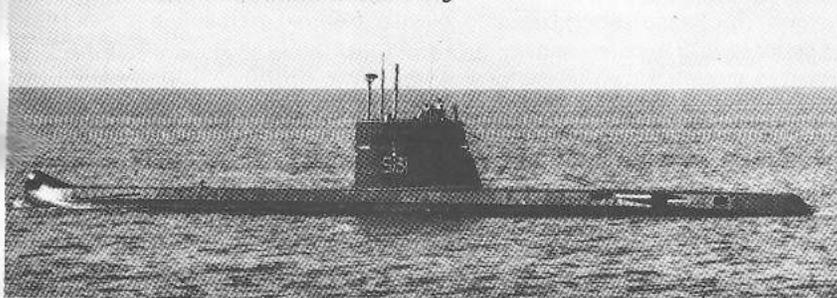


Pakistan "CH/CR" Class DD JAHANGIR PN # D162



AH — Class Submarine of the Pakistan Navy



Admiral Karamat Rahmat Niazi Chief of the Naval Staff, Pakistan

THE PAKISTAN NAVY

By: G. Jacobs

The small naval forces of Pakistan are charged with the general naval defence of the ports of Karachi and Gwadar, plus the maritime shipping of the Government of Pakistan. The naval component is presently incapable of effectively guaranteeing the protection of either against the naval forces of India or the Soviet Union.

Note: This is the first of an intended three part article series covering the armed forces of Pakistan. Part two will be on the Air Force and will appear in the October issue. The final part will appear in early 1982.

Certain events have recently highlighted attention on the general question of the ability of the Government of Pakistan (GOP) to provide an adequate defence for the protection of the country in general, including the coastal regions and the protection of Pakistan's small merchant marine. Most important reasons for the recent concern was the Soviet invasion of Afghanistan⁽¹⁾ and the continuing occupation of the country; and more recently, the \$1.63 billion arms deal concluded between the Soviet Union and the Government of India. In the view of Pakistan's President Zia-ul-Haq, this arms agreement will begin "an arms buildup" that cannot be overlooked by his nation — and will only push Pakistan further in its continued efforts to develop atomic weapons delivery and production capability.

During the last year some events are important to remember with regard to the defence problems, particularly naval, which are effecting the naval forces of the country. Following the Soviet invasion of Afghanistan in December 1979, the United States offered, under the then Carter Administration, a combined economic and military aid and weapons assistance programme over a two year programme. President Zia called

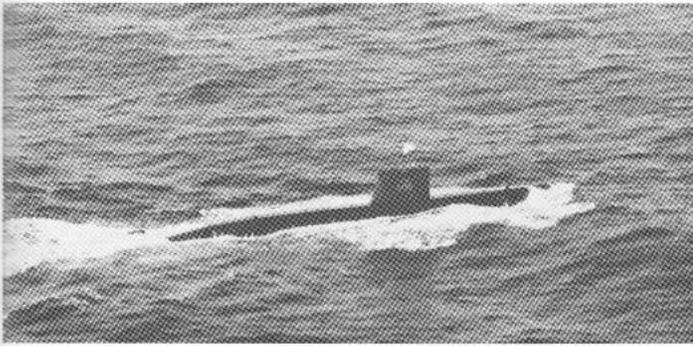
this "peanuts", and indicated what the country needed was a US \$4 billion programme over the next six or eight years.

Later, Pakistan would take delivery during 1980 of two additional ex-U.S. "Gearing" class modernized destroyers (and retire one frigate in the process). Developments within the Indian Navy would far overshadow those in Pakistan, such as: Indian arms agreement to purchase six additional Soviet-type "Polnochniy" class LCT's; take delivery on two ex-Soviet "Natya" class minesweepers; order three additional Soviet "Nanuchka" class missile corvettes (for delivery in 1981-82); launch the first of the Indian-designed "Godavari" class frigates (Modified "Leander" class); and, commissioned the last of six Indian-built "Leander" class frigates. Negotiations also continued with the Soviet Union over the future delivery and payment for the remaining two Soviet "Kashin" class missile destroyers while the first unit (INS RAJPUT) arrived in Bombay late in the year.

India is also to receive two further "Natya" class fleet minesweepers during 1981/82. Finally, India continues negotiations with the West German HDW firm in hopes of concluding a firm submarine con-

struction agreement, whereby India could begin building submarines in her own shipyards. Equally important (or more so to the Indians), is the chance to obtain the truly modern "surface-underwater-torpedo" (SUT), in current production by the IG Telefunken firm. Such technologically sophisticated items as the weapon sensor systems are considered as high priority "target" items for the Indians to obtain possession of. As for the submarines, India would likely build them (HDW 209 class) under license agreement with the Hindustan Shipyard firm.

If all the above events are taken into full context, it is very apparent India intends to be the major driving force on, and around, the Indian sub-continent. Under the circumstances, it is not possible for the small navy of Pakistan to maintain "parity" with India any longer (made painfully evident by the losses in the 1971 war). However, the naval forces of Pakistan would still play an important part within the confines of the Arabian Sea area. For this reason, a study of the naval forces of Pakistan becomes important and should not be overlooked when viewing the regional navies which ply the waters of the Arabian Sea and the western regions of



Pakistan "Agosta" Class SS HASMAT PN # 135



Pakistan "Gearing/Fram I" DD TAIMUR PN D166

and two or three additional destroyers might well be transferred in the coming year to replace the aging British destroyers.

