PAKISTAN NAVY: NEW CAPABILITIES, NEW ROLES?

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Since its establishment, the Pakistan Navy has struggled for funds, attention from the defence planners and more modern naval platforms. Naval acquisitions in Pakistan faced challenges due to the small share that the navy received from the defence budget and the sanctions which Pakistan suffered in its relationship with the United States. Its developments suffered not only due to the resource constraint but also due to lack of understanding from the army leadership that also ran the country for most of the life of the country. Ironically, the navy did not receive an adequate share despite the fact that it was the only means of safeguarding Pakistan's eastern flank some 2,600 nautical miles away.

BIRTH OF THE PAKISTAN NAVY

On the eve of independence, August 14, 1947, the state of the ships allocated to the Royal Pakistan Navy by the Partition Council was as shown (Table 1).

At the time of independence, the force levels of the Royal Indian Navy were divided on a rough basis of 1:2 for Pakistan and India owing to India's greater oceanic and coastal requirement. The Royal Pakistan Navy (RPN) secured two sloops, three frigates, four fleet minesweepers, two naval trawlers four harbour launches and some 358 personnel (180 officers and 34 ratings), and

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given the high percentage of delta areas on the Pakistan coast, the navy was given a number of harbour defence motor launches. The main challenges faced by the Pakistan Navy after partition derived from the following four factors:[1]

1. Difficulties in communication and defence posed a serious problem due to separation between the western and eastern wings of Pakistan.
2. The army occupied a dominant position in the country's power dynamics and the perceived threat from India was focussed on the territorial security.
3. Lack of maritime facilities and bases. Karachi was the main port with extensive infrastructure and facilities.
4. Initial growth of the navy was retarded by a serious shortage of trained personnel. Out of nearly two hundred officers, only nine had a regular commission and three of them were in the executive branch. The senior most Pakistani officer was an acting captain.[2]

Table 1

(a) In Karachi

Anti-Aircraft Frigate	HMPS Godawari Flagship
Fleet Minesweeper	HMPS Oudh
Fleet Minesweeper	HMPS Baluchistan
Minesweeping	HMPS Baroda
HMPS Baroda	Harbour Defence Motor
Launches	1261 1262 1263 1266

(b) In Bombay (awaiting handing-over or undergoing refit):

Anti-Aircraft Frigate	HMPS Narbada
Anti-Submarine Frigate	HMPS Shamsher
Fleet Minesweeper	HMPS Malwa

1. Vice Admiral R.B. Suri, "Pakistan Navy Force Level Options," *Agni*, vol. VI, no. 1, January-April 2002, pp. 42-62.
2. Suri, Ibid.

Fleet Minesweeper	HMPS Kathiawar
Minesweeping Trawler	HMPS Rampur
Motor Minesweeper	MMS 129
Motor Minesweeper	MMS 131

In addition, an anti-submarine frigate, HMPS Dhanush, was at sea, on a cruise off the East African coast.

Source: *Story of the Pakistan Navy 1947-72*, History Section Naval Headquarters Islamabad (Karachi: Elite Publishers, 1991), p. 62.

UNITED STATES ALLIANCE AND THE NAVAL PROCUREMENTS: 1954-1965

Pakistan joined the Western alliance and entered into the Mutual Defence Agreement with the United States in the 1950s[3] and was able to a negotiate a handsome aid package from the US which has been considered a source of high technology defence equipment. The US alliance exposed the Pakistan Navy not only to the high technology equipment but also to the US doctrines. Exercises with the Western navies inducted professionalism into the Pakistan Navy and, thus, boosted its development in the initial stages.[4] In the words of Admiral Chaudri:

> ... the first real opportunity to expand the Navy came after the formation of the two regional security alliances, the Central Treaty Organisation (CENTO) and the South-East Asia Treaty Organisation (SEATO) as part of the grand US/Western strategy to contain communism……..It was mainly as a result of Pakistan's integration into the regional security arrangements that the RPN managed to acquire five destroyers, including the two modern Battle class destroyers from the RN Reserve Fleet. The ships were refitted and modernized in the UK with US MAAG's support.[5]

3. The US-Pakistan Mutual Defence Agreement was signed on May 19, 1954. This was followed by Pakistan's joining the Southeast Asia Treaty Organisation (SEATO) on September 8, 1954.
4. Ibid
5. *Story of the Pakistan Navy 1947-72*, History Section Naval Headquarters, Islamabad (Karachi: Elite Publishers, 1991), p. 184.

Whereas the civilian government was happy at the expansion of the Navy, the Army C-in-C at the time was not, as he was not convinced about the need for a strong Navy for Pakistan.

Pakistan's defence division had much less interest in building up the navy and the naval demands were not pursued with the same vigour as those of the army and probably of the Pakistan Air Force (PAF). Gen Ayub Khan was convinced that build-up of the navy was not the priority and, thus, the "highest priority had to be accorded to meeting a potential land threat from the Indian side……..only way by which Pakistan could prevent India from starting a war was by developing a strong Air Force…..A war between India and Pakistan was going to be fought on land and ultimate outcome of such a war should depend upon winning a land battle."[6] Admiral Chaudri confirmed the army's resistance for the naval expansion in his writings. He clearly stated, "It may be mentioned that whereas the civilian government was happy at the expansion of the Navy, the Army C-in-C at the time was not, as he was not convinced about the need for a strong Navy for Pakistan. He felt that we should have a coastal Navy along with some submarines."[7]

Despite falling low in the priority, the Pakistan Navy managed to receive one cruiser, five destroyers forming the 25th Destroyer Squadron and 8 minesweepers forming the 33rd Minesweeping Squadron. In addition to this, the US Military Aid and Assistance Group (US MAAG) provided assistance for the expansion of Pakistan's shore facilities, e.g. building of the naval ammunition depot in Mauripur and the naval stores depot in the dockyard.[8] According the Admiral Chaudri. "The induction of the MAAG assistance proved a takeoff point for the Pakistan Navy."[9]

