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# Securing the Barrack: The Logic, Structure and Objectives of India's Naval Expansion

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Ashley J. Tellis

*Editor's note: This is the second in a two-part article. The first part appeared in the Summer 1990 issue of this journal.*

## The Dimensions and Structure of the Indian Naval Expansion

When measured against the summary criteria of the previous paragraphs, it becomes evident that despite the large naval expansion currently underway, the Indian Navy is nowhere near acquiring the true power projection capabilities that its critics often ascribe to it. Nonetheless, this section describes how the Indian Navy is currently in the process of inducting the requisite technologies for the creation of a powerful force instrument possessing both sea control and sea denial capabilities, and able to service the critical, albeit more limited, objectives of maintaining complete defensive peninsular sea command as well as some strong extra-peninsular buffer zones of influence adjacent to the subcontinental barrack. The succeeding section will endorse this contention by exploring how the Indian Navy hopes to formalize a sophisticated operational-tactical schema that updates the British Indian *Fortress Indica* objective of being able to destroy a potential seaborne threat or deny it the freedom to operate in the sea spaces proximate to the Indian mainland.

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**Submarines.** The Indian Navy has operated a submarine force of 8 Soviet Foxtrot-class vessels since 1968, but being bereft of public recognition, operational primacy and, until recently, even flag status (designating it an independent command), the “silent service” came to epitomize the Navy’s traditional neglect of subsurface warfare. This inattention has now vanished, and the decision to increase the size and quality of this arm depicts a serious intent to configure and maintain an autonomous submerged forward defense capability. The Foxtrots, built on the technology of the 1950s, are generally noisy boats now reaching the end of their active life. The replacement decision originally consisted of acquiring both Western and Soviet diesel-electric submarines—a diversification reflecting both political considerations aimed at reducing reliance on a single supplier and operational intentions centered on utilizing the two classes for different tactical missions. Consistent with these goals, the Indian Navy contracted with Howaldtswerke-Deutsche Werft AG for 4 type IKL-1500 boats (two each laid down in Kiel and at Mazagon Docks, Bombay) equipped with a sophisticated Singer-Librascope Submarine Fire Control System Mk. 1, active Krupp Atlas and passive Alcatel DUUX-5 search and attack sonars, and the as-yet-to-be-deployed ultrasophisticated Telefunken AEG 533mm wire-guided conventional torpedo. With high submerged speeds of some 22 knots, a reputation for enhanced silencing and formidable lethality, these boats were principally intended for both melee warfare and high-speed sprints associated with the submarine-to-submarine killer (SSK) missions in antisubmarine warfare (ASW). Simultaneously, 6 Soviet Kilo-class vessels, the only diesel-electrics still manufactured by the Soviet Union, were contracted for as near one-for-one replacements of the 8 Foxtrots, where their bigger size (2,500 tons), larger crews, and conventional unguided type 53-VA 533mm torpedoes, were deemed suitable primarily for the relatively longer ranged but more leisurely patrols associated with antisurface (ASUW) and commerce raider warfare.

On comparing sea trials data for both vessels, however, the original intent gradually appeared to change: “Discovering” that the Kilo-class was actually quieter at submarine-to-submarine combat than the IKL-1500, the Indian Navy began examining the possibility of expanding the Kilo force, while privately expressing disenchantment with the expansion options written into the HDW contract. Although this “disillusionment” was partly related to technical specifications, it appeared to be a bargaining maneuver designed to secure the two additional vessels, with even more sophisticated sensor and weapons packages, at the original price—a deal now embroiled in a domestic procurement scandal involving official corruption and tainted purchase procedures.<sup>1</sup> Although the Indian Auditor General investigating the matter has allegedly provided a “point-by-point demonstration as to how the HDW offer was inferior to that of its competitors,”<sup>2</sup> the Navy has consistently supported acquiring submarines V and VI of the HDW package, even as the

Kilo-class is expanded to a full eight-boat contingent, simply because the vessels' higher self-noise was (correctly) deemed a tolerable tradeoff, given its high, submerged speed. Thus, although the original desire for as many as 8-10 such vessels may not materialize in the near term (thanks to the severe budgetary crunch the armed services face as they enter the nineties),<sup>3</sup> the numbers programmed above will still bequeath the Navy a fourteen-ship flotilla capable of blue-water operations. If past practices are any indication and if adequate spares and support are available, the Foxtrots may be retained on active duty for coastal barrier support operations well beyond 1991, where their relatively high noise would not only complicate an opponent's antisubmarine warfare (ASW) operations in shallow operating areas close to the subcontinent but would also allow the Navy to maintain a large active submarine force of about twenty-two conventional vessels. Since a twenty-five boat flotilla is considered the optimum size for the subsurface fleet, it seems likely that additional Kilo boats will be procured over the longer term.<sup>4</sup> For both pecuniary and operational reasons, this class is slated to become the workhorse of the subsurface arm, and should the Foxtrot class be completely taken off barrier support duty, the number of Kilos would eventually rise to fourteen and possibly even twenty boats.

While the alleged malpractices relating to conventional submarine procurement have yet to be resolved, the Navy has taken its first steps towards acquiring an atomic-powered fleet, by leasing an obsolete, unarmed Charlie I-class nuclear vessel (renamed INS *Chakra*) from the Soviet Union for training purposes. The actual transfer took place early in January 1988 shrouded in official secrecy, with the Chief of Naval Staff revealing barely a month earlier that the Navy was "thinking" about acquiring nuclear submarines (SSNs), while the Indian Ministry of Defence, exploiting domestic ignorance, insisted that the vessel acquired was actually a Victor-class SSN. While the media responded with more speculation about the Charlie's allegedly greater lethality and sophistication compared to that of the Victor, the really significant questions connected with future SSN acquisition generally escaped serious discussion.<sup>5</sup> The INS *Chakra*, diverted from the only Soviet nuclear class built with a single pressurized-water reactor and single propeller shaft and originally deployed as a short-range tactical SLCM carrier, was acquired with the intent of familiarizing the Navy in the operation of the four to six nuclear submarines that the service hopes to acquire by the year 2000. While there are indications that purchasing the nuclear flotilla will not be unduly rushed until manning, operating and safety routines (as well as budgetary constraints) have been satisfactorily ironed out,<sup>6</sup> the continued Soviet production of the Victor III, despite the availability of the follow-on Mike, Sierra, and Akula vessels, gave rise to speculation in both the Western and Indian press that a contingent of this class with modified sensor and weapon packages would be transferred to the Indian Navy at the appropriate time.<sup>7</sup>

While there is little doubt that the Soviet Union has repeatedly offered both the Victor and Sierra-class SSNs for sale, the Indian Navy has thus far consistently declined these offers. Because nuclear submarines are desired (in Indian calculations) for long-range standoff attacks aimed at threatening extra-regional surface forces rather than as surface group escorts or as antisubmarine warfare platforms, the Indian Navy has sought new generation SSGNs, rather than SSNs, conforming to the following characteristics: They must be late generation nuclear boats built in accordance with the hull design and fire-control technologies of, at least, the 1980s; they must deploy large numbers of conventionally armed tactical cruise missiles in dedicated *external* tubes so that the boat's torpedo and other internal tube-launched ASW weapon and mine inventories remain unaffected; they must be capable of utilizing and integrating intelligence and targeting data provided by external sources, like MR aircraft, satellite, or VLF ground stations, in the execution of launch-and-leave attacks; their cruise missile battery itself must possess large warhead size, be capable of underwater launch, and should possess long range and high speed in order to enhance the survival prospects of the (relatively noisy) mother boat and to minimize the mid-course correction required by the missile for successful attack at maximum effective range.