The history of submarines in Pakistan presents a slightly different picture. All four "Daphne" class coastal submarines were commissioned in 1969-70,⁽⁴⁾ and have remained operational since with overhauls done at the Karachi Dockyard every few years.⁽⁵⁾ The United Nations ban on the sale of military arms to South Africa provided the opportunity for Pakistan to negotiate the purchase of two under-construction "Agosta" class medium range patrol submarines. These were purchased in July 1978 under a \$140 million contract, and commissioned a year later. Some defence analysts feel that Libya maybe the actual owners of the submarines, or that Libya provided the financing for the deal in return for certain future Pakistani assistance to the Libyan navy (and possibly Pakistani help in Libya's efforts at acquiring nuclear weapon technology). Either, or a combination of the above is quite within the realm of possibilities. The two new "Agosta" class (PNS HASMAT S135, PNS HURMAT S136) provide the submarine component with a respectable medium range patrol and ASW capable submarine; also capable of operating on the Indian East Coast, which the "Daphne" class coastal submarines are not capable of doing.

An interesting note on submarine purchases is recent information that the six small Italian "SX 404" Type UDT/Midget submarines may have been purchased in Italy as far back as 1966. This would have made them available for service during the Indo-Pakistani War of 1971, though no reports of that successful operations have emerged in foreign defence journals. *Jane's Fighting Ships 1980/81* edition lists the purchase date as 1972-73; though it is possible the earlier date maybe confused with purchase of frogman swimmer-type vehicles and not the more sophisticated "SX 404" class midget submarines.

TRAINING

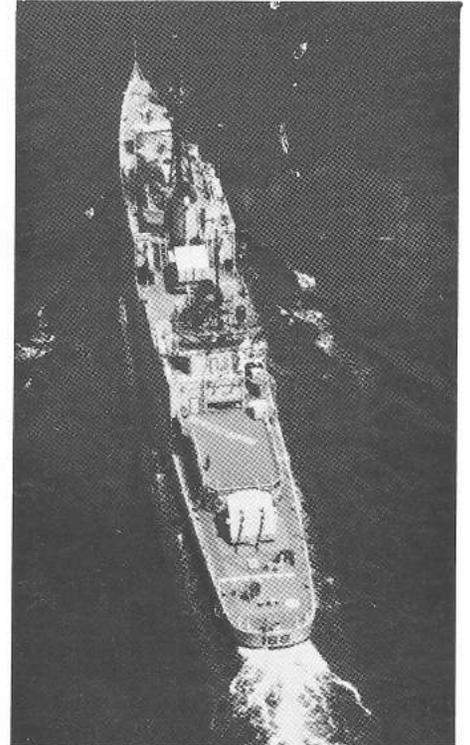
Within the Pakistani naval structure, the Chief of Naval Operations (Admiral Mohammed Shariff) is directly responsible for the naval operations of his ships and the shore establishment; and reports directly to the Minister of Defence (Muir Ali Ahmad Talpur).⁽⁶⁾ Naval Headquarters is located where all the service headquarters are located — Islamabad, as a component part of the

Ministry of Defence. Other naval establishments located at Islamabad include the command departments responsible for supply/logistics, judicial, operations, medical, and the technical services. The overseeing Naval Secretariat also resides in this government city.

Stationed in Karachi is the commander for Pakistani naval fleet forces and the offices of the Commander, Logistics and Commander, Karachi (COMKAR). Pakistani naval air is located at the PNS Mehran Naval Air Station, located outside of Karachi.

All general training is done at the Pakistan Naval Station PNS HIMALAYA, and the co-located naval academy (PNS RABAR). For the Pakistani military, recruitment is not a difficult problem. Attracting youth is made easy by the general problems of Pakistan's economic and educational system. With a population of about 77 million, Pakistan's naval personnel strength is relatively small — about 11,000. The largely agricultural nature⁽⁷⁾ of Pakistani society also brings with it a high illiteracy rate. Fortunately, it has the benefits of human nature, in that recruits are aggressive and eager to learn. Naval service provides long-term regular employment and pay benefits, where 53.9% of the workforce is otherwise engaged in agricultural occupations.⁽⁸⁾ Enlisted recruits are entered as "trainees" via high school, British style "boy entry" programmes (from 15-17 years age). Others may enter after completion of high school studies at 18. Initial service is for 12 years, followed by an additional obligated service for 10 years in the small reserve force. Officer candidates are selected after two years of college, with completion of "final" selection after completion of written and oral examinations. A majority of the naval service officers are chosen in this manner; however, some "direct" appointments are made in this area as well (in order to allow for "political" influence or from civilian occupations of older candidates).

After basic training, rate specialty and advanced courses are given either at the 'retired' ex-frigate PNS TUGHRIL, at the submarine training school PNS IQBAL, or at the naval air facility PNS MEHRAN (co-located with the Drigh Road Air Force Base). Some "specialized" courses are also given at the training centre north of Karachi, PNS KARSAZ. These are limited to advanced engineering, electronics, electrical, and missile technology courses. Naval Academy



Pakistan "Gearing/Fram I" DD TAIMUR PN # D166

cadets are taken to sea, onboard the aging anti-aircraft light cruiser PNS BABUR, for a one year tour of sea duty. Following this, officers are either assigned directly to ships or are given further ashore specialized courses in their field of specialty. Officer candidates number about 200 per year, and are recipients of "Sub-Lieutenant" rank. Ship or shore assignment continue until an officer reaches the rank of Lieutenant Commander or Commander rank, at which time many are offered advanced "post-graduate" studies, in the United States, France, or elsewhere. Lesser ranking officers and petty officers also go aboard occasionally; but usually only as part of the "receiving" crew to bring home a ship (as with the twenty officers trained in France during 1976-77). A few officers have attended the United States Naval War College.

