

GEO STRATEGIC SIGNIFICANCE OF COASTAL BELT OF **PAKISTAN**

Introduction

1. Sea highways provide an opportunity to the maritime states for trade and commerce as well as to project their power. Geo strategic perspectives of the sea highlight its important role in the progress & development of a nation. This Quranic message regarding seas is simple and yet, clear and meaningful:-

“It is He who has subjected the sea unto you, that ye may eat thereof flesh that is fresh and tender, and that ye may extract there from ornaments to wear, and thou sees the ships therein that plough the waves that ye may seek to enrich yourself of the bounty of Allah and that ye may be grateful.”

Surah An Nahl (16:14)

2. The command of the high Seas has produced vast Empires, Kingdoms and Colonies. Though the times of colonial days are over, but the sea power in its modern configuration still remains the pivotal point in the global maritime strategy. Famous naval strategist Alfred Mahan describes the strategic importance of Indian Ocean and says that in 21st century the destiny of the world will be decided on its waters.¹ Pakistan, with an important port of Karachi and upcoming flanking port at Gwadar on the Gulf of Oman, possesses strategically important position from the point of view of access to the Persian Gulf and free movement of shipping. Also, being sufficiently close to the Gulf of Oman,

¹ Commander Chaudhri, Ejaz Rasol. “Strategic Significance of the Indian Ocean.” Pakistan Navy Staff College Review. 1985-1986: p 56.

Pakistan acquires a special monitoring capability on the Gulf mercantile traffic. Approximately 60% of the world's oil reserves are located in the Persian Gulf. Japan depends on the Gulf area for more than 80% of its oil, Western Europe about 65% and USA 15%. Therefore Pakistan must exploit its geo strategic significance to gain economic benefit. This area in addition to being rich in oil is also very rich in other minerals. It is estimated that 20 out of 40 raw materials of strategic importance are found in this area.² Hence it is imperative that in-depth analysis of coastal geography to develop economic infrastructure be carried out.

3. **Aim.** To carryout a detailed study of the geography, its geo-strategic significance, and the security imperatives of the coastal belt of Pakistan with a view to proffer recommendations relevant to economic development.

4. **Scope**

- a. **Geo strategic significance.**
- b. **Coastal geography.**
- c. **Beaches / amphibious landing operations.**
- d. **Security imperatives.**
- e. **Recommendations.**
- f. **Conclusion.**

² Brigadier Zia Arif. "Development of Makran Coast." Individual Research Paper. National Defence Course 1996: p 23.

PART – I

GEO STRATEGIC SIGNIFICANCE

5. **Strategic Significance.** Sitting at the head of the Arabian Sea, Pakistan occupies a very important position on the vital trade and oil supply routes from the Persian Gulf. Maritime powers of the world have always endeavoured to dominate and control Indian Ocean for political or economic interests. Thus, it is imperative for the economic prosperity of Pakistan that the commercial and strategic interests in the Arabian Sea are well protected. Oil reserves in the Persian Gulf; transform the importance of the Arabian Sea from purely trade routes to “Survival Routes”,³ not only for Pakistan but also for other European countries which import Oil from this region. The heavy dependence on imports, foreign carriers and inadequate port handling capacity seriously undermine our economic stamina which is highly susceptible to interruption. Directly linked with such a dependence is the war stamina. These inadequacies, therefore, represent a potential weapon in the hands of our adversary.
6. The primary task of coastal power is to protect the resources in its Exclusive Economic Zones and to defend against violation of its territorial waters. Intrinsic power of a coastal state, rests on following main factors:-⁴
- a. Geographical location and physical properties of the coastline, continental shelf and Exclusive Economic Zone. Pictorial view at annex A.⁵

³ Commander Safvi. “Importance of Arabian Sea to Pakistan – A Strategic Review.” Pakistan Navy War College Papers: p 64.

⁴ Saleem, Muhammad. “Coastal Development in Pakistan Options, Implications and Impact on Security and Economic Development.” Individual Research Paper. National Defence Course 1997: p 2.