Given such criteria, it appears that the Indian Navy is headed towards the purchase of an Oscar-type SSGN or (if Soviet generosity is matched by Indian solvency) maybe even an Oscar follow-on vessel, since neither the Charlie nor the Echo SSGNs currently meet all the above conditions. SSGNs of the Oscar variety are extremely attractive to the Indian Navy because, even in small numbers, they represent an economical mode of deploying large numbers of long-range tactical cruise missiles. The long range of such missiles, for example the SS-N-19, allow the small submarine flotilla to be randomly dispersed amid large sea areas (possibly even outside the effective range of enemy ASW forces), while simultaneously retaining maximum threat value. Because of their long-range, high-speed, large-yield weapons, the launching vessels—in principle—need not approach their targets along any predictable axis and, so long as reliable targeting data and facilities for mid-course correction exist, their presence alone serves to severely threaten the safety of any opposing surface group, thereby acting as a deterrent. For this reason, if such a transfer does finally take place, the Indian Navy will acquire an enormous increase in disposable firepower that is certain to complicate the operational planning of both local and extra-regional navies by several orders of magnitude. This judgment, however, stands qualified on several counts: First, transfers of any Oscar-type vessel will proceed extremely slowly since no Soviet facility other than the Severodvinsk shipyard is perhaps capable of constructing it. Hence, a full contingent of 4-6 boats may not be available for at least another decade and maybe even longer. If, for political or pecuniary reasons, a Charlie or Papa-class flotilla is opted for, availability

schedules will be eased considerably, but only at the price of decreased capabilities. Second, the kind of missile system transferred with the boat will determine the margins of operational flexibility bequeathed to the Indian Navy, and should the Soviets choose not to part with the best system (SS-N-19) currently deployed, the value of an Oscar-type vessel will be proportionately attenuated. Given the Indian Navy's requirements, the kind of missile battery deployed may be even more critical than the choice of submarine, since the latter is intended more as a weapons carrier than as an autonomous and independently viable weapons system. Third, the various available SSGN-missile battery combinations manifest difficult trade-offs. For example, the Oscar SSGNs armed with SS-N-19s embody heavily concentrated capabilities and long reach, but come at the cost of extreme dependency on fragile external information collectors. On the other hand, the Charlie SSGNs armed with SS-N-7/9s embody less concentrated capabilities, are generally independent of external collectors, but come at the cost of severely diminished reach. Apart from these differences in submarine platforms, the missile batteries themselves—confined to either the SS-N-3-/12/19 or the SS-N-8/9/22 series—offer complex alternatives. The former are essentially supersonic, large-warhead weapons (approximately 2,200+lb. HE) capable of effective destruction at long ranges of about 300nm. However, they generally have high-altitude flight profiles (SS-N-3: 9,000-12,000 ft. and SS-N-12: 30,000 ft.) and rely on external assistance for targeting and mid-course correction, thus making them highly vulnerable to enemy countermeasures and interdiction. In contrast, the latter series are considerably shorter ranged (approximately 35-65nm), possess smaller yields (approximately 1,000 lb. HE), and are generally subsonic (except for the SS-N-22). Their shorter ranges make for lower altitude flight profiles and greater operational autonomy in the launch regime, but these virtues are, predictably, offset by their shorter effective ranges. Each series, therefore, imposes different and unique tactical demands on the Indian SSGN platform, with the combined trade-offs conspiring to offer a choice between battery effectiveness and submarine survival.<sup>8</sup>

Such concerns have obviously preoccupied Indian naval planners for the better part of the last five years, and it has been fully understood that if a Soviet SSGN transfer finally materializes, it would inevitably signify the demise of cherished Indian plans for design and manufacture of indigenous submarine nuclear reactors (including the top-secret ATV project). Although the general consensus appears to be that a speedy foreign acquisition, efficacious both in sniping operations aimed at extra-regional naval squadrons and in blockades against regional fleets, is more valuable than local designs that may never materialize, the long transfer time associated with acquiring a new Oscar or Papa SSGN and the possibility that the missile battery may not finally be the most puissant available, has forced the Navy to adopt a

two-track strategy of continuing the domestic R&D effort already underway while hoping for a financial and technological window of opportunity to open up with respect to quick foreign purchases. Since the mission-effectiveness of a high-quality SSGN has been clearly appreciated (even if the costs are daunting in an Indian context), the Indian Navy is committed to configuring a formidable three-tiered subsurface line-of-battle consisting of 4-6 SSGNs primarily for open-ocean ASUW, directed primarily against extra-regional adversaries, 14 modern diesel-electrics for deep water ASUW/ASW, and finally 8 aging diesels for coastal barrier patrol. The alternate configuration is just as, if not more, potent: 4-6 SSGNs for open ocean ASUW and about 20 modern diesel-electrics for ASW, ASUW, commerce-raiding, as well as coastal barrier operations. Not only is an autonomous submerged forward defense a viable option with these numbers, but as the following section will describe, it becomes part of a formidable outer ring fence aimed at reinforcing the subcontinental barrack from any seaborne threat.

**Naval Aviation.** While subsurface vessels may in fact be the Navy's most puissant weapon, disproportionate attention has been accorded to expansion of the Indian carrier arm, in part, because aircraft carriers are such manifestly visible instruments of sea power. The INS *Vikrant*, the service's flagship and sole aircraft carrier for several decades, has been complemented by INS *Viraat* (formerly HMS *Hermes*), a relatively larger carrier of the *Albion* class which saw extensive action in the Falklands. Both carriers have been structurally refitted with ski jumps, and their sensors, weapons, and propulsion systems have been extensively modernized to support the Sea Harrier, now confirmed as the primary aviation battery. The Navy envisages the present carriers as stopgap vessels, helping to maintain the continuity of its navair traditions, until a third indigenously designed 30,000-ton carrier to be laid down at the Cochin Shipyard comes on line in the late 1990s.<sup>9</sup> Based on the capability of that design, a final decision with respect to imports will be made, the ultimate objective being the maintenance of a five-carrier force so that at least three vessels can be deployed on a continual basis.<sup>10</sup> Indigenous production, however, is presently the avowed objective, and toward that end, the French General Armaments Delegation's Naval Construction Direction in Paris was recently awarded a consultancy contract to help the Indian Navy design its new vessel.<sup>11</sup> Without doubt, both the decision to acquire additional carriers and the choice of the Sea Harrier as primary aviation battery have been very controversial, largely because these choices have been perceived as more consistent with bureaucratic desires to continue a tradition long maintained than with the predicates of a coherent, publicly articulated, and clearly understood strategy. Further, the tactical and operational critiques, largely connected with the carrier's utility against India's principal adversaries and the Sea Harrier's efficacy in the principal theaters of

operations, have also prominently figured in the Indian carrier debate, thus resulting in the enunciation of a sharply reduced set of carrier dominant missions.<sup>12</sup>

Indian naval spokesmen have now explicitly confirmed that the decision to indigenously manufacture a third V/STOL (?) carrier implies that ASW, presence, escort, and local patrol, rather than genuine sea command and power projection requirements, are the dominant operational rationales for perpetuating this class.<sup>13</sup> In this conception, the carrier battle group (CVBG) is expected to establish limited sea control around specific nodes of operation and to provide air cover for those high value surface combatants functioning as second-line defenses within the seaborne ring fence. Although the Indian Air Force (IAF) has always considered such capabilities an avoidable extravagance, these investments were nonetheless justified by the naval argument that organic naval air capabilities would be the primary form of at-sea air support, given that the Air Force could not be counted upon to provide fleet air cover in view of its own landward preoccupations during intense future conflicts. Moreover, organic afloat-air could always be considered a synergistic complement to the large investment in land-based aviation already underway, especially since program finances were now committed. It is evident, however, that the Navy has recognized that V/STOL aviation of the kind currently employed will not satisfy Indian operational needs in the decades ahead. Very interestingly, therefore, the design contract for the new carrier includes studies for both conventional steam catapult and ski jump configurations, and the Navy is already considering navalized versions of both the indigenous Light Combat Aircraft (LCA) and the Soviet MiG-29 for future deployment on board the new carrier.<sup>14</sup> Which particular carrier design is finally opted for will thus be determined by a complex function of overall program costs, the availability of combat aircraft for carriers in this weight class, and the specific strategic and operational objectives of Indian naval planning at the turn of the century, but it appears that the Indian Navy is slowly veering towards the belief that only large-deck CTOL carriers will be appropriate as next-generation replacements.

Altogether, the present expansion of naval aviation has resulted in the creation of a fairly large force of influence: Organic air capabilities presently include an attack-interceptor force of 26 Sea Harriers capable of employing a variety of conventional and guided ordnance (including Sea Eagle SSMs), and 35 Westland-Sirkosky ASW Sea King MK 42s (also capable of hosting Sea Eagle SSMs as well as other ASW ordnance), distributed over the two carriers and other land bases. Since rotary assets often share berths on board several other surface combatants, like the *Leander/Godavari* frigates, this force is slated to acquire 20 additional Sea Kings in the near term so that a minimum five-rotary craft contingent can always be maintained aboard each carrier. The induction of a third *Viraat*-sized carrier suggests that Sea Harrier strength



will eventually rise to approximately 60 aircraft (if the V/STOL option is exercised), but as carrier acquisitions increase over the long term, an even larger force of some 80 aircraft will be required especially if a simultaneous three-carrier deployment at full battle complement is aimed for. When expansion of the surface fleet with additional indigenous and Soviet boats is accounted for, the Sea King inventory will also rise to similar levels (including possibly 6+AEW Sea Kings),<sup>15</sup> as will the number of Soviet rotary airframes, currently consisting of some 23 Ka-25/28s deployed aboard the Soviet imports.