In 1961, Pakistan received a salvage tug and a further floating dock, and in 1963, a tanker commissioned as PNS *Dacca* was transferred from the United

6. Ibid., p. 189.
7. Ibid., p.185.
8. Ibid., p.184.
9. Ibid.

States. Though the Pakistan Navy emphasised on building its submarine arm, it met with little success. Admiral Chaudri, in fact, recorded that the need for inducting submarines in the RPN was realised soon after 1947, but, as he stated, "No one was prepared to give us the submarines or the training in the early years."[10] With Pakistan's unsuccessful attempts to acquire submarines from the US and England, Pakistan turned to Sweden which was again a disappointment. Apparently, Admiral Chaudri's resignation was a result of lack of support from the government for the expansion of the Pakistan Navy. In the mid-1960s, the Pakistan Navy was assisted by the United States and Britain for the anti-submarine role which the Americans thought was important to meet any potential threat posed by the Soviet Navy.[11] Western assistance was instrumental in helping the Pakistan Navy to consolidate itself and it was able to lease its first submarine PNS *Ghazi* (from the US Navy) which was commissioned on June 1, 1964.[12] During the India-Pakistan War in 1965, for the first time, the Pakistan Navy was involved in a conflict. Apart from carrying out a limited bombardment of the coastal town of Dwarka, condenamed Operation Dwarka, the navy's submarime PNS *Ghazi* was deployed against the Indian Navy's western fleet at Bombay. India at that time had no submarine and little anti-submarine capability.

NAVAL ACQUISITIONS POST-1965

The India-Pakistan Wars in 1965 and 1971 halted the US military assistance to Pakistan and the modernisation programme suffered a major blow. Navies of both India and Pakistan were actively involved for the first time in the 1971 War. The Pakistan Navy was humiliated with the missile attacks during the 1971 on Karachi, and it lost its sole submarine PNS *Ghazi* in the war off Vishakhapatnam. Loss of East Pakistan proved extremely

10. Ibid., p. 185.

11. Suri, n.1, p. 43.

12. In 1962, the UK agreed to train 4X PN submarine crew and soon after, the US agreed to provide a fleet class submarine to the Pakistan Navy. The PNS *Ghazi* remained the flagship submarine for the Pakistan Navy until it sank in 1971, off the fairway buoy of Vishakhapatnam near the eastern coast of India during the 1971 War.

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demoralising for all the three Services in Pakistan. The navy was now concious of the new realities that its maritime interests would be oriented to the Arabian Sea and Persian Gulf.[13] The only advantage after the 1971 War was that the Pakistan Navy did not have the responsibility of guarding the coastline of East Pakistan and could fully concentrate on the western seaboard with a coastline of a mere 700 km. The navy, in a way assumed the role of guardian of the Gulf, to establish economic and political relations with the oil-rich Gulf countries.[14]

In the wake of American sanctions, Pakistan explored the alternate options for its weapon acquisition, and France, China and also the USSR became major sources. The aftermath of the 1971 War and separation of East Pakistan required that the Pakistan Navy should have adequate ocean-going capability, provided through large surface combatants.[15] The Pakistan Army controls the military spending in Pakistan and, thus, the navy had low level of funding which was insufficient even to maintain its force levels, thus, Pakistan's maritime strategy started veering towards the acquisition of underwater capability which enabled the navy to achieve sea denial with limited resources.[16] Thus, the importance of underwater forces gained momentum after 1965, and by 1966, the Daphne class submarines were under construction and plans were approved for raising a Special Services Group (SSG) similar to the US Special Forces Command.[17] Pakistani crew arrived in France in 1969 for manning the Daphne class submarines and realised that they had to unlearn a number of

13. Vice Admiral S.P.Govil, "Pakistan Navy – Then and Now," *Indian Defence Review*, vol. 10, no. 1, January-March 1995, pp. 49-52.
14. Govil, Ibid.
15. Suri, n.1, p. 44.
16. Suri, Ibid.
17. Commander Vijay Sakhuja, "Pakistan's Navy: A Brief History," *Defence and Technology* , June 2003, pp.12-14.

habits ingrained in the American submarines.[18] Lack of naval air capability remained a matter of deep concern for the navy.

The naval share of the budget was diverted substantively towards acquisition of submarines/underwater clandestine aircraft; consequently, the surface fleet remained neglected and disparity vis-a-vis the Indian Navy in the surface component increased.[19] However, by 1975, there was some relaxation in the US embargo and some military hardware was obtained by the navy but only on the cash and carry basis from the US. Pakistan received "Gearing" class destroyers on lease from the US between 1977 and 1983 .

After the 1971 War, the navy opted for a modest acquisition programme in the form of new Chinese built missile/torpedo attack craft. Between 1972 and 1980, 12 Slaughter class attack FPBs, 4 Hunaim class attack craft and 4 Huchwan class hydrofoil craft were delivered to Pakistan.[20] In the 1970s, the naval aviation wing of the navy started to gather momentum and subsequently progressed to become a potent force. There was realisation that absence of air surveillance in the Pakistan Navy had allowed the Indian Navy ships to attack Karachi harbour. On September 28, 1974, the rotary wing aircraft was introduced into the Service when the first of the six Westland Sea King helicopters was acquired from the United Kingdom.[21] Naval acquisitions in the late 1970s focussed on building surveillance and targeting capability and, thus, the deal for French Atlantiques was finalised. The acquisition formalities were completed in 1974 and finally the squadron was raised in 1976, with three Atlantiques.[22] In 1977, the Pakistan Navy acquired four SA 319B Alouette helicopters which were aimed at fulfilling the demands of

18. See Pak Navy Daphne Class Submarines, "The Decommissioning of the Daphne Class Submarines" by Rear Admiral Main Zahir Shah (Retd), at http://www.pakistanidefenceforum.com/lofiversion/index.php/t51970.html.