During the period following the assumption of United States ships into Pakistan's inventory, particularly since the transfer of ex-U.S. "Gearing" class ships, the opportunity for exposure into modern electronics and engineering had increased. This is also true for the submarine component, for the intro-

duction of the "Agosta" class brings with it introduction to modern fire control systems, homing and wire guided torpedoes, and advanced conventional propulsion systems to the Pakistani navy. As a result of the growing need for Pakistan to service its own ships, the Karachi Naval Dockyard has been modernized and enlarged. This included the installation of a floating dry dock for servicing submarines. Some foreign exchange is earned by overhauling other navy ships; reported to including two Egyptian destroyers in the late-1970s, and more recently ships of other Arab countries. Other naval services are provided by smaller shore facilities, including the munitions depot (PNS MAURIPUR — seven miles north of Karachi). While improvements have been made with respect to servicing its own fleet within the last five years, it remains to be seen if Pakistan can support independently such modern submarines as the "Agosta's", including weapons fire control system, etc.

CAPABILITIES

The Pakistani navy in general can provide warships (surface and sub-surface) throughout the region of the Arabian Sea, and if required, into the Persian Gulf or further south along the coast of East Africa in the interests of protecting its small merchant marine (83 vessels of 442,000 tons).⁽⁹⁾ The ocean-going force of Pakistani ships is composed of six destroyers of WW II vintage, one ASW frigate (converted DD-Soon to be retired), and the services of one underway replenishment tanker (AOR) — the PNS DACCA (22,380 tons full load). The distance from Karachi harbor to Aden (PDRY) — entrance to the Red Sea — is approximately 1,575 miles. This is the primary artery for Pakistan to Europe, and there exists a firm requirement for the Pakistani naval forces to provide naval protection for its flag merchant marine exiting the Red Sea and crossing the Arabian Sea (for Karachi). This is particularly true in a localized conflict with India, where some Pakistani flag merchant ships would be carrying "high priority" military cargo and munitions from either Arab countries or Western Europe. Alternately, such shipping would have to make the long transit around Africa ("Cape Route") — disadvantageous due to time and distance considerations.

Additional requirements exist to protect "coastal" trade (e.g. between Oman and the Persian Gulf) from interdiction by Indian



Pakistan "Shanghai" class PGM Unidentified unit

Air Force aircraft or Indian submarines (ex-Soviet "Foxtrot" class). Towards this coastal protection mission, the Pakistani navy can field about 21 escort craft (4 "Hainan", 1 "Town", and 12 "Shanghai" classes of patrol boats), and 4 "Hu Chwan" class torpedo craft). Additionally, the small Pakistani naval air arm has 4 ASW-configured and 2 ASM-equipped SEA KING medium helicopters. Each of these is capable of performing a 300 mile "zone"/radius mission @ 130 knots. It should be noted that the four known conversions to "anti-ship" strike (equipped with two EXOCET AM. 39 missiles) is intended to defend the coastal regions off Karachi Harbor from attack by Indian missile attack boats ("Osa" and "Nanuchka" classes) of the type attacks which occurred during the 1971 war. It is possible further conversions may follow — providing an "anti-ship" mission for all six of the SEA KING MK. 45 helicopters. The naval wing also has about 4 ALOUETTE III light helicopters (purchased from France in December 1974). In the coastal protection role, some future assistance might be possible from the Pakistan Air Force as the latter is now reported converting some MIRAGE V aircraft to handle the French ASM. Unfortunately, inter-service cooperation is minimal in this area, and little air force training is done "over water". The three Breguet ATLANTIC maritime patrol aircraft also have been modified to use the EXOCET ASM, and this provides a relative long-range platform for conducting "unopposed" ASM strikes. This would not however be a safe mission against an Indian task force protected by Indian task force protected by Indian naval SEA HAWK (and later, SEA HARRIER) fighters.

Pakistani "Gearing" class destroyers

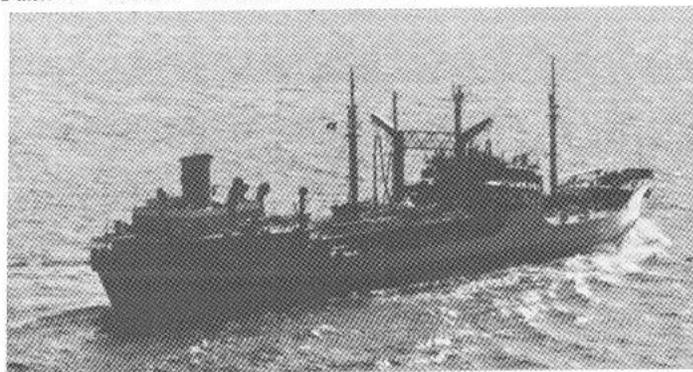
each have RUR-5/ASROC launchers, supplied with the MK.44 Mod. 1 anti-submarine torpedoes.⁽¹⁰⁾ The ASROC 1-6 mile standoff range provides some measure of lethality, combined with the SQS-23 sonar. The relatively shallow waters throughout the Arabian Sea should provide relatively good sonar capability from the long-range SQS-23; superior to any of the older British or Chinese sonars also operated (Type 144Q, 144U, -147 British). Each former American destroyer also has two triple mounts (MK.32) for launching 13.75" Mark 32 Mod. 5 anti-submarine torpedoes. All British-type destroyers operate either a triple-barrel SQUID MK. 3 or MK.4. It is unfortunate the remaining British classes of ships have not been brought up to more modern anti-submarine capable ships. However, it is quite possible none will survive, except PNS BADR, beyond another year with the arrival of more American "Gearing" class ships. It is quite possible the United States intends to completely replace the former British ships — that is at least the apparent trend so far. Some of the British ships might remain as 'stationary' training hulks for some years to come. However their utility is now negligible without extensive modernizations. This remains an unlikely event in view of the shortage of funds that generally exists for the naval component.