- b. **Ability of the coastal state to maintain national sovereignty.**
- c. **The ability of the coastal state to establish local sea control or coastal control during crisis or war as a contribution to the total defensive effort of the state.**

7. **American Interests.** In addition to its strategic interests and its concern to keep the sea lanes open, US wants to protect its huge investments in the area and establish markets for its consumer products. It also enjoys a lion's share of the lucrative arms trade in which most of the big powers, including Russia participate actively. Indian Ocean is also a valuable source for the import of the vital strategic raw materials. The area, because of oil resources is indispensable to the economic health and survival of the US. US also want that supply of oil form Saudi Arabia should continue without any interruption.

8. **Russian Interests.** Russia seeks to use areas constituting Afghanistan, Iran and Pakistan for the realisation of her long term goals. If Russia acquires a direct access to the Gulf, it will give her the following advantages:-

- a. **Provide faster strategic reinforcement capability in the region and eliminate Western submarine based threat from waters of the Indian Ocean and the Arabian Sea.**
- b. **Exertion of military pressure on Iran and Saudi Arabia through potential threat to their oil trade and be on the flanks of NATO countries.**

⁵ Campbell – Chapter 50. <http://web.isoi.edu.pk/ISOIWebPages/Faculty-n-TAs / awesterman / Powerpoint / Campbell Chapter50.ppt> of 13 Jul 2003

- c. **Russia would like to expand and guard their commercial links and use the Middle East as a spring board for her achievements elsewhere.**
- d. **Maintain physical surveillance of the area which will enable her to link its Atlantic and Pacific fleet units.**
- e. **Baluchistan's natural gas reserves, its mineral resources and vast cultivable land are additional benefits for the Russia.**

9. **Indian Threat.** India has an excellent geographical location, with its southern peninsula thrusting into the Indian Ocean; it gains considerable advantage in terms of strategic importance. India has a commanding location with respect to the movement of shipping between Europe and Far East as well as oil traffic from the Gulf, which passes through the Malacca Straits and the Suez. Indian islands of Andaman and Nicobars in the east and Lakshadweep in the west extends its lines of communication into the Bay of Bengal and the Arabian Sea. India considers that its security is inextricably linked with the situation in the Indian Ocean, and that the country needs to develop high level maritime forces for an adequate defence of its long coastline and her interests in the Indian Ocean.⁶ India is in the process of building a power projection oriented Navy,⁷ that is unlikely to come across any meaningful resistance from any of the regional maritime forces. India is dependent on imports of oil from the Gulf and any disruption of oil supplies would affect the interests of India. India itself is a

⁶ Lieutenant Commander Afzal, Naheed. "Maintenance of Strategic Balance in the face of Perceived Danger from India." *Pakistan Navy Staff College Review*. 1995-96: p 90.

⁷ Threat Seminar, Staff Course 2003, Command and Staff College Quetta, 5 Mar, 2003.

leading manufacturing country, counted among the top ten industrialized nations, and needs markets for its own goods in this region.

10. The boundary dispute between India and Pakistan that extend beyond land into the sea is still unresolved. Because of the coastal land dispute along Sir Creek,⁸ there is an accompanying dispute over the maritime boundary that extends 200 miles into sea, covering the EEZ of two nations as well as their national security boundary. The un-demarcated and disputed nature has already caused international incidents; fishermen from both sides have been detained for violation of maritime boundaries. The conflict nature also limits the potential of both sides to attract the capital investment to develop the natural resource potential of the region, including offshore oil or gas exploration.

11. **Iran's Interests.** Iran is a nation rich in resources, man power, motivation and heritage whose potential for the future cannot be ignored. The Iranian Navy has the capability to influence the flow of trade, most importantly through the Strait of Hormuz. The developments of Iranian Navy had acted in the past, and will continue to act in future too, as a catalyst towards the development of other navies in the Gulf region. Its average oil production is 2 million barrels per day. Iran wants to keep her oil supply line open through the Gulf. Iran's strategy is mainly defensive, in that it seeks to ensure protection of the shipping routes over which its oil exports are transported,

12. **Oman / Muscat's Interests.** Gwadar and an area of about 300 square miles surrounding it, formerly held by the Sultan of Muscat and Oman were

⁸ Major General Tariq Javed, Surveyor General of Pakistan. "Indo Pak Border Alignment" Guest Speaker Staff Course 2003. Command and Staff College Quetta, 12 May, 2003.

handed over to Pakistan vide a sales agreement in 1958.⁹ As stipulated in the purchase agreement of Gwadar between Pakistan and Oman, the latter is entitled to recruit manpower for her police and defence forces from Makran division. There are about three Makrani regiments in the Muscat Army. At present there are estimated to be 10,000 Makrani men serving in the armed forces of Oman.