19. Suri, n.1, p.44.

20. "Pakistan Navy" at http://www.globalsecurity.org/military/world/pakistan/navy-intro.htm

21. 111 squadron was established for these rotary wing aircraft. PNS *Mehran* was subsequently commissioned as the base for the Naval Air Arm on September 26, 1975. The rest of these helicopters also arrived in the subsequent year. As cited in, http://www.globalsecurity.org/military/world/pakistan/navy-intro.htm

22. "PN Fleet and Establishments" at http://www.paknavy.gov.pk/aircraft.htm

the maritime missions due to the adequate navigation and communications equipment fitted onboard. Since its inception, the Alouette squadron has been supposedly meeting the naval requirements with 4-5 helicopters and presently Alouette strength consists of 5 aircraft.[23]

While the naval air was being looked into carefully, the submarine arm of the Pakistan Navy expanded with the induction of the fourth Daphne class in 1975, and in 1977, France cancelled supply of two Agosta class submarines to South Africa under the US embargo, which apparently were acquired by Pakistan in 1978.[24]

GROWTH OF THE NAVY IN THE 1980

The Soviet invasion of Afghanistan and Pakistan's status as a frontline state for Washington altered the dynamics of Pakistan's military modernisation plan, providing it a robust pace. The military regime in Pakistan under Gen Zia-ul-Haq fully utilised the US alliance to acquire high technology weapons. The 1980s was a rosy decade for Pakistan's military modernisation. Not only did Pakistan receive enormous military aid from the United States but also its economy grew at an astonishing rate, with gross domestic product (GDP) growth at 6 per cent giving it enough resources to fund the Western high technology equipment.

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By the 1980s, the Pakistan Navy had focussed on building aviation capability and bought the French submarine. Although, the gap between Pakistan's and India's naval capabilities had increased, build-up of the navy did not get priority in the Pakistani military mindset and also the Reagan Administration had little to offer to the Pakistan Navy in the initial period of the 1980s. The American military aid to Pakistan

23. Ibid.

24. Suri, n.1, p45.

in the 1980s had a two-fold objective: firstly, to strengthen Pakistan to an extent which would allow it counter Soviet expansion and, thus, play its role in the fight against Communism; and, secondly, to convince the military in Pakistan to take the strategic steps desired and instructed by Washington. The military in Pakistan, on the other side, was keen to maintain its strategic depth in Afghanistan and to build up its military capability to match India's conventional military superiority which constantly remained a source of Pakistan's perceived threat perception.

In the 1980s, the Pakistan Navy virtually doubled its surface fleet from nine principlal surface combatants in 1980 to 16 by 1989. It acquired the sophisticated long range anti-ship missile, the Harpoon, and enhanced its maritime reconnaissance capabilities.[25] Three sets of Harpoon missiles and launchers were procured for $156 million from the United States.[26] With the induction of these modern missiles, the Pakistan Navy acquired the offensive capability against the Indian Navy to some extent and developed the concept of "defensive zone" for Karachi, as stated by Vice Admiral Suri. Rings of defence parameters were patrolled by small missile craft, and "larger escort vessels were to guard Karachi. Securing of Karachi became number one priority and, thus, maritime surveillance and strike capability from the shore was deployed to strengthen the naval shield."[27]

There was increasing demand for the naval build-up and the print media in Pakistan was apparently active in representing the frustrations of the Service group and people in this regard. In the second half of the 1980s, Pakistan managed to receive significant US equipment, and eight frigates were offered on lease to Pakistan. The transfer comprised four Brooke class and four Garcia class frigates. Reports suggest that that these ships were part of an American plan to decommission approximately 600 ships from its navy.[28] The deal was

25. n.16.

26. Aysesha Siddiqua-Agha, *Pakistan's Army Procurement and Military Build-up, 1979-99: In Search of Policy* (New York: Patgrave, 2001), p.154.

27. Suri, n.1, p45.

28. Siddiqua-Agha, n. 26, p. 155.

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financially favourable to Pakistan as the eight frigates cost Islamabad US $9 million, with an additional $186 for the acquisition of armaments and other support equipment. This included three SH-2F Seasprite anti-submarine helicopters, 64 Standard MR-SMI anti-aircraft, and 64 Honeywell MK 46 MOD 5 light weight anti-submarine torpedoes.[29] The US also provided Pakistan a depot for repairs and the ex-USS *Hector* was leased to Pakistan from 1989-94 which was renamed PNS *Moawin* and was used as tender for Brooke/Garcia class ships.[30]

In 1988, two ageing Leander class frigates and a County class frigate were inducted from the UK, and in 1982, Fokker F-27s were acquired. These ships were obtained at throwaway prices—Pakistan paid $20 million for the two Leander class and $3 million for the County class. Lack of funds consistently remained a deterrent with the Pakistan Navy (PN) and major equipment procured during the 1980s was second-hand equipment from the US; thus, Pakistan was able to acquire the high technology equipment at a much lower price owing to the favourable strategic environment. The United States, in the latter half of the 1980s, was interested in modernisation of the Pakistan Navy in order to utilise its capabilities for the security of the Persian Gulf.

The Pakistan Navy not only acquired the new equipment but also modified the existing fleet and in 1989, PN Atlantiques were modified to fire Exocet missiles. With this modification, PN Atlantiques became the first long-range maritime patrol (LRMP) aircraft to acquire anti-submarine warfare (ASW) capability. To maintain a qualitative edge in the field of LRMP operations, PN Atlantiques were modified with state-of-the-art French sensors like electronic support measures (ESM), acoustic processor, radar, navigation system, etc, in the mid-Nineties.[31]

29. Siddiqua-Agha, Ibid., p.155.
30. "Pakistan Navy Ship MOAWIN (ex-USS Hector)" at, http://www.usshector.com/ exHector.html
31. http://www.paknavy.gov.pk/aircraft.htm

In the 1980s, the Pakistan Navy was more assertive in nature and started demands for strike capabilities and additional surveillance.