The Pakistani experience during the 1971 war may provide some insight to Indian tactics, and the likely problem Pakistani ships still face ten years later. India attacked at night the port of Karachi, including ships in the Chinna Creek-Baba Channels. This was part of a two pronged effort to clear Pakistani merchant ships off the high seas, and to deny use of the port of Karachi to foreign as well as Pakistani ships. The OSA-I attack

Pakistan "Hainan" Class PC SIND PN # P159



Pakistan "Mission" Class AO DACCA PN # A41



(using the SS-N-2a STYX) also caught a small group of Pakistani ships close off the coast and succeeded in sinking one destroyer and one minesweeper — without losses. The Indian attacks damaged and sunk a couple merchant ships, and caused damage at an oil storage tank. In the latter case, an at anchor Pakistani destroyer was probably the target; out, one missile went into the near-by oil tank storage area instead — before hitting the destroyer.⁽¹¹⁾ Such attacks demonstrate the willingness of the Indians to forcefully prosecute a naval blockade against the Pakistani coast, and “isolate” the area from foreign ship traffic.⁽¹²⁾

SOME SOLUTIONS.

If one assumes that the average destroyer is going to have a hull life of 25 years, then it is very apparent that much of the Pakistani naval destroyers force is in need of full refits (or retirement). However, the former U.S. ships have been completely rebuilt and will be capable of serving another ten years, though at some future point it would do well to refit the ships electronics and weapons systems. While this author recognizes that Pakistan is short of naval defence funds (at least with regard to it's requirements), some programmes that do not require purchase of additional ships, particularly already obsolescent ones, could be undertaken that would greatly enhance the survivability of each of the major remaining classes of ships. Some of the proposals which come to mind include:

(a) **Electronic refitting:** This should be accomplished if either PNS BABUR (training ship) or PNS BADR are to remain in further service. An ideal set would be the Plessey AWS-4 transmitter/receivers (designated Type 994 in the Royal Navy) a type now being installed in modified Royal Navy 'Rothesay' and 'Leander' frigates. This would provide substantial range and anti-clutter improvements against air targets. Alternately, surplus Type 993 sets being replaced off these frigates would still provide enhanced performance over existing equipment (Type 964 and -974). A Plessey R405 ECCM receiver would also enhance the ships ECCM performance in the face of Soviet-type radar jamming equipment available to the Indian navy and the Soviet Indian Ocean naval force. Due to Pakistan's greater defence purchases in France, similiar performance equipment could also be purchased there: the primary consideration is to get a modern system on an aging destroyer platform which, otherwise Pakistan cannot afford to replace with

a modern destroyer or frigate design.

Likewise, Pakistan's coastal light forces are primarily made up of Chinese types, using either SKIN HEAD or POT HEAD search radars. Neither of these is particularly modern-designed during the late-1950's. While simple in design and providing 20-25 mile search range performance, they are obsolescent by current standards. Therefore, Pakistan might undertake a minor refitting programme (as in Egypt with it's former Soviet hulled ships), and refit all the “Hainan”, “Shanghai”, and “Hu-Chwan” class vessels with modern “range radars” with back-up ESM capability. Such a system might include the Decca-Ratical search radar with a CLEARSCAN automatic clutter suppression system, and a Decca RDL ESM EW system. A number of optical fire control systems are also available in the UK or France, which would measurably improve the performance of the Soviet-pattern gun systems carried by these light vessels. These are only suggested systems, and are only intended to provide an idea of the type of improvements needed, and practical in view of the threat presented.

(b) **Missile Fitting:** It appears that all of the fifty (50) plus French MM-38 EXOCET SSM's originally contracted for by Pakistan have been fitted to coastal defence installations to protect the seaward approaches of Karachi. None were apparently installed on ships, including the recently received U.S. destroyers. Further missiles, including possibly the MM-40 version should be acquired for “back-filling” onboard the U.S. “Gearing” class destroyers — much in the fashion that the Taiwan Navy destroyers of a similiar class have been fitted-out with locally produced GABRIEL SSM's. A number of alternative fittings would be possible, including: removal of the aft 5"/38 cal twin gun mount, and use the aft deck area for four missile launchers. This would allow retention of the hangar deck area — and if strengthened, would be capable of operating the ALLOUTTE III helos from these ships. Alternately, four such mountings could be sited on the helo deck aft without difficulty. Consideration should also be given in providing the PNS BADR (“Battle” class DD) with a similiar capability, by removal of the quadruple 21” torpedo tube mount still retained.

For an air defence capability, against Indian Air Force Mig-23/FLOGGER, SU-7/FITTER or HAWKER HUNTER strike aircraft, some measures should be consider-

ed. Taiwan is a good example of a country fitting a quadruple SEA CHAPPAREL SAM system on it's ex-U.S. destroyers (“Fletcher” class).⁽¹³⁾ A similiar fitting could be made on the helo deck of Pakistan's destroyers, or possibly forward of the bridge on the “Gearing” class.

Additionally, some 20mm automatic weapons, either single or twin mountings, should be installed on all ships that are to remain in service another few years. A variety of mounts are possible, either using older U.S. mountings or more modern European models.⁽¹⁴⁾ These weapons proved quite capable of destroying incoming STYX SSM's during some of the Middle Eastern fighting in the 1970's. Further, the U.S. 5"/38 calibre gun mount MK. 38 is incapable of traversing adequately to engage a high-speed surface ship in a close-in engagement — of the type presented the U.S. when North Vietnamese PT boats attacked two U.S. destroyers in the famous “Tonkin Gulf Incident”.⁽¹⁵⁾ Another alternative, patterned after South Korea's example, would be fitting a triple-barrel VULCAN “gatling” mount on the after hanger. This would provide a rapid rate of fire 20mm weapon, at minimal cost (if purchased through South Korea).