13. **Central Asian Republics Interests.** A number of States lack direct access to the sea and its resources. The rights of such landlocked States under United Nations Convention on Laws of Sea (UNCLOS) can be specified as under:-

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- a. The right of ships to sail on the sea.
- b. Access to the marine resources.
- c. Access to the sea.

14. Prior to break up of USSR in December 1991 there was only one landlocked state in our sub region, Afghanistan, and we had to deal with her regarding rights of transit to the sea through our land territory. With the emergence of Central Asian States provisions of UNCLOS have assumed greater importance for Pakistan; as these States will have right of access to the sea and also right to participate in the exploitation of resources of our Exclusive Economic Zone.

⁹ Brigadier Zia, Arif. "Development of Makran Coast." Individual Research Paper. National Defence Course 1996: p 28.

¹⁰ Commodore Usman, Umar. "Aspects of UNCLOS." PIMA. 4, 1997: p 67.

PART II

COASTAL GEOGRAPHY

15. Area Profile.¹¹ Pakistani coastline is washed by the warm waters of the Arabian Sea and stretches from the Iranian border at the mouth of Dasht River to the Indian border at eastern edge of Indus delta. The total length of shoreline is about 990 kilometres.¹² The total maritime zone of Pakistan is over 30% of the land area and is characterized by distinctive oceanic phenomenon that produces rich fisheries, minerals and hydrocarbon resources. The coastal zone includes the rocky headlands, pocket bays, lagoons and wide alluvial plains which extend in places over 128 kilometres inland from the shore. The coast of Pakistan can be divided into two distinct parts due to climatic conditions, terrain and geographical locations and these are:-

a. Baluchistan Coast. The coast of Baluchistan is arid and comprises sedimentary rocks like lime/mud stone and sand. The Baluchistan coast has two parts i.e. Lasbela Coast from Hub River to Hingol River and Makran Coast from Hingol River to Dasht River. Map at annex B.

(1) Dasht River to Ras Pishukan. Gwatar bay is a pouch shaped shallow bay between the headlands of Iran to the West and the rocky platform of Jiwani in the East.

(2) Jiwani. The nearest town to Iranian border is Jiwani. Between Jiwani and the rocky point of Ras Pishukan, there is a

¹¹ "Coastal Geography of Pakistan and It's Significance." National Defence College Handout.

¹² Pakistan National Institute of Oceanography. <http://www.niopk.gov.pk/intro-1.html> of 17 Jul 2003.

narrow, nearly straight coastal plain. The beach along this section of the coast faces the Arabian Sea and is subjected to large waves during monsoon. The beach itself is narrow with a gradient averaging from 2 to 3 degrees.

- (3) **Gwadar.** Gwadar West bay is a large, shallow bay. At its widest point the bay is 15 miles long and 8 miles wide. Gwadar is located 234 nautical miles west of Karachi and 390 nautical miles east of Strait of Hormuz. Pakistan Navy has an establishment called PNS Akram. The coastline of Gwadar East Bay is similar to that of West Bay, except that it is not as shallow and is exposed to the sea. The beach itself is about 100 metres wide with a gradient of 2 to 3 degrees. The bay is well sheltered and provides good anchorage.
- (4) **Pasni.** Pasni is an important town being the seaport of Kulanch, a district of Makran; also it owes some importance to its proximity with Turbat. Pakistan Navy has an establishment called PNS Makran.
- (5) **Ormara.** Ormara is flanked on each side by shallow bays. East bay provides an excellent anchorage. Pakistan Navy has built a naval harbour in east bay. Apart from providing an alternative harbour to Pakistan Navy, it will house submarine rebuild facility. The port has capacity for further expansion into a commercial port.