In 1988, Pakistan signed a deal with the United States for the acquisition of three P-3C II.5 version aircraft. The first aircraft was scheduled to be transferred to Pakistan in April 1991, with the other two following in July and October 1991. The aircraft was desired as it had reconnaissance and ASW capability, which would have added to Pakistan's surveillance capability and, thus, provided Pakistan a capable replacement for its old ASW capable French Atlantique-I aircraft.[32] Till the late 1980s, there was little indication of change in the US policy towards Pakistan, and Pakistan was quite sure of getting the P-3Cs when the US arms embargo in the 1990 halted the deal.

Although cooperation between the Pakistan Navy and Chinese Navy dates back 1970, there was not much acquisition from China till to the late 1980s. In 1984, four Huangfen class missile attack craft were transferred from Beijing for about $20 million per piece. It is interesting to note that Chinese naval equipment being inferior in quality, was less desired, but Pakistan obtained the missile craft mainly with a longer term objective of striking a deal of technology transfer in the future for indigenous production of the missile craft.[33]

In the 1980s, the Pakistan Navy was more assertive in nature and started demands for strike capabilities and additional surveillance. The main sources for the naval equipment in the 1980s were the United States, UK and China. The navy managed to increase its organisational strength also in the 1980s. In 1982, the UN Law of the Sea Convention was passed and Pakistan acquired an exclusive economic zone (EEZ) of approximately 240,000 square miles. A decision was taken to raise a more institutionalised body for the protection of this vast area and consequently, the Maritime Security Agency (MSA) was inaugurated on January 1, 1987, in order to implement national and

32. Siddiqua-Agha, n. 26, pp.155-156.

33. Siddiqua-Agha, Ibid., p. 159.

international laws in the EEZ and provide surveillance.[34] Thus, Pakistan's newly acquired offensive capability was reinforced with force multipliers and missile equipped submarines. The Pakistan Navy, by the end of 1990, had sufficient organisational structures to manage its coastal defence. It had two sub-organisations for coastal defence: the Special Services Group[35] and the army's division dedicated to the defence of the coastal facilities; and the third set-up, a division of marines, was established in 1990.

NAVAL BUILD-UP SINCE 1990

The supply of American equipment was halted due to the embargo under the Pressler Amendment in the 1990s. After the Soviet withdrawal from Afghanistan and subsequent end of the Cold War, the Americans were not interested in Pakistan. The US sanctions were highly damaging in nature as not only the supply of American defence equipment but the supply of essential spares was also stopped. The scheduled American supply of the maritime patrol aircraft, helicopters and additional Harpoon and other missiles was held back. This seriously handicapped the Pakistan Navy which mainly comprised US ships. The lease for the first Brooke class frigate expired in March 1993, and of the remaining, in early 1994, and renewal of the lease was not on Washington's agenda. This was the time when Pakistan started to focus on indigenous production.

Although Pakistan was unable to acquire the American naval equipment in the 1990s, the navy received a significant share in the total major equipment procurement owing to the consistent publicity of Service requirements by the navy. It was able to swing major deals during this decade despite the army's resistance and unwilling attitude to spend on the naval budget.

Pakistan acquired six Type 21 (Amazon) class frigates from the UK in 1993-95. [Table3 (a)] The frigates being two decades old, were modernised after

34. "The Pakistan Navy Custodian of the Country's Coastline," at http://www.pakdef.info/pakmilitary/navy/

35. The SSG is the commando division of the Pakistan Navy. It is an elite special operations force similar to the Royal Navy's Special Boat Service and United States Navy SEALs. For details, see http://www.specialoperations.com/Foreign/Pakistan/SSGN.htm

fitment of some new equipment. There were plans to equip these vessels with the Chinese C-802 surface-to-surface missiles but Harpoon launchers (ex US Gearings) have now been retrofitted.[36] The deal for these second-hand British frigates was financed through Pakistan's national resources and included the spares and training. However, it excluded the Lynx helicopters used on these frigates by the Royal Navy.

Two major acquisitions were made from France in the 1990s. In 1992, a deal was signed with France for three minehunters, which included the transfer of technology for one minehunter. Minehunters were desired by Pakistan to counter the possible threat from India which possessed significant numbers of mines. The first two minehunters built in France, were delivered by 1996; the third one was built at the PN Dockyard, Karachi, with the French assistance and was commissioned in 1998.[37]

In 1994, Pakistan signed a deal with France for the acquisition of three Agosta 90-B submarines worth $950 million. The deal was financed with the loan provided by the French themselves and had to be paid in five to six years.[38] The first Agosta 90-B was inducted in the Pakistan Navy in 1999, while the second was built at the PN Dockyard and commissioned in 2003.[39] The third Agosta 90-B is under sea trials and close to being operational. The Chinese offered to transfer submarines to Pakistan but Pakistan was used to operating the sophisticated Western technology Daphne and Agosta 70, and was not keen on buying the Chinese submarines. An additional factor for the navy's inclination towards the French was that Paris apparently pledged not to sell these types of submarines to India, and, secondly, it agreed for transfer of technology to Pakistan, enabling it to manufacture these submarines at the PN Dockyard.[40]

Chinese assistance which started flowing into Pakistan in the 1980s when Pakistan was exploring alternate options for weapon supply, gathered

36. Sakhuja, n.17.

37. "Mine Hunters", PN Fleet and Establishments, at http://www.paknavy.gov.pk/ mineh.htm

38. Siddiqua-Agha, n. 26, p. 162.

39.. "Agosta 90-B", Pakistan Fleet and Establishments, at, http://www.paknavy.gov.pk/ agosta90.htm

40. Siddiqua-Agha, n. 26, p. 162.

momentum, and in 1994, a collaborative venture was initiated with the Chinese for the manufacture of gun and missile boats. Construction of the boats was carried out at the PN Dockyard and Karachi Shipyard and Engineering Works (KS&EW); while the technology came from the Chinese, the boats were fitted with components from the West.[41] Pakistan's first indigenously manufactured missile craft, PNS *Jalalat* was commissioned in 1997 and the second in 1999.[42]

In 1995, after the Brown Amendment was passed, there was some relaxation in the US embargo and, consequently, the Clinton Administration released the P-3C Orions for the Pakistan Navy, a deal for which was signed in 1988. In 1996, three P-3C Orions were inducted into the No. 28 Squadron. One of these aircraft was lost in an accident while carrying out routine exercises in 1999.