The growth of the Navy's land-based aviation capabilities has been equally impressive in recent years, with significant investments taking place both in equipment and in basing facilities. The Navy's maritime reconnaissance (MRA) workhorses currently consist of two squadrons of 3 Soviet Il-38 Mays and 5 TU-142s (Bear-F) employed exclusively in the long-range patrol regime. The new TU-142s, scheduled to reach an 8-12 aircraft squadron size, will extend the Navy's surveillance envelope—already reaching well beyond the Persian Gulf in the west and the Straits of Malacca in the east—to the far reaches of the Southern Indian Ocean along an arc tangential to the Madagascar-Tropic of Capricorn-North Australian Basin. They will also bring a new level of effectiveness to the long-range ASW mission: Carrying a comprehensive sensor suite, large number of sonobuoys, and heavy weapons payload, these aircraft make possible a fully autonomous "saturation-search" hunter-killer capability that the Il-38 Mays presently lack. For missions closer to the Indian coastline, the 36 Dornier Do-228 MR aircraft, to be armed with the Sea Skua-Super Searcher missile-radar combination, are complemented by an assortment of 18 BN-2 Defenders, thus assuring complete oversight of the nation's coastline and contiguous waters. Complementing these diverse aircraft purchases, the Indian Navy has already embarked on a large-scale acquisition of British and new-generation Soviet long-range air and surface-launched tactical cruise missiles (ASM/SSM), which are expected to be widely proliferated across all classes of Navy and Air Force aircraft. These weapons will not only enhance the effectiveness of the deterrent forces presently maintained by orders of magnitude, but they will also bequeath the Navy the massed fire capability it has always desired but never possessed before. In time, it may also pave the way for a dedicated contingent of long-range, land-based, all-weather attack aircraft, a capability the fleet sorely lacks in spite of being judged desirable by several civilian and uniformed analysts.<sup>16</sup>

**Surface Vessels.** While it is generally envisaged that the deployment of aircraft carriers brings in its wake the necessity for fully capable anti-air and antisubmarine escorts, Indian naval planning has by and large deviated from the received wisdom. The Navy has stressed the availability of multipurpose

warships carrying a mix of weaponry Soviet-style, rather than the highly specialized platforms common to Western navies. As a result, all carrier escorts are generally multipurpose ships, except for an odd vessel like the *Leander*. This tendency, while not very conspicuous in the early 1970s, has almost become the norm in this decade and clearly suggests the Navy's continued desire to acquire only those surface ships capable of operating independently or in tactically matched pairs. Thus, the surface elements of the fleet will remain cherished weapons irrespective of the presence or absence of the carriers.

The 8 Soviet Petya-class ASW frigates, the 2 British *Leopard*-class gun escorts, the 2 British *Whitby* frigates (1 in reserve), and the 6 indigenously license-produced British *Leander*-class open-ocean ASW frigates, presently constitute the major remnants of the Indian surface arm maintained throughout the 1970s. The weapon and sensor suites of the *Leanders* have been extensively refurbished with Canadian-produced Westinghouse sonar technology both in hull-mounted and variable-depth arrays, as have the *Whitby*-class vessels with new Soviet missile suites and Alouette helicopters. While the rest are essentially maintained as second-line vessels due for eventual replacement, the Indian Navy, in an ambitious redesign of the *Leander*, has added 3 *Godavari*-class frigates with surface-to-surface, surface-to-air, and surface-to-subsurface weaponry (including two Sea King helicopters), to its first-line squadrons. These ships were originally planned as a large class of 6-8 multipurpose boats with the "tailenders" integrating American-produced LM-2500 gas-turbine technology and Soviet and European weapons/sensor suites into an Indian hull, but the project has now been terminated in favor of a larger and heavier *Godavari*-class follow-on frigate which, on current plans, will be constructed at the Mazagon Docks in Bombay.<sup>17</sup>

The propensity to integrate multinational systems into a single hull, carried out rather successfully thus far on the *Godavari* frigates, has not yet extended to the destroyer force, although that is certain to change with the advent of the Project-15 destroyers contemplated for the 1990s. As currently envisaged, the Project-15 class will function as the main surface combatant of the fleet. Built to a Dutch NEVESBU design, it will have CODAG propulsion integrating both American LM-2500 gas-turbines and Soviet MTU diesels, deploy Dutch, Indian and Soviet radars and sonar suites directing a Soviet SSM-SAM battery, and carry 2 British Sea King helicopters. Until the advent of this "multinational" ship, the Navy's destroyer squadrons will remain composed of the successfully modified Kashin class, which is currently expected to peak at a 6-8 vessel strength. The heavily armed Kashins are employed as front-line carrier escorts, given that the Navy has finally decided to forego the contemplated acquisition of the modified Kresta IIs.<sup>18</sup> The general object of these modifications has been replacement of the original

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Soviet-design ASW orientation with a balanced multiweapon load emphasizing antisurface (ASUW) and antiair warfare (AAW) capabilities. In line with this tactical reasoning, the Navy has seriously considered the procurement of a 6-8 vessel follow-on contingent of either the modified *Udaloy* or *Sovremennyy*-class destroyers during the next defense plan beginning 1990. These vessels, with almost double the displacement of the Kashins, will carry an enhanced SSM load, will possess greater endurance and range, and will bequeath qualitatively different levels of force technology, including much needed gunfire support, to the Indian Navy.<sup>19</sup> Berthing difficulties at Indian ports are currently the principal technical problem hindering their purchase (a situation destined to change when the Karwar naval base becomes operational), but should the Navy eventually decide against these inductions as well, the fallback option consists of acquiring a substitute 6-8 boat flotilla of modified-Kashins or modified Project-15s with even more sophisticated weapon and sensor suites than are currently deployed or envisaged. When combined with the 10-12 original Project-15 destroyers scheduled to be ultimately produced (6 as replacements for the *Leanders*), these acquisitions will enable the Navy to maintain a decent force of some 28-40 modern, first-line surface combatants (besides the 3 *Godavari* and 6 *Leander* frigates) well into the 21st century. This force size, however, still falls short of the naval requirement of 45 first-line surface vessels to be notionally shared among three carrier flotillas, and which may be combined to form a variety of task forces as are appropriately required.

In addition to the attention lavished on these open-ocean capital vessels, several smaller programs have also been initiated with an eye to maintaining requisite numbers of heavily armed coastal patrol boats. This force presently consists of 3 Soviet Nanuchka IIs, armed with both SSMs and SAMs, 14 SSM-armed Osa I & IIs, together with 14 assorted gun-armed coastal patrol vessels. The Nanuchkas, which have few real equivalents in the West, are reportedly boats with poor sea-keeping qualities, but the Indian Navy finds the combination of heavy armament, small hulls, high speeds, and minuscule crews a very cost-effective choice for patrols over a lengthy coastline— attractive qualities the service hopes to retain by switching over to the modified Tarantul (3 already in service) during the next decade. Future plans include the purchase of 3 additional Nanuchkas, possibly as many as 24 Tarantuls (some replacing the current missile-equipped light forces and scheduled for licensed manufacture at the Mazagon Docks in Bombay, and in Goa), and the construction of as many as 32 indigenously designed DP 25 *Khukri*-class light frigates/corvettes for both ASW (16) and AAW (16) missions. This indigenously manufactured class of heavily gunned-and missile-armed vessels (2-57mm, 2-30mm, 4 SS-N-2c SSMs, multiple SA-N-5 SAMs) capable of speeds in the 30kt class and helicopter-armed, will be deployed in tactically matched pairs and employed primarily for harbor patrol,

surveillance of offshore installations, and other general purpose duties like ensuring the security of coastal commerce and surveillance of the Exclusive Economic Zone (EEZ). The first batch of 8 such vessels is already under construction in Bombay and Calcutta. Two other programs, one involving induction of the Pauk-class antisubmarine corvettes (common Tarantul hull and projected replacement for the Petya-class ASW vessel), and the other involving the production of a light (1800-ton) *Tacoma*-class offshore patrol frigate (which may be shared with the Coast Guard), are also being currently finalized.