There are no hard and fast concrete answers to some of the “threats” that might present themselves to the Pakistani naval forces in the coming years. India would produce its own submarines in about four years. Under such circumstances, Pakistan needs improve it's shore based anti-submarine component (possibly by acquisition of surplus U.S. S-2E aircraft), and by placing contracts for light frigates or corvette class vessels in the near future⁽¹⁶⁾ — or they will not be entering service at a time when the threat of Indian submarines (and future aircraft) will be felt the greatest. Considering the budget funding problems now at hand, it is difficult to see any easy solution without “foreign” funding assistance. Two likely candidates would include Saudi Arabia and Libya. Either could provide the funding for a small group of Spanish “Descubierta” class frigates, or Vosper designed corvettes (such as the MK.9 or MK.17 proposal). In either case, further acquisition of surplus U.S. destroyers will remain highly essential. In the long-run, it will be what the Pakistani navy makes of these limited acquisitions that will have much to do with the future ability of the naval establishment to carry out it's assigned missions — particularly against the larger naval forces of either India or the Soviet Indian Ocean Squadron. □

PAKISTAN: NEW PURCHASE OF NAVAL SHIPS AND EQUIPMENTS

Pakistani naval inspection personnel recently toured the United States naval facilities at the Philadelphia Navy Yard. Pakistan plans to purchase the U.S. destroyer tender USS EVERGLADES (AD24). The ship is currently a “near” stationary tender for East Coast destroyers, particularly the older American FRAM destroyers. The ship has been modernized from its original “Modified C-3” design of destroyer tenders. The ship should be well capable of providing depot service, particularly as the ship has been FRAM II modernized to service ASROC equipment, SP5-40, EEC/ESM electronics, and naval helicopters.

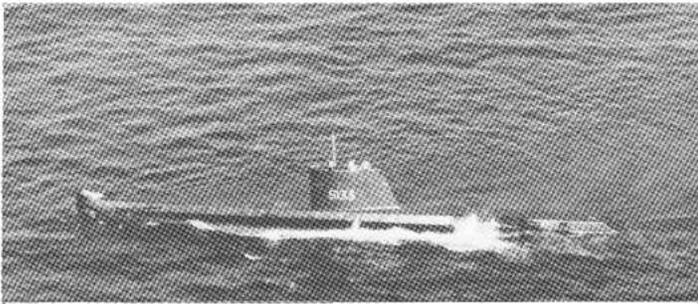
Pakistan also wants to buy two additional “GEARING”/FRAM I” class destroyers, for acceptance this year. Others will be acquired next year. Earlier this year, the ex-British “Type-16” converted destroyer was renamed PNS MUFAFIZ (ex-TIPPU SULTAN). The ship, along with the AD tender, will probably be stationed at the small port facility at GWADAR — near the straits of Hormuz. The ship will likely become as stationary training ship at Gwadar, as the retired sister-ship PNS TUGHRIL serves at Karachi.

the Indian Ocean.

"THREAT" ENVIRONMENT.

The vastness of the Indian Ocean is not often appreciated by some observers of the military and political events of the region. The entire ocean is 4,000 miles wide by 4,000 miles long. The important trade route from Durban, South Africa to Aden is 3,275 miles. From the United States air base at Diego Garcia to French Djibouti is 2,100 miles — and an equal distance to the coast of Pakistan.⁽²⁾

It is in this area, primarily the Arabian Sea and occasionally into the Persian Gulf, that the small force of Pakistani ships normally operates. Pakistan's navy is still over all the most antiquated of the regional navies patrolling in the region (with the exception of the Yemen/P.D.R.Y.'s Soviet-supplied coastal forces). Only ships of the Pakistani force considered capable of surviving in an electronic and missile 'environment' would be the four ex-U.S. "Gearing/Fram I" class destroyers, and the more modern "Daphne" and "Agosta" class submarines. Despite the good intentions of the former Carter Administration's promises of aid to Pakistan, the "aid package" produced no tangible improvements for the Pakistani naval component.



Pakistan "Daphne" Class SS MANGRO PN # S133

Karachi is the central terminus for the commercial activities of the country, including the railroad and highway system that depends on the availability of the Karachi port facilities being open for import and export trade. The small port of Gwadar to the west of Karachi is of minor importance and incapable of supporting the countries maritime requirements. Petroleum storage capacity is well over 5 million barrels, and provides all the necessary dockyard and ship repair requirements of the Pakistani navy.

The seaward approaches to Pakistan are generally free from major underwater or other offshore obstructions. Closer inshore, there are prominent shoals and rock obstructions along certain parts of the coastline. A rather extensive offshore shelf exists off the coast of Karachi, generally unsuitable to submarine operations. This is largely due to its rather shallow nature — generally under 60 meters deep in most areas. This shelf runs from the Gulf of Cutch to the port of Gwadar. From the mouth of the Indus River to the Gulf of Cutch (off Dwarka), there is another shelf with depths from about 11 meters to 70 meters, prominent with rock and shoal obstructions. Southeast of Karachi to the In-

dian border inland is unsuitable for amphibious operations; being largely marsh and swamplands. Spring tides along the Pakistani coast run from 6.6 to 8.6 feet along the entire coastline; but, flat nearshore bottom slopes along most of the coast would preclude 'dry-ramp' LST class landings. With India's limited amphibious craft, there remains only a small seaborne threat to the Pakistani coastline.