Pakistan had started the construction of small craft like coastal tankers, missile boats, Agosta 90-B submarines and minehunters with the transfer of technology from China and France. Pakistan's focus in the 1990s was to gather capacity to enhance the indigenous production as this was for the second time (once earlier, after the 1965 War) when the suspension of American supplies disturbed the military modernisation plans. Most of the deals negotiated during this period carried the component of transfer of technology which Pakistan insisted on.

Pakistan's third alliance with the United States and its role as a frontline state in the war on terror post-September 11, 2001, again opened the doors for US defence equipment. In the last six years, Pakistan has not only managed to receive Western high technology equipment but has also received tremendous military aid which enhanced its ability to modernise its inventory at a much more accelerated pace. The Pakistan Navy which has always received a marginal share in the defence budget (about 10-15 per cent of the defence budget) has finally succeeded in increasing its share and according to the latest defence budget of 2007-08, the navy's allocation has gone up by 14.16 per cent.

41. Siddiqua-Agha, Ibid., p. 165.

42. "Missile Boats", PN Fleet and Establishment, at http://www.paknavy.gov.pk/ mboat.htm

Although the American arms sale/grant to Pakistan since 9/11 has been to support the counter-terrorism operations, the bulk of it has contributed towards building up of Pakistan's conventional military capability. Pakistan ordered eight P-3Cs from the United States in 2005, out of which two have been delivered. Pakistan's request for Harpoon anti-ship missiles has to an extent been met and 88 missiles have been delivered to Pakistan.[43] Pakistan has also received six Phalanx close-in naval guns for the Pakistan Navy. Six C-130E transport aircraft were ordered by Pakistan in 2004. Other US weapon sales include the possible transfer to Pakistan of P-3B aircraft as Excess Defence Articles (EDA) that would be modified to carry the E 2C Hawkeye airborne early warning suite.

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Reports suggest that the navy has officially put up a formal request for six Oliver Hazard Perry class frigates (from the US) to augment its surface fleet.

In 2006, the Pakistan Navy ordered four F-22P type frigates from China with the value of the deal at $600 million.[44] The first destroyer, PNS *Zulfiqar*, is scheduled to be delivered in 2009, while the other three would be delivered by 2013. The F-22P, which is a modification of a Chinese frigate that uses a Russian-designed main gun rather than a Chinese model, is armed with eight C-802 anti-ship warfare missiles, eight FM-90 surface-to-air missiles (SAMs), one AK-176M main gun and two Chinese 30 mm close in weapon systems (CIWS). The frigates can be loaded with one Z-9EC helicopter.[45] The fourth F-22P will be manufactured in Pakistan at a Karachi shipyard in 2013, to fulfill a

43. "Major US Arms Sales and Grants to Pakistan Since 2001," Report prepared for the Congressional Research Service by K. Alan Kronstadt, specialist in South Asian Affairs (8/28/08), US Department of Defence, at http:www.fas.org/sgp/crs/row/ pakarms.pdf

44. Bilal H. Khan, "Pakistan Navy Modernization Program," Pakistan Military consortium, at http://www.pakdef.info/pakmilitary/navy/pn_,odernization.html

45. Khan, Ibid.

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pledge to transfer Chinese shipbuilding technology that was part of the April 2005 agreement to build the frigates.

Other defence production plans on the naval front include four modern corvettes which are planned to be built alongside with F-22P in KS&EW. The navy also plans to manufacture and procure additional minehunters, tankers, missile and patrol boats.[46] Pakistan's Daphne class submarines have retired, and it has expressed the need to acquire more submarines. The navy is reportedly in negotiation with France wherein it has been offered the Marlin SSK, which is based on the Scorpene SSK, but also uses technology from the Barracuda nuclear attack submarine. The German firm, on the other hand, has offered U-214 SSK.

Atlas Elektronik Black Shark heavyweight torpedoes have meanwhile been purchased for the Agosta 90B submarine and an upgraded version of the Chinese LY-60N short-range theatre defence missile will be fitted on the F-22P frigates. Pakistan is seeking to enhance its strike capabilities and is seeking to develop the naval variants of the Babur land attack cruise missile (LACM) which could be launched from submarines, surface combatants and aircraft.

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The Pakistan Navy has expanded enormously in the last two decades with imports and production within Pakistan. But, given the fact that the navy has an assortment of Chinese, American and European ships and equipment, it has enormous complexities of repair, maintenance and spares, which could prove to be a challenge in the future. The spares of the American equipment have worried the naval force in the past and now with the new US equipment

46. "Pakistan Navy" *Pakistan Defence*, at http://www.defence.pk/pakistan-navy/

being procured, the Pakistan Navy cannot be assured of the life-long US supply, given the record of the US-Pak relationship.

After a humiliating defeat in Kargil, Pakistan has been concentrating most exclusively on the modernisation of its air force and maritime strike capabilities of the navy.

The majority of the acquisitions for the Pakistan Navy have been from the US, UK and France. Supply from China has been restricted to the smaller surface ships. Naval aviation has been dependent on the French and US equipment. Although the indigenous development on the naval side in Pakistan is taking place, by and large, it remains dependent on imports due to lack of R&D within Pakistan which is directly linked to the lack of technical manpower within Pakistan.