***Amphibious and Auxiliary Forces.*** Not having had any blue-water aspirations until recently, the Indian Navy traditionally did not emphasize those amphibious capabilities generally understood to be at the cutting edge of any viable power projection force. The single amphibious mission undertaken along the East Pakistani coast during the 1971 war was a rank disaster, and although several amphibious exercises have been conducted during the last decade, Indian amphibious forces are not the most puissant tools of its defense policy. In part, the problems are structural: the Army furnishes the troops while the Navy provides the sealift, an arrangement taxing the traditionally poor coordination between the two services; the geographic threat environment itself precludes the serious employment of amphibious troops in anger, which relegates them at best to occasional peacekeeping duties that may come their way; the landing ships possessed by the Navy, currently consisting of 18 vessels (of which the 9 Polish *Polnocny*s and 2 British-inspired *Sir Lancelot*-class *Magar* LSTs are the most capable), have until recently barely sufficed to move battalion-sized units; and lastly, the poor gunfire support capabilities in the fleet are only partially compensated by the notionally available carrier air cover. Amphibious forces have thus been the neglected dimension of Indian naval development. Even today, the small available force of 1,000 Marines is largely trained for protection of the various offshore installations, in addition to their one major present deployment at the Fortress Andaman and Nicobar island (FORTAN). Given the expected need to fortify other Indian offshore bases like those in the Lakshadweep islands and in the Gulf of Mannar, plans for the expansion of the *Polnocny* flotilla by at least 4 additional vessels and the creation of an entire class of possibly 8 *Magar*-class ships, together with enhanced training of amphibious units, will result in meeting the ambitious objective of being able to transport two tank brigade-sized elements with full supporting arms anywhere in the Indian Ocean—a development strongly conditioned by the desire to be able to respond to requests for aid from any of the island states in the Indian Ocean where a substantial Indian diaspora exists.<sup>20</sup> Although such a force size suggests that the amphibious arm may become a potent power projection and coercion instrument in the near future, a closer scrutiny of these elements

suggests otherwise. As currently conceived, the brigades are not expected to specialize in forcible entry operations, will not possess the equipment required for over-the-beach assault of heavily defended positions, cannot expect sustained supporting fires from either land-based or organic aviation or from escorting surface vessels, and most importantly, are not doctrinally tasked to achieve the high morale, self-confidence, familiarity with unknown terrain, and sheer speed, rapidity, and continuity of assault required by amphibious forces for the forcible entry mission.<sup>21</sup> Hence, the force will be equipped principally for independent defense of isolated bases with some special operations capability, with intervention capacity premised exclusively on the assumption of benign or solicited entry. These amphibious forces will, therefore, for all practical purposes be specialized in positional rather than in maneuver warfare, a character consistent more with the extended defense of a barrack than with a genuine power projection mentality.

Auxiliary forces that include minehunters, support vessels, transports, and replenishment vessels constitute the last element of the Indian modernization. The trouble caused by Pakistani mines during the 1971 conflict has had a salutary effect on the Navy's mine countermeasures plans. Current capabilities rest largely in the highly successful 12 Soviet *Natya*-class aluminum alloy-hulled ocean minesweepers, the 6 fiberglass-hulled *Yevgenya* inshore minesweeping boats (6 more expected), and the 4 British *Ham* vessels. This mine warfare fleet is expected to reach a 40-vessel size (all classes) eventually, once the new Soviet or European fiberglass-hulled minehunters (10) are inducted. Offensive mine warfare hitherto has not been emphasized in Indian naval planning, despite the fact that all Indian submarines have a deep minelaying capability. This deemphasis, however, is certain to be rectified given the Navy's intent to mount intense offensive campaigns against regional threats as well as to contest the crucial entrances in the eastern Indian Ocean and the broad approaches in the West in times of conflict. That its primary supplier, the Soviet Union, maintains the world's largest mine stockpile and minelaying capabilities also augurs well for the future expansion of this arm.

Two other subsidiary elements of the naval buildup that should not be excluded from consideration are the diverse variety of support vessels under indigenous construction and the buildup of the Indian Coast Guard. The impressive *Shakti*-class underway replenishment vessels, together with the assorted *Pradhayak* support tankers and *Midhur*-class troop transports, are expected to provide the fleet with greater at-sea operating time and greater operational autonomy. A special squadron of 18 *Sandhayak*-class naval hydrographic ships will also be acquired by the turn of the century.<sup>22</sup> Should circumstances demand, the 800-odd vessels of the Indian merchant marine and the large pool of trained Indian seamen can also be requisitioned for a variety of wartime transport tasks, but the service's dedicated acquisitions

should suffice for most requirements presently conceived. Although the Coast Guard has been operated as a separate service since 1978, it maintains close coordination with the Indian Navy and in times of conflict will be responsible for the patrol of both territorial waters and the Exclusive Economic Zone. Currently consisting of some 40 vessels of various tonnages, the service is expected to possess close to 100 vessels by the end of the century together with a supporting air element of some 50 fixed-wing aircraft and helicopters.<sup>23</sup>

**Facilities and Bases.** Any naval growth, unaccompanied by the creation of support facilities and bases capable of sustaining fleet movements in a particular theater of operations, will ultimately be transformed into a brittle expansion that severely impedes deployment and retards operations. In this instance, at least, whatever India lacks in resources, it more than makes up in geography: The peninsular character of the subcontinent results in a huge promontory jutting forth into the Indian Ocean. This geophysical feature not only transforms the Indian landmass into a gigantic aircraft carrier positioned permanently athwart some of the busiest sea-lanes in the world, but also places all the sea zones of vital interest (and 50 percent of the ocean's waters in the east, west, and south) within a bare 900 miles of the Indian coastline. With a view to maximizing these benefits of geography, Indian naval planners have over the years constructed a series of heavily fortified facilities and bases, capable of supporting all the surface, subsurface and airborne elements of the fleet configured to operate within the various ring fences radiating outward of the peninsular periphery.

The western coastline at its northern extremity is dominated by the gigantic naval facility at Bombay, which headquarters the fleet's Western Naval Command and hosts most of the Navy's western force elements, including the HDW submarine flotilla. Besides the shipbuilding and repair facilities at the two dry berths at Mazagon Docks, Bombay possesses a set of excellent airfields available for naval use should that become necessary. Roughly midway along the shoreline, the state of Goa hosts the key base, INS Hansa, supporting the Navy's navair and maritime patrol operations in the southern Indian Ocean and the Persian Gulf. And over the next decade, the port of Karwar, just south of Goa, is to be developed into Asia's largest naval facility (INS Sea Bird) capable of berthing and dry-docking both surface and subsurface forces. Not only will this considerably ease congestion at Bombay Harbor, it will also allow the major fleet strike elements to deploy out of a facility closer to their operating areas in the Arabian Sea and southern Indian Ocean.<sup>24</sup> Tracing the line still further south, the seven minor naval facilities in the offshore island chain of Lakshadweep, currently hosting patrol craft, will be further fortified, possibly even with an airfield and a squadron of strike aircraft. The last major southern facility, Cochin, houses the headquarters of the Navy's Southern Command, currently overseeing all training

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establishments in the country, in addition to hosting several auxiliary fleet air elements at INS Vendurthy. The base repair facilities at Cochin are currently in the midst of augmentation and this facility—slated to acquire an operational role with the homeporting of the third aircraft carrier—will only grow in importance as the offshore facilities along the southwestern seaboard are refurbished over the next decade.

The Eastern Command, hosting the bulk of the Navy's "Red Fleet," is headquartered at Vishakhapatnam, roughly midway along the eastern coastline. Vishakhapatnam hosts gigantic repair facilities for the overhaul of the Navy's Soviet-supplied equipment and has a large airfield in addition to supporting the entire Soviet supplied subsurface fleet at INS Virbahu. Since the Navy maintains a general policy of segregating the Soviet equipment and the personnel operating it from the Western elements of the fleet, Vishakhapatnam will grow in size and density as more Soviet equipment is acquired, even though the port itself has lost the strategic location it enjoyed two decades ago. Offshore, the Andaman and Nicobar Islands, operated as a fortress under joint service command (FORTAN), hosts one of the Navy's largest bases at their capital, Port Blair, with surface vessels, a floating dock, an airborne strike component consisting of 18 Jaguar maritime attack aircraft at INS Utkrosh, and amphibious elements, thus transforming the FORTAN into a fulcrum of control over access to the eastern entrances of the Indian Ocean.<sup>25</sup> Besides these major bases, the minor naval facilities at Madras and Calcutta may also be mentioned, but the critical constellation of new naval installations at the southeastern periphery of the peninsula in Tamil Nadu (including the vital VLF submarine communications facility now completed at Vijaynarayanam, the new air station at Ramanathapuram and the major airfield at Arakkonam, which is expected to have the longest runway in the country and host some of the Bear-F MR aircraft), will result in a fortified axis running along the open mouth of the Bay of Bengal (roughly at 10° 0' N and between 80° 0' E and 100° 0' E) where the main surface elements of the new naval ring fence will operate. All in all, the Navy has undertaken an immense infrastructural effort at constructing a variety of fortified facilities along the entire peninsular periphery, capable of supporting all elements of a naval force in very close proximity to their theaters of operations—an advantage similarly enjoyed by just a few other small, mainly island, states.