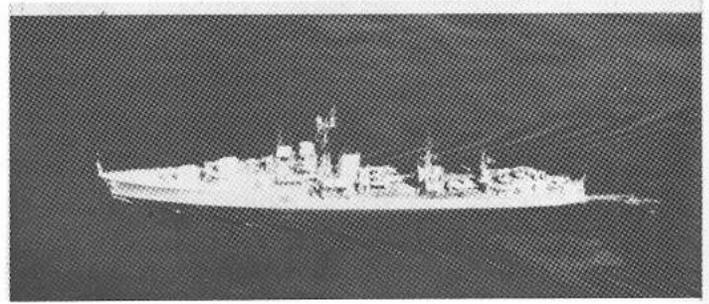
TRADITIONS

The traditions of the Pakistani naval forces derive from the period of World War II, when numerous Pakistani's served with the Royal Navy. The Indian sub-continent naval forces prior to 1939 were few in number, and served to protect British interests in the immediate area. After Independence (breaking up of British India), the Pakistani navy inherited a portion of the ships and facilities of the "old navy". In the immediate post-war period, with its short history of British naval tradition instilled in their personnel, Pakistan received the first major influx of warships into naval service. This included the following: one light cruiser (Modified "Dido" class), eight destroyers (three each of the "Onslow" and "CH/CR" classes, and two "Battle" class). All were funded through United States grant aid to

nan" class (PNS PUNJAB and PNS SARHAD were contracted for. Both were "handed over" at Canton, China on April 20th, 1980 and departed for Karachi two days later.

The United States has remained an "on again, off again" supplier of naval equipment to Pakistan throughout the last twenty years. One former U.S. fleet submarine was lost during the Indo-Pakistani War of 1971, and while India claimed one of the four French-built "Daphne" class sunk also this did not prove to be the case. On April 29, 1977 the U.S. transferred two ex-"Gearing/Fram I" class destroyers; which subsequently required overhauling in San Diego, California prior to shipping out for Karachi. Two former British destroyers, later converted to ASW frigates were retired from active service on receipt of the "Gearing's". Under a short "lifting" of the American ban on selling arms to Pakistan, another sale of two "Gearing" class destroyers occurred on September 30, 1980 (PNS TIPPU SULTAN D168 and PNS TURGHIL D167). A third ship was originally authorized for sale as well (USS ROGERS DD 876), but is now believed to have been sold to South Korea in March of this year.

The failure of the British government to support Pakistan during and after the 1971



Pakistan "Battle" Class DD BADR PN # D161

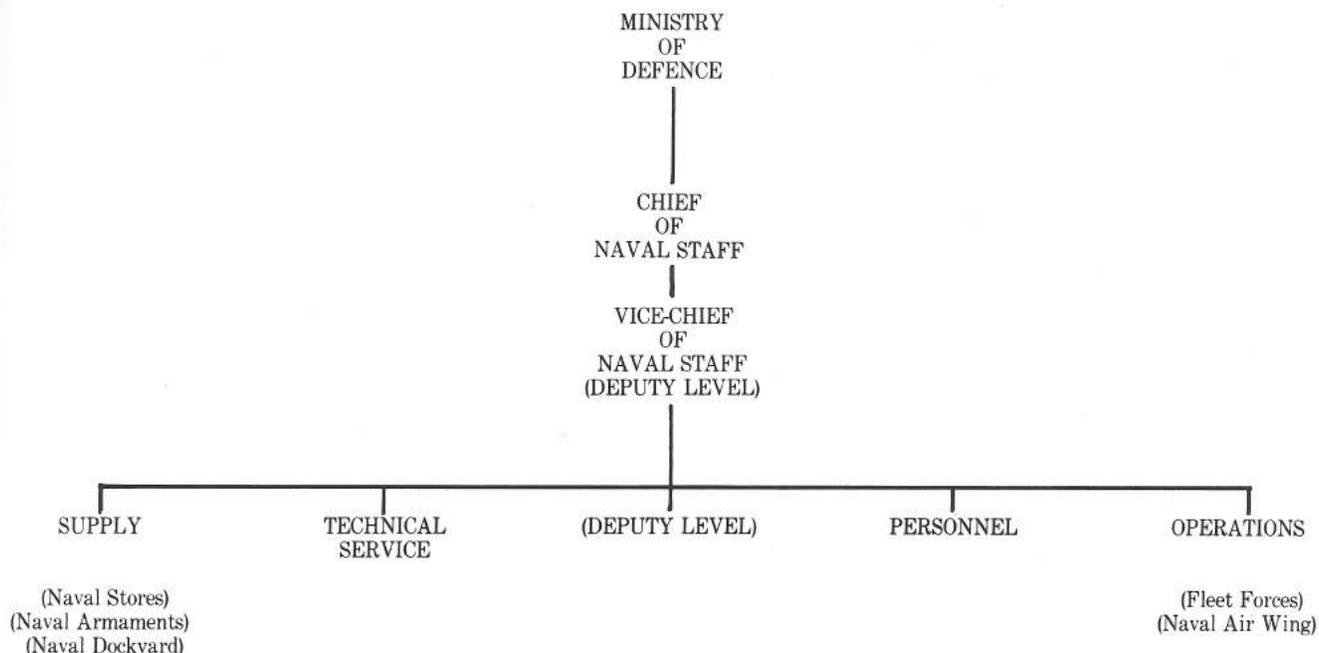
Pakistan.⁽³⁾

During the 1950's when Pakistan was an active member of the Central Treaty Organization (CENTO), the United States provided auxiliaries to Pakistan; including the following: one AO, one YO, one ATF, eight MSC, two YTF, and one YW. All were paid for through U.S. MDAP funding. Despite the influx of American military into the country as naval advisors during this period, the traditions remained very British. In 1965, four patrol craft (Brooke Marine 32-meter craft) were added to the fleet. Not until after the naval losses of the 1971 Indo-Pakistani War, were further craft again added and this time Chinese types.