Post 9/11, the boost to the aerial maritime strike capabilities has been mainly from France, the US and China. Pakistan, after a humiliating defeat in Kargil, has been concentrating most exclusively on the modernisation of its air force and maritime strike capabilities of the navy. Although modernisation of the Pakistan Navy was on low priority in the initial years, the last two decades have contributed significantly to the offensive capability of the navy. It will not be incorrect to say that the American alliance has always been beneficial for Pakistan, not only from the point of view of procuring high technology weapons but also because of the experience and guidance that the military receives from the West. The Pakistan Navy's involvement in the Combined Task Force (CTF-150)[47] would undoubtedly influence the navy's operational strategy and professionalism, like the Pakistan Army thinking was shaped by the American alliance in the 1950s and later in the 1980s.

NAVAL ACQUISITIONS AND STRATEGY

A review of the available data on acquisitions indicates that till the 1971 War, the major thrust of the naval strategy was sea denial, with specific offensive

47. Combined Task Force (CTF) 150, established towards the beginning of Operation Enduring Freedom comprises warships from numerous coalition nations, including France, Germany, Pakistan, the UK and US.

Pakistan, during the 1965 and 1971 Wars, deployed its surface fleet along its shores in a sea denial role and submarines in an offensive role.

capabilities. Pakistan, during the 1965 and 1971 Wars, deployed its surface fleet along its shores in a sea denial role and submarines in an offensive role. It followed a defensive strategy of guarding the sea frontiers and defending the sea lines of communication. However, it found that Indian missile boats were able to hit Karachi in spite of the sea denial strategy and deployment. Since then, Pakistan has worked towards the improvement of its structure and fleet and special emphasis has been placed on the sub-surface warfare capability in order to deny the control of sea lanes to other nations.

In the 1980s, the aid from the United States brought in the high technology equipment from the US, France and the UK. Pakistan received the Harpoon missiles, additional submarines and destroyers and, thus, managed to expand its sea denial capabilities over a larger part of the sea. Perceptions of threat from India have shaped Pakistan's procurements and it acquired minehunters to discount any potential damage which could be due to India planning to use mines in order to deter the Pakistan Navy.

In the 1990s, some weapons were acquired from China, and Pakistan started to focus on the indigenous development of the navy. With the induction of the P-3Cs and AWACS and anti-ship missiles after 9/11, Pakistan's sea denial parameters would cover most of the Arabian Sea, with reach all the way to the southern part of the Arabian Sea.

Pakistan had focussed on building its long range surveillance capability to locate and identify surface ships and submarines. Implicitly, this also means that it creates and enhances anti-surface fleet and anti-submarine warfare capabilities. The Agosta 90B submarines are equipped with the Thales DR-3000U radar warning receiver, operating in the D to K bands. The system uses a masthead antenna array with omni-directional and monopulse directional

Pakistan's sea denial parameters would cover most of the Arabian Sea, with reach all the way to the southern part of the Arabian Sea.

antennae and a separate periscope warning antenna.[48] The submarine is also fitted with a Thales underwater systems (formerly Thomson Marconi Sonar) TSM 223 sonar suite, and includes bow-mounted sonar and towed sonar arrays, SAGEM periscopes and navigation system and Thales I-band navigation radar.[49]

The P-3Cs would further build up the surveillance and offensive capability for the Pakistan Navy. In all probability, the P-3Cs that Pakistan will receive would be the upgraded systems and are likely to carry the latest equipment.[50] The upgraded P-3Cs would enable the navy to further expand its reach and role in military operations. If Pakistan gets the ability to identify submarines, then it would imply:

Pakistan Navy is developing the naval variants of the Babur LACM which has a range of 700 km.

1. It can deal with the adversary at longer ranges in all three forms of maritime warfare: anti-submarine, anti-surface and anti-air.
2. Its offensive capability would increase with the increase in its efficiency to locate the adversary.
3. The Pakistan Navy intends to challenge the Indian Navy at sea and not allow it to bomb Karachi or the new ports.

The Pakistan Navy was hit in Karachi in the 1971 War and this was a destabilising factor and, thus, they have been inclined towards continuously building up the strike capability. The Agosta 90B submarine is fitted with four bow 533mm torpedo tubes and has the capacity to carry a mixed load of up to 16 torpedoes and missiles.[51] The Pakistan Navy is developing the naval variants of the Babur LACM which has a range of 700 km and is claimed to be capable of using both conventional and nuclear warheads. The navy has commenced the

48. http://www.naval-technology.com/projects/agosta/

49. Ibid.

50. "Lockheed Martin Awarded $186 Million Contract to Upgrade P-3C Maritime Surveillance Aircraft Mission Systems for Pakistan Navy," at http://www.global security.org/military/library/news/2007/02/mil-070213-lockheed-martin02.htm

51. http://www.naval-technology.com/projects/agosta/

The navy acquired 16 combat capable aircraft by 2008 as compared to 3 (Atlantiques) in 1977-78.

build-up of fast attack missile craft and diverted significant funds towards the procurement of frigates. Reportedly, a total of 12-16 frigates will be procured by the end of 2015, resulting in substantial growth in capabilities and numbers of the major surface combatant fleet. The frigate fleet is expected to be augmented by a fleet of at least four large multi-role corvettes, thus, enhancing the range and offensive capability of the Pakistan Navy which was clearly stated by the Naval Chief Admiral Muhammad Afzal Tahir as follows:

> To this end, our frigate project has already been materialized which will commence soon with the Chinese collaboration in the region. Induction of these Fast Attack Missile Crafts in the Pakistan Navy fleet will certainly enhance its offensive punch…[52]

Table 2: Pakistan Naval Capabilities: Major Combatants

	1977-78	2007-2008
Submarines	3	5
Destroyers and Frigates	5 (4+1)	6 building – 4
Tankers	2	5
Aerial Maritime Reconnaissance, Surveillance and Strike	3 (Atlantique)	16 (including 10 P-3C)

Source: *The Military Balance 1977-78*, 2008.

In the last 30 years (see Table 2), the Pakistan Navy has expanded significantly in size as well as range and quality. The navy acquired 16 combat capable aircraft by 2008 as compared to 3 (Atlantiques) in 1977-78 (Table 2).

