

Assuming that the aircraft carrier to be built indigenously is medium-sized, ie around 30,000 tons with required speed, endurance and contemporary sensors, point-defence capability, one such aircraft-carrier is unlikely to cost less than Rs 1500 crores at current prices. This carrier will need escort protection in foreseeable future. Although, escorts, no doubt, will have their own offensive capabilities, but as long as they are to operate with the carrier, their primary task will be to protect the carrier Five escorts with requisite capabilities may be expected to cost Rs 2,000 crores at least. Analysis of our naval budget over the past, brings out the fact that currently we spend 50 to 60% of total capital cost of our force level (excluding aircraft) on manning, infrastructure, maintenance support, modernisation etc. Assuming that we improve upon our track-record and reduce our maintenance budget to 40% of acquisition cost, the 30-year life cycle cost - embarked aircraft excluded - of one Carrier Task Group would be around Rs 45,000 crores. Considering its declining military effectiveness, the concept of building our navy around Carrier Task Groups is not economically sound. It is upto the Apex body to decide whether there exist stronger political considerations.

A question is often raised as to how does a carrier-less navy meet the requirements of strike against enemy surface units and air defence. If enemy surface units are encountered within range of shore-based maritime aircraft as in the Falklands War, the task gets effectively solved. Outside the range of shore-based maritime aircraft, modern missile destroyers and frigates with missile carrying helicopters and armed with targeting data from satellite or shore-based long range maritime patrol aircraft, will do the needful. So far as air defence against multi-wave and multi-directional air attacks are concerned, the lesson of Falklands War is that in future conflicts, surface ships should use prudence in selecting their zone of operation. If access to target data from their big brothers via the satellite, are available, dependence on long range maritime patrol aircraft is not critical. Except against saturation air attacks, the anti-aircraft/missile defense - missiles, guns close in weapon systems and passive/active electronic counter-measures of modern destroyers and frigates are quite formidable.

Architecture of our naval forces is critically dependent on our maritime strategy and threats thereto. Maritime strategy stems from Grand National Strategy. Our unambiguous national strategy is to safeguard our Independence, unity and territorial integrity, make Indian Ocean a zone of peace presently threatened by the presence of big power navies with their bases, operating facilities and strategic allies in the Indian Ocean region, and pursue the foreign policy of Panchsheel and non-alignment. Need is, therefore, for a maritime strategy based on the doctrine of non-aggressive but credible de-

fence of our core national interests which include stability and peace in the Indian Ocean region by a balanced navy.

Our maritime defence zone would be two tier and extend to around 1,000 nautical miles from our mainland and/or island territories. Threats in the inner zone of 300 nautical miles can be expected to be from clandestine forces, mines, submarines, shore-based aircraft and Cruise missiles launched from seaward. To ensure effective defence of this contiguous inner zone, the primary need is for shore-based ASM/ASW/ESM/AEW medium range maritime patrol aircraft, shore-based cruise missiles, coastal submarines and ASW/SSM capable patrol craft - the C^3I facilities being provided by maritime operations rooms. In addition, we need specialist ships like minesweepers and vessels for inter-island transportation of men and material.

Main threats in the outer zone would be from submarines - nuclear and diesel-electric, shore-based strike aircraft, multi-purpose medium/long range maritime patrol aircraft and first-rate anti-submarine warfare surface combatants. What Naval forces need are primarily submarines - conventional and nuclear propelled - in close alliance with shore-based multi-purpose long range maritime patrol aircraft and first rate ASW/AMD ships with C^3I capabilities in support of our submarines. Specialist ships for logistic support would be other obvious requirement.

Summing up, technological revolution since World War II has decisively tilted the crucial offense-defence balance in favour of modern submarines which have become the capital ships replacing aircraft carriers. Armed with tropedoes, cruise and or ballistic missiles, they can perform a wide range of tactical and strategic tasks. High performance shore-based maritime aircraft are capable of multiple missions at considerable distance from airfields. In contrast, military effectiveness of aircraft carriers in war and peace time crisis situations had declined sharply. But surface ships with varying combat and specialist profiles perform a wide range of tasks in peace and in war in support of submarines.

In conformity with our unambiguous national objectives and policy, recommended maritime strategy is one of non-aggressive defence through a sensible sufficiency of maritime forces constituting a balanced navy. The message that needs to be conveyed to both littoral and extra-regional powers by this balanced navy is that whilst we have no intention to project power or indulge in gunboat diplomacy, we have the will and capability to safeguard our core national interests which include peace and stability in the region.

In architecturing a balanced navy, cost has become a very important factor. No navy in the world can afford to have the entire range of naval forces. Even excluding the embarked air wing, a Carrier Task Group has become prohibitively costly at a time when its military effectiveness is in the wane. Hence the concept of a balanced navy is to be tempered by cost considerations and hence prioritisation.

Unless political considerations override military and economic considerations, our navy for twenty-first century should be built around modern submarines - conventional and nuclear propelled - in close alliance with shore-based maritime aircraft and a wide range of surface ships with varying combat and specialist profiles.