### Exploring Indian Naval Employment Strategies

Reviewing the structure and dimensions of the Indian Navy's expansion leaves little doubt as to its comprehensiveness and balance. Since its pattern of growth has been delineated, the force employment strategies predicated by its present objectives and current capabilities can be inferred and specified.

Given that the Indian fleet can be appropriately classified as a regional navy at the present state of its evolution and will inevitably be transformed into a nascent blue-water fleet by the end of the century, its war plans—designed to meet the operational objective of maintaining zones of dominant naval influence—are inevitably a product of two specific considerations. The first and primary consideration involves the geopolitical requirement of fortifying the southern ring fence in line with the eidetic security model of a barrack, bequeathed by British Indian security administrators and, for a long time now, the leitmotif beneath all Indian security planning. The second derivative consideration implies that the resulting force structure will be tailored to sustaining two antinomic naval postures: On one hand, this includes a “sea control” orientation whereby the Navy can enforce the complete denial of access routes available to its regional competitors like Pakistan, Bangladesh, Sri Lanka, Burma, and Indonesia,<sup>26</sup> and maintain complete control over their contiguous sea zones through which it can bring overwhelming naval power to bear on them either in a coercive or a supportive mode. On the other hand, it seeks to configure a “sea denial” orientation where, despite lacking the capability to destroy extra-regional fleets, it can inflict a level of damage that is disproportionate relative to the political gains sought by an alien power and so can utilize these perceptions to deter extra-regional application of naval power in the first place. Which extra-regional powers are precisely targeted in Indian naval thinking has never been satisfactorily specified, but several senior spokesmen have identified South Africa, Iran, Malaysia, Australia, and China, besides the two superpowers, as potential threats.<sup>27</sup> Thus, refurbishing the oceanic ring fence implies operationalizing two distinct kinds of naval strategy and the mission planning predicated by each of them can now be described in turn.

Dealing with regional adversaries, the Navy believes, requires a surfeit of force carefully massed and critically concentrated upon certain strategic nodes which, if pulverized with incessant application of naval and air power, will soon collapse, leading to a dissipation of the threat. This methodology of achieving “sea control” has led to the creating of flotillas with massed firepower, largely in the form of surface-to-surface missilery, and large numbers of Air Force-operated deep-penetration strike aircraft. These instruments will be synergistically applied against any threat emanating from within the Indian Ocean littoral. In practice, this means that Pakistani, Bangladeshi, Sri Lankan, Burmese, and Indonesian targets will be subject (if conflict occurs) to attrition-doses of naval firepower delivered through surface, subsurface, and naval-air forces. All three modes of firepower delivery are expected to be very successful against local combatants, but the high risk of using carrier aviation against Pakistani coastal targets suggests that organic navair elements may not be pressed directly into the seaborne offensive against that country.<sup>28</sup>



As a result, a combined-arms approach has been carefully developed to contain any future Pakistani threat and in practice will be executed in a combination of the following ways: (1) by destroying the Pakistani Navy at sea; (2) by blockading the Pakistani Navy at its bases; (3) by destroying the Pakistani Navy at its bases, and (4) by destroying key installations with naval air forces.<sup>29</sup> The "spectacular" 1971 Karachi raid exemplified options (3) and (4), yet in tactical terms was a fortuitous victory that is impossible to replicate in identical ways. Its success was entirely due to Pakistan's lack of MR aircraft capable of warning of Indian intruders and the ability of the Indian Air Force to simultaneously draw the firepower of the Pakistani Air Force, thus allowing the naval strike elements a free hand at Karachi Harbor. Further, confusion in the C<sup>3</sup> chain in the aftermath of the IAF's suppressive fire, coupled with Pakistan's lack of accurate cruise missilery, resulted in the exfiltrating Indian naval units escaping Pakistani retaliatory fire. Since the new Pakistani long-range MRA platforms, like the Atlantique and Orion, are capable of independently launching both Harpoon and Exocet cruise missiles, as well as providing over-the-horizon targeting data links for long-range external air, surface and subsurface launches of these munitions, they function essentially as a formidable deterrent to any visible Indian naval intrusion. The possible acquisition of some AEW&C aircraft in the future, like the Hawkeye or the Sentry, only further assists the dedicated Pakistani defenses in achieving this task.<sup>30</sup> As a result of this effective Pakistani fortification with new naval and aviation strike platforms, a purposeful, unified Indian Navy-Air Force strategy for tridimensional attack has been devised to sanitize these evolving deterrents.

At the subsurface level, the Indian Navy's large submarine force will be pressed into mounting a forward submerged blockade around the major Pakistani naval base at Karachi and at the smaller facilities at Gwader, Pasni and Rasomarah. While land-based Indian navair elements are expected to intensively mine the major shipping channels linking these bases, a submarine flotilla consisting of SSGN and Kilo-class boats will maintain an offensive sea-patrol cordon between 30-100 miles from these ports, attempting to destroy all surface combatants and merchant shipping operating amidst the vicinity. Simultaneously, the HDW boats are expected to engage in antisubmarine killer operations with the intent of destroying the cruise-missile equipped *Daphne* and *Agosta*-class Pakistani submarines which, if allowed to break out of the blockade perimeter into the open ocean, would place at severe risk all Indian surface combatants, including the CVBGs, operating in the Arabian Sea. Since Pakistan intends to expand its subsurface fleet with additional diesel-electric boats (possibly Romeo-class vessels from China), the ASW efforts of the patrolling Indian HDWs (and their airborne companions, the carrier-based Sea King Mk. 42s and the land-based Il-38s/TU-142s operating further out at sea) are likely to become only more urgent. While

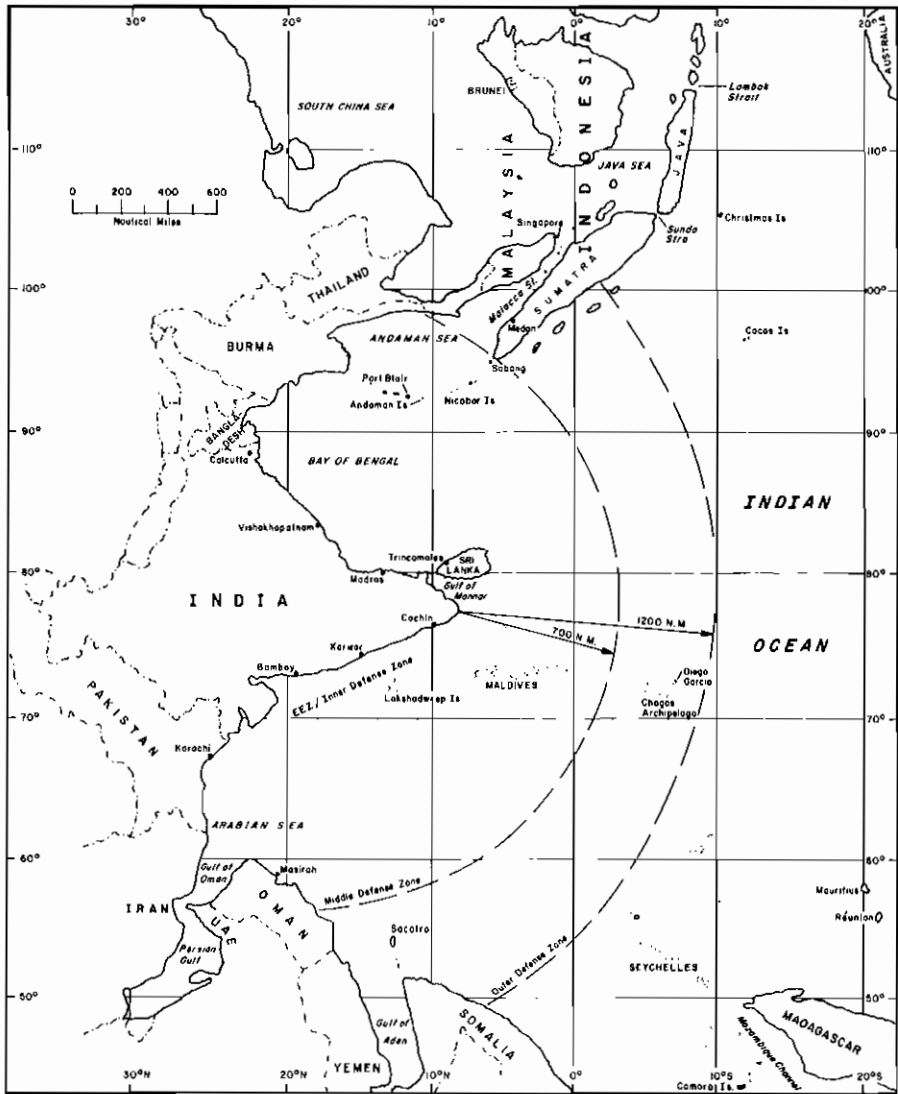
the subsurface elements wage intense antisubmarine and antisurface warfare in the waters proximate to the Pakistani coastline (option 2), the Indian CVBGs on combat station about 300 miles further out (approximately 22° 0' N and 65° 0' E) and operating at the extreme range of the two dedicated Pakistani land-based Mirage III/V attack squadrons, are expected to launch their Sea Harrier combat air patrols to aggressively search and destroy those Pakistani MRA platforms on reconnaissance-in-force, surveillance and other tattletale missions (and to safeguard their own heliborne ASW patrols), in order to afford a measure of protection to both Indian submarines operating off the coast as well as to other surface combatants cruising around the aircraft carrier itself.