- (6) **Ormara to Ras Katchari.** East of Ormara, the coastline is nearly straight consisting of sandy plains and rocky cliffs of the Hinglaj Mountains, one of the highest chains in southern Baluchistan.
- (7) **Cape Monze to Clifton Beach.** This section consists of low cliffs and sandy bars. The section between Cape Monze and Hawks Bay is a rocky cliff coast and forms part of Kirthar Range.
- (8) **Astola.**¹³ Astola Island extends across the Pasni Bay. The island is normally uninhabited, but is used by fishermen during the monsoon; also it is visited by Hindus and Pasni Meds, as a place of pilgrimage, who land at the island when the ascent is steep and tortuous. The island is accessible from Karachi and Pasni through ferry service and speedboats. It is a safe haven for aquatic birds, reptiles and wild bushes.
- b. **Sindh Coast.** It stretches over 300 kilometres from Hub River to Sir Creek. It has two parts; Karachi coast and Indus Delta. The Indus Delta stretches from Port Qasim to Sir Creek and covers a coastal belt of about 180 kilometres. It is plain and overgrown with mangroves. For many miles there is nothing to be seen but the swamp, and the land is hardly discernible for more than two miles offshore. The coastline changes continuously due to siltation and sea action. Map at annex C.

¹³ Jan, Munir Ahmed. "Developing the Makran Coast." Dawn. Feb. 12 2001.

(1) **Indus Delta.** Indus Delta region consists of a number of creeks and large tidal channels, many of which are remnant courses of the Indus River. It is difficult to distinguish various mouths of Indus Delta. Hajambro, Turshian, Khobar, Qalandri, Kahr, Bachiar, Wari, Kajhar and Sir Creek are important to mention. The width of the creeks varies from few meters to over a kilometre ranging in average depth of 4 to 15 meters.

(2) **Sir Creek.**¹⁴ It is situated about 190 kilometres south east of Karachi. Its mouth is regarded as the boundary between Pakistan and India. The average width of the creek is 2 kilometres with entrance width of 5 kilometres. Outfall drain is connected with un-metalled road at Ranger Post near Musafir Khana. A cemented tide reading post is located near Ranger Post, which can also be used as a landing place. The entire network of Indian creeks is inter-linked through small creeks that have potential of inland navigation to Karachi but restricted to tide conditions.

c. **Harbours.** Technical study named Akbar Report¹⁵ emphasized that Gwadar and Ormara are the most suitable sites from the port engineering hydraulic point of view, cost effectiveness and geographical considerations to be established as commercial ports. Gadani, Pasni, Hangol and Jiwani can only be developed as fishing-

¹⁴ Major Mahmood, Tariq. "Types of Indo Pak Borders." Pakistan Navy War College Review. 2001-2002: p 39.

¹⁵ Report of the Committee headed by Rear Admiral (Retired) Akbar H Khan , 1996.

cum-miniport, whereas Sonmiani and Khor Kalmat had problems with sand bars and excessive siltation.

16. **Beaches / Amphibious Landing Operations.** The beaches in general are classified as Sandy, Muddy, Rocky and Pebble. In Pakistan mostly the beaches are sandy, muddy and rocky.¹⁶ The beaches are affected by coastal environments, which include wind, wave, tide, erosion/siltation and earthquake.

a. **Hydrographical Features of Coastal Belt.** The North Arabian Sea washing our shores experiences southwest monsoon from May to September each year, which results in:-¹⁷

- (1) Strong south westerly winds and swells.
- (2) Up welling of the water.
- (3) Reduction in the isothermal layer.
- (4) Mixing of water masses.
- (5) Excessive sea noise.

b. **Following places on our coast are suitable for amphibious landings:-**

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- (1) **Jiwani and Pasni Bays are sheltered and provide good landing ground with a sandy beach.**

¹⁶ Saleem, Muhammad, "Coastal Development in Pakistan." NDC Journal. 1997: p 2.