52.. "Pakistan Navy Inducts Tow Fast Attack Craft into Fleet," http://www.globalsecurity. org/wmd/library/news/pakistan/2006/pakistan-060224-irna01.htm

Since 2000 [Table 3 (b)], the Pakistan Navy has not only stepped up its efforts to modernise its surface sub-surface and aerial fleet and but has focussed on the build-up of aerial maritime strike capabilities. Even in the early 1990s, it possessed the second largest aerial maritime strike force in the region, and according to Indian naval experts, Pakistan was expected to have the strongest aerial maritime strike capability along the Indian Ocean littoral.[53] Also, naval capability acquired in recent years (and also planned future acquisitions) comprises high technology equipment. The US has been extremely lavish with its sales to Pakistan and also the Chinese military equipment is rapidly getting upgraded technology in keeping with Beijing's doctrine of fighting a high-tech war since the 1991 Gulf War.

Table 3: Pakistan's Major Arms Acquisitions

(a) Pre-Kargil Naval Acquisitions : 1990-1998

Year(s) of Delivery	**Weapon Designation**	**Weapon Description**	**No. ordered/ Delivered**	**Source- Supplier/ Licenser**
1993-95	Amazon-class Type 21	Frigate	6	Britain
1994-96	3 Lynx HAS-3	ASW Helicopter	3	Britain
1994	"Moawin"	Fleet tanker	1	Netherlands
1994-96	Fokker F27-200	Aircraft	5	Netherlands
1996-97	P-3C (Update 2.75)	Orion maritime reconnaissance and strike aircraft	3	USA
1996-97	Harpoon	Anti-ship missile for the P-3C Orion	28	USA
1996	Breguet Atlantique-1	MPA and strike aircraft	3	France

(b) Post-Kargil Naval Acquisitions : 1999-2007

Year(s) of Delivery	Weapon Designation	Weapon Designation	No. ordered/ Delivered	Source- Supplier/ Licenser
1999-2003	Agosta 90 B	Submarine	3	France
1999-2004	F-17P	AS torpedo	96	France
1999-2004	SM-39 Exocet	Anti-ship missile	24	France

53. Lt Sanjay J. Singh, "The Indian Navy is no Threat", *Naval Institute Proceedings*, March 1991, p.75.

Year(s) of Delivery	Weapon Designation	Weapon Designation	No. ordered/ Delivered	Source-Supplier/ Licenser
2000-2001	C-802/CSS-N-8	Anti-ship missile	24	China
2002-2006	Jiangwei	II class frigate	4	China
2002-2003	SM-39	Exocet anti-ship missile	40	France
2004	C-802/CSS-N-8 Saccade	Anti-ship missile	16	China
2004	C-130E Hercules*	Transport aircraft	6	USA
2005	P-3C*	MP and strike aircraft	8	USA
2006 (order)	Harpoon	Anti-ship missile		100 (88 USA for the P-3C delivered) Orions
2006 (order)	F-22P type	Frigate	4 (delivery 2009-2013)	China
2006 (order)	Z 9EC	Helicopter	4-6	China

* US Excess Defence Equipment, which is normally transferred at a price of less than 10 per cent of the original. For example, the cost of each F-16 is a little over $6 million.

Source: Based on Stockholm International Peace Research Institute, Yearbook (issues of various years) (New York: Oxford University Press) and Pakistan's major arms imports, as cited in Jasjit Singh, "Trends in Defence Expenditure," *Asian Strategic Review, 1998-99* (New Delhi: Institute for Defence Studies and Analyses, 1999); SIPRI 2002, 2004, 2005; *The Military Balance* for various years, United Nations Register of Conventional Arms for various years; and Defence Security Cooperation Agency at http://www.dsca.mil; "Update on Pakistan C-130E Acquisitions," *Air Forces*, January 2006, p.22.

The Pakistan Navy has expanded its naval bases and ports in recent years. Apart from Karachi, the other bases are Ormara, Pasni, Jiwani and Gwadar (Fig 1). Expansion of ports would provide Pakistan easy access to the Muslim countries, including the Arab nations where a large Pakistani population resides. Pakistan's Makran coast lies abeam the world's

most intensive oil and liquefied natural gas (LNG) supply routes. Over 51 per cent of the world's crude oil is exported through the choke point at the Strait of Hormuz. Given the rising oil prices, access to the oil supply routes is critical for energy deficient countries like China, Japan and India and, thus, the expansion and increase of naval bases would enhance Pakistan's influence in the energy and naval policies of nations. This also reduces the navy's vulnerability in future wars and also reduces its dependence on Karachi.

Pakistan Navy has expanded its naval bases and ports in recent years.

Fig 1: Pakistan Naval Bases

Source: "Pakistan Naval Base," at http://www.globalsecurity.org/military/world/ pakistan/ports.htm

The expansion of the Pakistan Navy and its bases would imply the following important factors:

1. The Pakistan Navy would present a much larger number of targets to the adversary.
2. The navy would reduce its vulnerability as it would be able to spread its assets.
3. It would reduce dependence on Karachi for sea trade and also reduce the probability of blockade of the Pakistan Navy and the ports during crises. (Besides this, roads through Baluchistan laterally connect its ports.)
4. By spreading its operating bases, the navy's aim is to be able to threaten Indian access to the oil supply routes.
5. The Pakistan Navy appears to be seeking strategic-doctrinal expansion from sea denial to sea control.

Gwadar, the new major port, has been developed with the Chinese assistance and the primary project has been the construction of a deep sea port, expanding its maritime role, and to allow trade to and from the landlocked Central Asia. More importantly, the port would have the conversion facilities to allow the movement of natural gas for the Turkmenistan-Afghanistan-Pakistan natural gas pipeline, when constructed. Gwadar offers the geo-economic and geo-strategic pivot to China and Pakistan. It is strategically located on the southwestern coast of Pakistan between three increasingly important regions of the world — i.e. South Asia, Central Asia and oil-rich Middle East. Gwadar, which is overlooking the Gulf of Oman and the entrance to the Persian Gulf region, is just 180 nautical miles from the Strait of Hormuz. Thus, Gwadar would eventually emerge as the key shipping hub, providing mass trade to the Central Asian Republics through Pakistan and China, and an important naval base.