Since the Pakistani surface fleet will in all probability be withheld from open ocean surface combat, given the gargantuan Indian superiority in this area of operations, the Indian Air Force (IAF) is tasked with sanitizing all Pakistani naval and air installations, dockyards, ports, airfields and other receptacles capable of offering surface vessels and air elements any succor in wartime<sup>31</sup> (options 3 & 4). Intense IAF operations of the kind never before witnessed in any subcontinental conflict, and involving up to 1,500 sorties a day with ordnance drops of about 100,000 lbs. per attack mission are intended to suppress Pakistani naval and Air Force reconnaissance, counterair and strike activity long enough to inflict permanent injury on all Pakistani naval facilities—thus forcing those surviving surface combatants to break out to open sea where they will be systematically ambushed by lurking Indian submarines, interdicted by roving ASW-equipped Sea Harriers, or destroyed by Indian surface elements in a running naval battle where the latter's superior, massed missilery may be brought to bear (option 1). This unified war plan against Pakistan (and, *mutatis mutandis*, against all other regional adversaries) is thus premised on applying attrition doses of firepower in order to trap an enemy fleet with a pincer movement whereby it is confronted with certain death irrespective of whether it chooses to escape or to engage in combat.<sup>32</sup>

Very obviously, such a strategy premised on the direct application of dramatic force is unlikely to lead to very salutary results when directed against an extra-regional flotilla operating in the Indian Ocean. For one thing, the strike intensities embodied by extra-regional fleets are enormous and any attrition strategy will only redound to the disadvantage of the Indian Navy. Even if it is in fact able to engage and best an extra-regional naval squadron, the force reserves, both conventional and otherwise, possessed by these powers are phenomenal and, hence, an attrition approach playing right into extra-regional strengths is not contemplated.<sup>33</sup> In this instance, the primary Indian naval objective is to exploit the political effects of sea power to impact upon the realm of an adversary's perceptions. By building up a combined air and subsurface strike force, together with corollary elements consisting of

heavily armed surface units operating around V/STOL-equipped carriers, the Navy intends to configure a formidable, concentric ring fence of layered defenses sufficient to obstruct any marauding superpower fleet attempting to penetrate it. Although all such force planning is very clearly situation-dependent, the baseline scenario involving such force employment *in extremis* is the assumption that an intense subcontinental war has provoked a show of extra-regional force, clearly dispatched with the intention of being committed in anger against Indian interests. Such scenarios, vaguely resembling the mission of the U.S.S. *Enterprise* during the 1971 war, then become not only the hypothetical baseline for naval mission planning but also the best heuristic device explaining how the Indian Navy intends to preserve a naval zone of dominant influence insulating the country and the power centers within it from any extra-regional coercion.<sup>34</sup> What is critical to this conception of deterrence is that a “sea denial” strategy, calling for the control of certain specified sea areas to forestall extra-regional naval intrusions, is operationalized by means of an extended “citadel” type defense constructed as far out to sea as possible. This is expected to confer sufficient protection should circumstances deteriorate to the point where armed force is actually committed against the Indian state.<sup>35</sup>

Towards this end, a ring fence consisting of three concentric defense hemispheres, radiating outward of the Indian peninsular promontory and divided into eastern and western approaches along the Bombay-Trincomalee-Cocos Islands axis, can be postulated as the arterial foundation of the citadel strategy. The outermost zone running across both approaches would be patrolled principally by the Indian subsurface force in conjunction with TU-142 Bear MR aircraft, providing both surveillance and targeting data relating to all extra-regional naval movement in these sectors. Because both geography and depth of the eastern approach differ considerably from that in the west, the naval strategy utilized in both directions, while identical in intent, are operationalized somewhat differently. Since the entrances to the eastern Indian Ocean are defined primarily by the chokepoints at the Straits of Malacca and the Sunda and Lombok Straits, the Navy anticipates that a mixed squadron of HDW and Kilo diesel-electric submarines (SSK) using a combination of mines, torpedoes and tactical SLCMs will suffice to block the critical nodes of ingress any intruding flotilla might use from the east. These diesel-electric boats, working in tactically matched pairs, utilizing passive sonar regimes, and considerably quieter than the SSN escorts they may encounter, are lethal weapons, especially when used as chokepoint barriers. In such missions, C<sup>3</sup> difficulties are negligible, low-submerged speeds and attenuated acoustic signatures are an advantage, and if anything, such squadrons will be better prepared for the demands of melee warfare given the proximity of their operating areas to friendly tactical support and



the greater in-area expertise acquired by constant training around the ambush area itself.

Those vessels surviving this subsurface cordon and breaking out into the southern Bay of Bengal past the Java Trench would be relentlessly engaged by ASM-equipped strike aircraft, primarily the Anglo-French Jaguar operating out of the air bases at the Andaman and Nicobar Islands, as well as by those MRA and strike aircraft redeployed out of the new airbases at Ramnad, Arakkonam and Ramanathapuram, adjacent to the Gulf of Mannar.

This air offensive would be accompanied by SSM strikes launched from both frontline surface combatants like the Kashin and *Godavari*, as well as by the smaller, but equally potent, attack vessels like the Tarantul, Nanuchka and *Khukri*, sortieing out of both the FORTAN and Vishakhapatnam. These surface attacks would be supported, if possible, by organic navair assets providing local air superiority in the region just northwest of the upper extremity of the Ninety-East Ridge, and augmenting that already maintained by land-based Air Force Mig-21s and Mig-23s scheduled to be deployed to the island airfields in an emergency. Even closer to the Indian coastline, the remnants of the intruding surface group would encounter both the full weight of the modern and extremely capable Indian Air Force as well as second-line naval assets consisting of numerous corvettes and missile patrol craft which, deploying lethal weapon packages on small inexpensive hulls, are capable of high speeds, intense maneuverability, and stunning surprise—often permitting successful attack before the defensive systems can even react. All in all, a combined arms response of this kind, utilizing relentless tridimensional offensives against any intruding fleets ingressing via the eastern entrances of the Indian Ocean, appears certain to meet with reasonable success, in large part because all Indian armed services can bring to bear heavy and concentrated firepower from diverse sources on a small, undispersed target set operating within an essentially enclosed water basin.