¹⁷ A Group Research Study, "The Development of Maritime Orientation in our Nation." The Citadel 1/90.

¹⁸ "Coastal Geography of Pakistan and its Significance." National Defence College Handout.

- (2) **Gwadar East bay is less exposed to the sea. Amphibious landing at high tide is possible but soft sand beach, inland sand dunes and cliffs can pose problems to vehicles.**
- (3) **From Ras Malan to Ras Shamal Bandar the coast consists of stretches of cliffs, valleys and large sandy plains of the Hingol River. The beach is sandy and the water depths near the shoreline are suitable for amphibious landings.**
- (4) **Amphibious landings are possible in Ormara East Bay but would be slightly difficult due to sand dunes and beach ridges.**
- (5) **Another large sandy plain section of the Makran coast forms a wide arc around Sonmiani Bay. Amphibious landings are possible in certain sections of the bay. The hinterland is good for transportation of heavy vehicles and provides tolerable logistic support.**
- (6) **Between Cape Monze and Clifton beach, portions of the beach are sandy and suitable for landing while other areas have shallow reefs dangerous for vessels.**
- (7) **The Sindh coast is swampy and generally covered with mangroves. The Indus Delta has created a large number of creeks. With good knowledge small crafts cannot only navigate through these to the Indus but can also travel from Sir Mouth to Port Qasim without being exposed to the open sea. During the incident of shooting down of Pakistan Navy**

Atlantic aircraft in August 1999, the Indians managed to bring their landing craft within about 2 nautical miles of the crash site in a show of power and naval presence. However any large scale amphibious landing is not considered feasible.

- c. Although a number of suitable landing sites are available along Pakistan coast, yet the classic link up operations in time and space is not possible with the ground forces due to difficult terrain and prolonged sea battle envisaged before commencement of any amphibious operations.

17. **Security Imperatives.** About 95% of our exports and imports are carried out by sea. This includes import of the order of about 3/4th of our oil and petroleum, all our iron ore for the Steel Mills, over 3/4th of our capital goods, about 1/3rd of our fertiliser, about 2/3rd of our edible oil and over 1/10th of our wheat depending on our crop.¹⁹ It also includes several other items and much of the material and equipment required for defence and defence production. These are presently imported mostly via Karachi and Port Qasim. We are faced with a qualitative and quantitative Indian Naval build up which can be used against us in wartime and peacetime. A successful blockade of Karachi, can cause severe disruption and eventually bring most of the economy to a virtual standstill in a relatively short period.

18. Pakistan ignored its coastal defence under a mistaken notion that the mere state of its under-developed is a safeguard against a maritime adventure by the

¹⁹Vice Admiral (Retired) H.M.S, Choudri. "Effective Defence." PIMA. 4, 1997: p 19.

enemy.²⁰ The construction of a coastal road in Baluchistan was opposed for a long time on the analogy that it would provide the landing forces a swift means of communication to invade Karachi from the flank. Till late sixties no agency was available to check the foreign crafts from India, Iran, China and even from the Far East countries exploiting natural resources in our coastal area. Pakistan Coast Guard was established in 1970 but its off-shore surveillance capabilities remained limited due to inadequate resources. Resultantly Maritime Security Agency (MSA) was created on modern concept in 1986 and has broad maritime orientation being an off-spring of Pakistan Navy.

19. To assist in command and control of operations in the maritime zone of Pakistan, Exclusive Economic Zone has been divided into three maritime regions:-²¹

<u>Serial</u>	<u>Region</u>	<u>Area (Kilometres)</u>	<u>Extent</u>
a.	Western Maritime Region	56,320	Gwadar – Jiwani
b.	Central Maritime Region	139,561	Ormara - Pasni
c.	Eastern Maritime Region	87,040	Karachi - Sonmiani

²⁰ "Maritime Strategy for Pakistan." Extracts of Seminar, 24th Pakistan Navy Staff Course, Pakistan Navy Staff College Review. 1995-96: p 10.

²¹ Major Abbas, Ghulam. "Integration of Coast Guard in Maritime Security Agency." Pakistan Navy Staff College Review. 1995-96: p 26.