Due to the growing reliance on China for military and political support against India, China became the natural source of further naval craft in defence-fund short Pakistan. During 1972, the first Chinese ships arrived in the form of "Shanghai" class patrol craft. Over the next few years (1972-76), twelve "Shanghai" PC's, two "Hainan" PCS, and four "Hu Chwan" class hydro-foil torpedo boats were delivered. All ships were received in China (Canton), and delivered by Pakistani crews. In mid-1979, two additional "Hai-

war, resulted in the country withdrawing from the Commonwealth. A short attempt by Pakistan to continue buying naval equipment from the UK resulted in a 1974 sale of two "Whitby" class frigates for \$9.2 million. The two ships, HMS TENBY and HMS SCARBOROUGH, were to have been refitted and modernized in a similar fashion as the current HMS TORQUAY (last unit of the original class of six remaining). Unfortunately, the high quoted cost complete modernization was not within the financial means of the Pakistani government, and the two ships were ultimately scrapped in the UK. Both ships would have immeasurably improved Pakistan's ASW capability, and its unfortunate the U.S. did not rescue the deal with MDAP funding support. The United States is still likely to remain the near-term benefactor for further Pakistani naval craft. The three original "CH/CR" class destroyers have yet to be completely modernized, and remain largely as they were when received in the late-1950's. All of the class will soon have to be retired totally, or at least placed in a "limited use" reserve status. It is likely a Reagan Administration will take a more realistic view of the Pakistani needs,

PAKISTAN NAVY ORGANIZATION OF COMMANDS



PAKISTAN NAVY ORGANIZATION OF FORCES

FORCES AFLOAT —

DESTROYER SQUADRON 25 —

DIVISION 251
DIVISION 252

4 DD (U.S. type)
4 DD (British types)

SUBMARINE SQUADRON 5

6 SS

Special Unit:
UDT and 6 SSX-404 (Midget)

PATROL SQUADRON 10

DIVISION 102
DIVISION 101

4 PTH
20 PGM's

MINE WARFARE SQUADRON 21

DIVISION 211
DIVISION 212
DIVISION 213

4 MSC
3 MSC
1 MMC/ATF

NAVAL AIR WING —

3 Long-range ASW (ATLANTIC MK1)

6 Medium Helicopters:
2 ASW
4 SSM/Strike
(SEA KING MK. 45)

4 Light Helicopters:

ALLOUTTE III

PAKISTAN NAVY SHIP CHARACTERISTIC'S

NAME (and Class)	TYPE	DISPLACEMENT ⁽¹⁾	WEAPONS	ELECTRONICS
PNS BABUR	CLAA	7,560 tons	Offensive — 8-5.25"/50 Calibre (twin)	Air/Surface search Main/Sec. gun fire control
("Mod. Dido")		ASW-(None)	6-21" MK torpedo tubes (two triple)	Direction Finding
			Defensive —	No Passive Detection ⁽²⁾ No Jamming Equipment
PNS BADR	DD	3,360 Tons	Offensive — 4-4.5"/45 (twin) (Dual Purpose)	Air/Surface search (Type 29 3P & -974) Main/Sec. fire control UK Type 975)
("Battle")			4-21" MK VIII torpedo tubes	Direction finding ESM: AN/BLR-1 Sonar: U.K. Type 144Q
		ASW 1 3-Barrel MK. 4 Squid system	Defensive — 7-40 MM AA (2 twin, 3 single)	IFF (UPX-1, -5) Passive Detection (BLR-1)
PNS TUGHRIL	DD	3,500 tons	Offensive/Defensive —	Air/surface search (SP5-40 & 10C)
PNS TIPPU SULTAN	DD		4 — 5"/38 calibre (twin)	Main Fire Control (MK-25)
PNS TARIQ	DD		(Dual Purpose)	IFF (UDX-1, 12) Passive Detection
PNS TAIMUR	DD			ESM: AN/WLR-1 and AN/WLR-3 (?) Sonar: AN/SQS-23A
("Gearing" "Fram I)		ASW — ASROC, two MK 32 t.t. Mounts		

(1) Full Load Displacement's

(2) British Type '651' was extensively used in British — type ships during late 1940's to mid-1950's, for radio controlled missile jamming. Not believed in use now.

Chart No. 3-2

NAME (and Class)	TYPE	DISPLACEMENT ⁽¹⁾	WEAPONS	ELECTRONICS
PNS SHAH JAHAN	DD	2,545 tons	Offensive —	Air/Surface Search
PNS ALAMGIR	DD		3-4.5"/(single)	(UK Type 293 -974)
PNS JAHANGIR	DD	ASW- 1 3-barrel MK3 squid system	4-21" torpedo tubes (QUAD)	Main/Sec Fire Control (type 275 M) Direction Finding
("CH"/"CR")			Defensive —	IFF (UPX-1)
			6-40 MM AA (twin, 4-single)	Sonar: UKType 144 U & -147
PNS SIND + 3 units	PC	400 tons	Defensive — 4-57 MM (twin)	Surface search (POT HEAD)
("Hai Nan")		ASW-Depth Charge Racks and tray (est 30 D.C.)	4-25 MM AA (twin)	Direction Finding
PNS QUETTA + 11 units	PGM	155 tons	Defensive	
("Shanghai")		ASW-(est) 20 D.C.	4-37 MM AA (twin) 4-25 NM AA (twin)	Surface Search (SKIN HEAD)
PNS RAJSHAHI	PGM	143 tons	Defensive —	Surface Search (Decca)
("Town")		ASW — none	2-40 MM/70 cal BOFORS (Single)	
PNS HDF 01-04	PTS	45 tons	Offensive —	Surface Search (POT HEAD)
("Hu Chwan")		ASW — none	2 — 21" torpedo tubes Defensive — 4 — 14.5 MM AA (twin)	