While the eastern approaches to the Indian Ocean can thus be easily secured thanks to India's privileged position athwart the chokepoints of ingress and egress, the western and southern approaches offer no such advantage. Yet, because approaches through this direction lie essentially within an open ocean funnel of great depth, the mobile barrier defenses that the Indian Navy expects to configure in this region best depict the contours of a unified citadel defense. As described earlier, the long-range TU-142 MR aircraft, together with a set of widely dispersed nuclear and diesel-electric submarines, will form the outermost cordon along an arc traced 1,200nm away from the southern tip of the Indian subcontinent and running roughly parallel but approximately 300 miles ahead of the Carlsberg Ridge in the west. This allows surveillance of the American installations at Diego Garcia as well as providing targeting information about any vessels sortieing out of the facility or emerging from amidst the vicinity of the Chagos Archipelago or the Mozambique Channel. At these distances, the nuclear submarine flotilla assigned to a *maneuvering* patrol regime will use its high submerged speeds and almost indefinite endurance for the high-speed sprints required to intercept the fast moving formations identified or already engaged by the roving Bears and Mays assigned to patrol quadrants of expected attack. Although the Indian submarine force has traditionally been employed in a lone wolf regime bereft of centralized control, the extremely short-ranged radars (10-12nm) aboard the new Soviet attack and cruise missile vessels make for poor and highly

risky independent surface reconnaissance efforts, especially when committed against a superior intruding fleet. If independent targeting and attack is risked under such circumstances, the maximum feasible missile range of 15-30nm results in severely compromising the survivability of the submarine. Hence, with the intent of maximizing stealth and survivability, target intelligence acquired by external collectors aboard surface ships and aircraft and other submarines will be relayed to and processed at the VLF ground control station at Vijaynarayanam, from which radioed instructions will vector all patrolling SSGNs towards their prospective targets. If the SSGN force is equipped with missiles of the SS-N-3/12/19 series, the success of long-range firing regimes will be crucially dependent on the skill and survival of the external reconnaissance platform that provides both targeting and mid-course correction data. Although such correction requirements are obviated in the case of the SS-N-19, and are generally unrequired by the pseudo-sea skimming SS-N-7/9/22 series (except at the upper limits of their effective range), the disadvantage of the latter lies principally in its short effective range. The range at which the Indian SSGNs initiate missile attacks thus crucially depends on which series of Soviet (or domestic?) cruise missiles is available. Insofar as shortened missile ranges imply more high-speed SSGN sprints, the choice of missile affects the detectability and thus, the survival of the launching vessel. Consequently, the tactical employment of the SSGN will stand appropriately modified.

Since diesel-electric boats possess lesser endurance and cannot engage in sustained high-speed submerged cruises for fear of depleting their batteries and increasing their indiscretion rate, they will be deployed to a *positional* patrol regime where each vessel is assigned independent ambush positions within a small surveillance "footprint" lying roughly perpendicular to the expected path of the intruding surface fleet. Once the intruders appear within the 30-40nm tactical range of the submarines' ESM sensors and passive sonars, tactical fire control for missile and torpedo attack will be processed directly through information collated by on-board sensors. The use of the submarine and MRA force at the farthest reaches of the defensive perimeter is thus premised on the principle that no matter how powerful a surface fleet may be, it is always at a *relative* disadvantage when engaged in the atmosphere and hydrosphere. Exploiting this disadvantage is critical to thinning down an attacker's numbers and so presenting a smaller target set for the V/STOL-equipped CVBGs defending the middle zone of the defensive perimeter.

As a rule, two CVBGs operating in tandem and deploying a navair force of about sixty aircraft are expected to provide local air cover for the twenty or so vessels operating amid the middle defensive zone of the subcontinental perimeter which, given current capabilities, would encompass the entire Arabian Basin bounded roughly by the Owen Fracture Zone in the west and extending about 10° beyond the Chagos-Laccadive Plateau and Trench in the

east. This allows the surface elements to parry a wide range of threats, including those emerging along the Suez Canal-Red Sea axis. The CVBGs and their capable escorts are expected to use primarily an SSM-ASM combination to obstruct those intruding elements that have penetrated thus far, while simultaneously providing vectoring and target intelligence for the Southern Air Command's strike aircraft preparing to mount massed antisurface attacks. Since the CVBGs are expected to operate at the outer extremity of the IAF's combat radius, local air cover for the defending surface groups will be primarily a Navy responsibility, although it may be supplemented by the extended range of IAF interceptors benefitting from the air refuelling capabilities to be acquired in the future. This defensive sea-control effort is designed primarily for at-sea interdiction of those flotillas threatening intervention and hence, no effort involving attacks on any extra-regional naval facility in the area is presently contemplated.

The inner defense zone, closest to the subcontinental barrack and running roughly coterminous with the Exclusive Economic Zone, will be manned largely by missile patrol boats, second-line surface vessels, Coast Guard ships, and other shorter ranged systems that are not expected to see major action merely because the first and second tiers of the defensive order of battle, operating over 800nm of great geographic depth, are expected to sufficiently damage even the most powerful of intruders. Over time, the Navy intends to further reinforce this defensive zone by laying a substantial band of SOSUS underwater detection sensors, consisting of both passive and bistatic systems. When this entire sector and the various chokepoints in the eastern Indian Ocean are so monitored, complete tridimensional surveillance over these critical bodies of sea space will be possible.

Very obviously, this schematic employment plan will mutate considerably, depending on the political and operational circumstances surrounding each specific threat. But, outlining the static version of the citadel concept is useful because it presents a baseline suggesting how the various capabilities currently being acquired may be dynamically utilized in critical situations of potential danger. It bears repeating, however, that Indian policymakers hardly expect to seek recourse to such drastic force responses against any extra-regional power in the policy-relevant future, but creating a force architecture capable of executing such responses, if needed, is perceived as insurance in case a potential adversary embarks on a venture of naval compellence. In moving towards this posture from which the Indian Navy seeks to dominate the contiguous seas, the present expansion constitutes a prolongation of the British Indian strategy of sanitizing the frontiers in order to secure the subcontinental barrack. This is generally confirmed by the fact that the Indian discomfort with foreign fleets is not restricted to one or the other navy, but rather extends uniformly to *all* extra-regional naval operations in the Indian Ocean. Although American naval movements have often been asymmetrically singled out for

criticism, such rhetoric is largely a by-product of Indian discomfort with the continued American support of Pakistan, the repeated intervention and alliance-formation directed at the smaller states on the extended flanks, and often is an echo of the oft-remembered deployment of the U.S.S. *Enterprise* in 1971. This irritation has been exacerbated because the U.S. Navy is currently (though not necessarily permanently) the largest extra-regional operator in the Indian Ocean, thus magnifying it as the preeminent threat. But, Indian policymakers are in principle equally concerned that no other extra-regional navy intimidate or constrain its growing ascendancy, or that these fleets be used by the other littoral states as protective cover while the latter challenge Indian security interests. In that sense, the desire to dominate the local naval cynosure stems from essentially defensive instincts.

### Conclusion

There is little doubt that as the Indian Navy continues to grow according to current plans, its overarching strategy of deterrence by denial will be permanently cemented into a drastic alteration of the regional balance of power. Implicitly, that will make India a power broker capable of conditioning all regional political outcomes, even if only to prevent these outcomes from having an adverse impact on its own insular conceptions of security. By the very structure of this objective, an Indian Navy powerful enough to inhibit extra-regional operations in the Ocean also *ipso facto* becomes a force instrument capable of dominating and coercing the smaller regional states. The fears of these states are exacerbated by the fact that current Indian naval instruments hold the promise of developing into capabilities more potent and more suited to offensive operations than they presently are: V/STOL carrier experience can evolve into CTOL large-deck power projection; short-range surface escorts can become the precursors of an independent long-range surface warfare and land-attack capability; barrier control SSGN/SSKs can evolve into weapons useful for autonomous open-ocean seek and destroy missions; and, limited amphibious capabilities can be transformed into full-fledged instruments of naval penetration and terrestrial control. In this sense, the present buildup is intriguing (or frightening, depending on one's perspective) because India has carefully deployed a set of fairly ambiguous military tools. While presently optimized for defensive sea control, they nevertheless embody a *nascent* projection capability (even though power projection is not currently within the compass of intentions) that can hypertrophy at a later date should India's security environment further deteriorate in its estimation. This inherent flexibility—which India has deliberately maintained in all dimensions of its force expansion—lends itself to only one conclusion: It demonstrates *par excellence* that the anarchic international environment traps states within a perennial dialectic of power



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and security, and it creates a profound, Janus-faced ambiguity in the political *telos* of all states trapped under anarchy. India's naval expansion is, in this sense, just another case study of how nations, in responding to changing environments of threat, build specific military instruments and particular force architectures to safeguard the prerequisite of survival, even while continually seeking increased possibilities for the advancement of power and influence.

The fear that an obsessive quest for power and influence may in time come to be the dominating imperative beneath further naval distension only ensures that the present Indian buildup will provoke compensating counter-expansions in the region (as the Pakistani and Indonesian navies have already given notice). Further, it may also result in such states soliciting even more extra-regional assistance in order to contain the powerful and possibly threatening neighbor. In such circumstances, the Indian naval buildup will only aggravate the security dilemmas of the region, and far from promoting an insular barrack, may actually submerge it within an ocean inhabited by numerous larger, more capable, powers—thus leaving India no more secure than before.