Development of Gwadar port emphasises the growing Chinese influence in the region and their interest in reaching the Arabian Sea.

Development of Gwadar port emphasises the growing Chinese influence in the region and their interest in reaching the Arabian Sea. In fact, it is a manifestation of China's emerging maritime strategy, the "String of Pearls."

The essence of China's "String of Pearls" lies in port and airfield construction projects, diplomatic ties and force modernisation.[54] The "Pearls" extend from the coast of mainland China through the littorals of the South China Sea, the Strait of Malacca, across the Indian Ocean, and on to the littorals of the Arabian Sea and Persian Gulf.[55] China's involvement in Gwadar is undoubtedly a response to China's emerging energy requirements, China being the world's second largest oil importer. Approximately 70 per cent of Chinese oil supply comes from the Middle East and Africa through the sea. China is expanding its energy procurement efforts and the strategy of a series of ports along the oil shipment routes which would allow China to safeguard and monitor energy flows.

Gwadar being built in Baluchistan coast, would enable Pakistan to take control over the world energy jugular and interdiction of Indian tankers.

From the military point of view, Gwadar is a decongestion point for the Pakistan Navy and will provide it a berthing point for its submarines and surface warships. Gwadar port area has been designated as a "sensitive defence zone" by the Government of Pakistan.[56] Although, there has been no official Chinese announcement on the subject, various reports are indicative of Gwadar being a future berthing point for the People's Liberation Army (PLA) Navy fleet of the Indian Ocean, facilitating China's military presence in the region. This would add to the deterrent against the Indian Navy.

Development of the deep sea port has strategic implications for India which were pointed out by the Indian Naval Chief, Admiral Sureesh Mehta in a lecture in Chennai:

1. Being only 180 nautical miles from the exit of Strait of Hormuz, Gwadar being built in Baluchistan coast, would enable Pakistan to take control over the world energy jugular and interdiction of Indian tankers.

54. Christopher J. Pehrson, "String of Pearls: Meeting the Challenge of China's Rising Power Across the Asian Littoral," July 2006, at www.strategicstudiesinstitute.army.mil/pdffiles/PUB721.pdf

55. Pehrson, Ibid.

56. "PNS Gwadar," at http://www.globalsecurity.org/military/world/pakistan/pns-gwadar.htm

2. The pressure for countries to cooperate in the maritime military domain to ensure smooth flow of energy and commerce on the high sea will grow even further.
3. A highway is under construction joining Gwadar with Karachi and there are plans to connect the port with the Karakoram Highway, thus, providing China a gateway to Arabian Sea.[57]

The US has had an abiding interest in maintaining influence in, and over, Pakistan. Pakistan's alliance with the US and its status of "frontline state" (for the third time in half a century) in the war on terror has not only brought in modern American equipment but also the thinking of the navy has been influenced due to American involvement in naval exercises. For example, the Pakistan Navy is a part of the CTF 150 and would essentially gain professional and tactical experience working with the navies of the NATO countries. The main stated purpose of the CTF 150 is to deny the use of the sea to terrorists. It conducts Maritime Security Operations (MSO) southwest of the Strait of Hormuz in the Arabian Sea, Gulf of Oman, Gulf of Aden, the Red Sea, and patrols the Indian Ocean.[58] American interest in the Pakistan Navy, in fact, goes back to the 1980s, when America funded the development of Pakistani ports on the Makran coast. In 1983, the US created the Central Command to deal with about 22 Muslim countries. After the end of the Cold War, the US actually closed down 22 foreign bases in Asia, including those in Philippines, but, on the other hand, it established a new fleet for the Persian Gulf.

The Pakistan Navy has been in the process of major expansion in size as well substantive upgradation of its technology.

In conclusion, it is clear that the Pakistan Navy has been in the process of major expansion in size (with its major combatants having more than doubled in the past 20 years) as well substantive upgradation of its technology. Some of

57. http://intelligencebriefs.blogspot.com/2008/01/
58. "CTF 150 Helps Maintain a Lawful Maritime Order", at http://www.navy.mil/search/display.asp?story_id=37530

the latter is inevitable with the passage of time. But what is of significance is that the focus of the trend is on extending the combat radius of the Pakistan Navy, while laterally broadening its naval deployment bases along the full length of the Makran coast. In turn, one can argue that its traditional strategy of sea denial has been expanding to larger ranges and greater offensive capability that would increase both its sea denial and well as sea control roles. In specific, it is now focussing on a dramatic increase in its maritime surveillance and strike potential to ranges that could extend as far as south of the Arabian Sea with modern anti-ship sea-skimming missiles.

The political implications of potential influence/ control by Pakistan on the sea routes between India and the Gulf ports would have to be carefully examined.

Pakistan has been building up more deep sea ports along the 700-odd-km Makran coast. The most significant of these is the Gwadar port recently expanded to much larger capacity by China than the originally upgraded port undertaken with US assistance in the 1980s. China's motive in dramatically expanding the capacity of this port is an issue of international attention and mostly interpreted in terms of China's strategy of "String of Pearls" in areas far from its territory. But what is perhaps of greater significance for India is the implication of a much expanded and technologically advanced Pakistan Navy deployment at the port abeam the major trade and oil transportation routes, besides its proximity to the Strait of Hormuz through which passes more than 50 per cent of the world's crude oil. The bulk of India's oil supplies coming from the Persian Gulf through this choke point would then pose a new challenge of vulnerability that would have to be addressed on priority. Similarly, more than four million Indian expatriates work in the Arab states of the Gulf region. The political implications of potential influence/control by Pakistan on the sea routes between India and the Gulf ports would have to be carefully examined.