ENGAGEMENT CAPABILITY

MISSILES:	PLATFORM	RANGE	WARHEAD/SHELL WEIGHT
MM 38 EXOCET AM 39 EXOCET	Shore Based Altantic MR. 1 Sea King MK. 45	43 KM (Mach 0.93) 50-70 KM (Mach 0.93)	352 lbs./160 KG 352 lbs./160 KG
GUNS:			
5.25"/50 calibre (Mount: MK II)	"Mod. Dido" Class	23,400 yds.	80 lbs.
5"/38 calibre (Mount: MK 38 Mod 1)	"Gearing" Class	17,300 yds	55 lbs.
4.5"/45 cal (Mount: BD MK. IV — twin or single)	"Battle" Class "CH/CR" Class	19,900 yds	55 lbs.

FOOTNOTES

1. See G. Jacobs, "The Afghan Armed Forces — To The Soviet Invasion 1980", *Asian Defence Journal*, Nov/Dec 1980, pages 74-91.
2. See "Aviation Week & Space Technology", Vol. 112, No. 2 (January 14, 1980), pages 12-14.
3. U.S. Mutual Defence Funds included: "Battle" class (one), US \$8 million; "Modified Dido" (one), US \$19 million; "CH/CR" class (three), \$12.7 million.
4. *Jane's Fighting Ships, 1980-81*, Ed. John E. Moore, (London), page 352.
5. During a two week visit of Chinese (PRC) naval representatives to Pakistan, Rear Admiral Ghayur Abbas Zaidi reported Pakistan was completely "self-sufficient" in the repair and refit of all submarines and surface ships of it's navy. See *The Muslim* (Islamabad, 3 Dec. 80).
6. See *Asia 1981 Yearbook*, Far Eastern Economic Review (Hong Kong), page 219.
7. See *Asia 1979 Yearbook*, Far Eastern Economic Review; (Hong Kong), page 271.
8. op cit, page 2
9. *JFS, '80-81*, page 351.
10. Some report indicate Pakistan has also purchased U.S. MK 46 torpedoes probably during 1979.
11. The missile probably had an Infra-Red (IR) warhead seeker, and was influenced by heat generated from oil storage tanks.
12. See "The Indian Ocean As Seen By An Indian", Captain A.S.P. Bindra (IN), U.S. Naval Institute **PROCEEDINGS**, May 1970, pages 178-203.
13. The quad SEA CHAPPAREL is mounted on "Fletcher" class destroyers, one mount per ship, in the location of the former 3"/50 calibre. DP twin mount (above X position on centreline). A French "CROTALE NAVAL" SAM system could also be used on some Pakistani ships, if the funding were available for conversion of the "Mod. Dido" class or ex-U.S. "Gearing" class destroyers. This would form commonality with the Pakistani air force's CROTALE SAM used for air-field defence.
14. This could include from the elderly U.S. 20mm Mount MK. 10 to more modern naval systems, including Rheinmetal MK 20RH naval mount. U.S. 5"/38 Mount MK38 trains @ 25 degree/second and elevates @ 15 degree/second. High speed encounters from the Tonkin Gulf Incident to South Korea
15. (ROK) destroyers engaging North Korean (DPRK) "Agent Boats" has shown the difficulty of engaging such craft with such a heavy gun mount.
16. Assuming Pakistan cannot afford to take advantage of surplus ex-RN "Tribal" class destroyers now available for sale. Also, reported Pakistan is interested in New Spanish "F30/Descubierta" class frigates (see *JFS '80-81'* page 354).

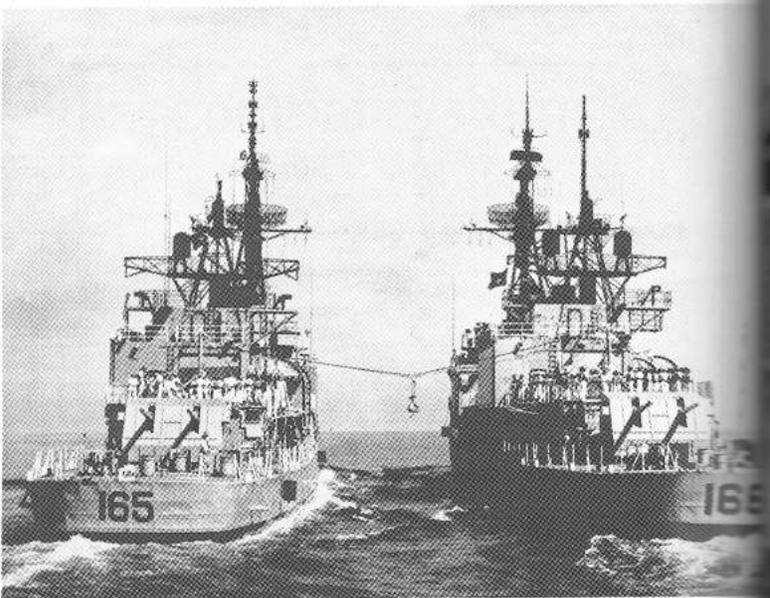
Alouette helicopter of the Pakistan Navy



Pakistan DACCA HO & BADR DD Transfer exercise — 1979



Ships of the Pakistan Navy



CORRECTION NOTE: Referring to our July issue 1981 on page 87, the photo caption is incorrectly printed as "A-4 and F-14 on aircraft carrier", in fact it should be read as "A-4 and F-4/Phantom II aircraft on board of USS Coral Sea (CVA). The error is regretted.