New Delhi has thus far made little effort to understand the critical political concerns of its neighbors. Instead, the general attitude of senior policymakers has consisted of suggesting that these difficulties are essentially products of a transitory phase, when smaller neighbors faced with the prospect of an awakening local giant become understandably nervous. Once the new naval primacy and the natural balance of power are “accepted” by all concerned, stability, it is argued, will once again return to the region. The weakness of such logic has been amply demonstrated by the subcontinent's history over the past forty years. Not only do most states along the ocean littoral deeply fear for their national survival—some even to the point of risking conflict in its behalf—but equally importantly, the defensive intent underlying India's naval rearmament is hardly as obvious to them as it apparently is to Indian elites. After all, the environment of international anarchy almost certainly conspires to make a parochial Indocentric view on these matters highly suspect.<sup>36</sup>

If present Indian attitudes then lead to a further deterioration of the political environment in the Oceanic littoral, domestic support for the naval expansion may wane over time, and the Indian Navy may once again be faced with a civilian leadership that finds it prudent to eschew any extended naval responsibilities. If this comes to pass, it may only prove that the success of the present buildup carries within it the potential for its own undoing. And it may further confirm what now seems to be a historical verity: that while amphibious powers sometimes embark on the creation of powerful naval instruments, their continental responsibilities are often weighty enough to extinguish their episodic desires at becoming a thalassocracy. As the Indian

sea service should know better than most, a large naval fleet does not a maritime power make.

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16. Ravi Rikhye, "The Island Scare," *India Today*, 1-15 May 1982, p. 107; A. K. Chatterji, "Indian Navy in the Eighties," *The Chanakya Defense Annual, 1978* (Allahabad: Chanakya Publishing House, 1978), p. 103.
17. "More Indigenous Ships Planned," *The Indian Post*, 16 April 1988; "Naval aircraft strength to be raised," *The Times of India*, 5 December 1989.
18. "The Navy's Sights," *Frontline*, 12-25 December 1987, p. 11.
19. Michael Vlahos, "Middle Eastern, North African, and South Asian Navies," U.S.N.I. *Proceedings*, March 1988, p. 64.
20. The extent of this diaspora, often unrecognized, is detailed in Jerrold F. Elkin and W. Andrew Ritzel, "New Delhi's Indian Ocean Policy," *Naval War College Review*, Autumn 1987, pp. 50-63. The most critical islands from a strategic point of view are Sri Lanka, the Maldives, the Comoros, Mauritius, Seychelles, and Madagascar. India has signed security agreements with some Oceanic states, most recently with the Maldives in 1987, and Indian naval missions have steadily spring up in several island states of the Ocean littoral.
21. The organization for such capabilities has been detailed in Gautam Das, "An Indian Naval Infantry Brigade?" *Journal of the United Services Institution of India*, July-September 1986, pp. 250-265.
22. "Special Ships for Indian Navy," *The Times of India*, 29 December 1989.

23. V. A. Kamath, "The Emergence of the Indian Coast Guard," *Journal of the United Services Institution of India*, July-September 1979, pp. 231-240; Hormuz P. Mama, "Indian Coast Guard Expansion," *International Defense Review*, v. 23, no. 4, 1990, p. 437.

24. The Karwar naval base, to be designed by a Dutch-Australian consortium, will be spread out over 3,650 square kilometers (with berthing facilities reportedly of 4.5 square kilometers), and is expected to cost about \$2 billion. See, Rahul Bedi, "Navy Base Contract Signed," *India Abroad* (Chicago), 17 March 1989.

25. The history of Indian policy towards the FORTAN has been detailed in Michael R. Potaski, "The Republic of India's Union Territory of the Andaman and Nicobar Islands," (unpublished research paper, Department of State Foreign Service Institute and Catholic University of America, 1986).

26. In the Indonesian case, the northwesterly approaches adjacent to India are of principal relevance. This area will grow in importance as the Indonesians complete their new naval base in Sumatra, providing quicker access to the Bay of Bengal. See, Ross H. Munro, "Superpower Rising," *Time* (Asian Edition), 3 April 1989, pp. 10-11.

27. S.N. Kohli, "Maritime Strategies and Force Levels," *The Chanakya Defense Annual, 1973* (Allahabad: Chanakya Publishing House, 1973), p. 131. Also, V. Koithara, "India and the Indian Ocean," *Journal of the United Services Institution of India*, July-September 1975, pp. 225-239. The expected Chinese presence in the Indian Ocean, among the more widely echoed of recent threats, is outlined in Dilip Mukerjee, "Exaggerating Navy's Clout," *The Times of India*, 25 April 1987, and Dilip Mukerjee, "China's Naval Build-Up," *The Times of India*, 6 May 1987.

28. A.L. Bery, "Naval View of Navy," *Vikrant*, 4 January 1980, pp. 28-30.

29. This section has been developed from Ashley J. Tellis, "The Naval Balance in the Indian Subcontinent," *Asian Survey*, December 1985, pp. 1186-1213.

30. The Pakistani naval defenses are reviewed in Ashley J. Tellis, "The Pakistani Navy: Analysis and Review," (Parts I & II) *Naval Forces*, vol. VII, no. VI, 1987, pp. 46-55 and vol. IX, no. I, 1988, pp. 52-59, respectively.

31. The nature and logic of IAF strategy in a future conflict has been detailed in Ashley J. Tellis, "The Air Balance in the Indian Subcontinent," *Defense Analysis*, vol. 2, no. 4, 1986, pp. 263-289.

32. Whether the Pakistan Navy will in fact suffer such a demise is clearly a function of both the relative naval balance and the survivability of Pakistani naval defenses in the face of the planned Indian offensive, and it is clear that recent Pakistani acquisitions have been inducted precisely in order to arrest the erosion in numerical balances and to blunt, at least, the Indian subsurface offensive. The consequences of the new Pakistani naval acquisitions have been analyzed in Ashley J. Tellis, "New Acquisitions on the Indian Subcontinent," *Naval Forces*, v. XI, no. II, 1990, pp. 64-71.

33. M. P. Awati, "Emerging Security Issues in the Indian Ocean: An Indian Perspective," in Selig S. Harrison & K. Subrahmanyam, eds., *Superpower Rivalry in the Indian Ocean* (New York: Oxford Univ. Press, 1989), p. 106ff.

34. Another important contingency that clearly disturbs Indian security planners and policymakers involves extra-regional naval intervention focussed not directly against India but employed with the purpose of frustrating the attainment of Indian military objectives. In the context of a war with Pakistan or any other littoral state, such extra-regional naval intervention is envisaged as possibly taking the following form: A strong extra-regional naval squadron steams into the Indian Ocean and acts as an *interpositioning force*, locating itself between India and an Indian military target. Because such intervention does not aim to threaten India or its territory directly, but rather attempts to shield the client state from receiving the full impact of Indian military blows, it poses a particularly ticklish problem for the country's military planners in that it frustrates the Indian political objective of destroying the enemy without presenting the kind of provocation that might otherwise justify an Indian attack on the interpositioned extra-regional naval squadron.

35. Dilip Mukerjee, "Protecting India's Economic Zone," *The Times of India*, 21 August 1987. Discussions about naval architecture for such purposes may be found in Satish Talwar, "Power Struggle in the Indian Ocean," *Journal of the United Services Institution of India*, April-June 1985, pp. 97-114; R. N. Misra, *Indian Ocean and India's Security* (Delhi: Mittal Publications, 1986), pp. 206-241; Subimal Mookerjee, "Indian Naval Development—Need for Review," *Journal of the United Services Institution of India*, April-June 1989, pp. 151-157. How Indian naval forces may be operationally configured to meet such obligations have also been explored in Sojka, pp. 5-12 and Elkin and Rietzel, pp. 55-62. This reconstruction of Indian naval strategy owes a great deal to several conversations with senior Indian naval officers who have discussed this issue off-the-record.

36. See T.T. Poulouse's most pertinent comment in "India and the Indian Ocean: Changing Strategic Perceptions," *Asian-Pacific Community*, Summer 1985, pp. 131-139.

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It is true, and has always been insisted upon in these lectures, that on a maritime theater the navy is the all-important factor; but in these days a navy no more than an army can stretch its lines of communication too far from a strong and extensive base. Its communications must be assured, either by overwhelming control of the sea, making it as it were its own territory; or else, by a well-knit line of posts properly spaced from the home country.

*Naval Strategy*

A. T. Mahan (1911)

Little, Brown (1918), p. 344



There are many who lust for the simple answers of doctrine or decree. They are on the Left and the Right. They are not confined to a single part of the society. They are terrorists of the mind.

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