20. **Recommendations.** Few of the recommendations that can directly boost the economic activity in coastal belt of Pakistan or indirectly support the economic cycle by gaining certain strategic advantages, improving coastal defence, taking security measures or identifying coastal areas from geographical point of view to develop are proffered:-

a. **Strategic Advantages.** Development of Gwadar Port and Makran coast will aid the maritime strength of Pakistan and provide following economic and strategic benefits:-

- (1) **Strategic Depth.** Pakistan has very little strategic depth from east to west. Developments of ports/harbours at Gwadar and in Makran area will increase the strategic depth of the country.
- (2) **Large Potential Sea Resources.** Indian Ocean's large potential resources could be exploited easily if we develop our coastal belt.
- (3) **Maritime Power.** Barbarossa's famous words to Turkish Sultan, Sulaiman the Magnificent: "He who rules over the sea will undoubtedly rule over the world" must be remembered if we want to make Pakistan a power in the region.
- (4) **Control of Persian Gulf.** As Gwadar lies on the mouth of Persian Gulf so it should be made operational as soon as possible to influence the flow of oil and trade through it.

(5) **Uninterrupted Trade.** Development of the area will help us to protect our trading ships and will also ensure security of trade against intruders both during peace and war.

b. **Economic Objectives.** The following should stand out as the economic objectives of our Maritime Strategy:-

- (1) Pakistan can help to integrate Central Asian Republics with global economy by providing trade links with rest of the world.
- (2) Examine the possibility of undertaking joint ventures with landlocked countries of the regions.
- (3) Off shore explorations and exploitation of resources be undertaken in collaboration with foreign firms on sharing basis or certain areas be leased out for a percentage of profits.
- (4) Acquire more survey vessels and carry out survey of the seabed within our Exclusive Economic Zone.
- (5) In case of war, emergency or sanctions, foreign flag carriers are likely to refuse to carry our cargo or charge heavily. Therefore it is imperative to increase and operate national flag carriers in order to prevent the collapse of economy and national war stamina.
- (6) Industrial export zones be created near the old/new port cities to draw in population from upcountry and accelerate the process of maritime orientation.

- (7) **Sandy beaches of Pakistan are best suited for green turtle breeding grounds thus must be exploited to its optimum in order to achieve economic gains.**
- (8) **Ormara port be expanded as a commercial port.**
- (9) **Sustenance of sea trade in peace time and war.**
- (10) **Technocrats be appointed in order to revive merchant shipping, ship building and ship breaking industry.**

c. **Coastal Geography**

- (1) **Coastal areas face continuous process of erosion and siltation due to wind, waves, currents and tides. An extensive dredging effort is required for keeping Karachi harbour and Port Qasim fully operational. The protection of coast from erosion and siltation caused by wave should be given due importance for the construction of coastal defences and development of harbours.**
- (2) **Pakistan has successfully demarcated its maritime boundaries with Iran and Oman; however India has disputed land boundary with Pakistan in the Sir Creek area. Pakistan had held four rounds of talks on the issue with India since 1989 and the last one was held in New Delhi in 1998. However there has been no progress on the issue as Indian stand has always been evasive. Unless the issue is resolved and land terminus**

is determined, we cannot progress on delimitation of maritime boundary with India.

- (3) **Hydrocarbons.** The sea area adjacent to Pakistan is characterized by peculiar but interesting oceanographic conditions. The marine geology and geophysical aspects of the area have not been fully investigated and need immediate attention in order to gain economic prosperity.
- (4) Reduce dependence on imported oil by optimizing alternate sources of power generation.
- (5) There is a distinct possibility of Pakistan meeting her domestic requirement from indigenous production. The harnessing of wave-energy through tidal movement, recovery of hydrogen from sea water, sea weeds, and development of bio-mass energy from the biological sources of the sea will almost certainly replace oil as a cheaper form.
- (6) Extensive survey, data collection and research are required for following processes and features which have direct bearing on locating the living and non living resources and their sustainable exploitation and conservation:-
 - (a) Tidal predictions for ports along the coast.
 - (b) Sea level changes and coastal water dynamics.
 - (c) Distribution and structure of oceanic fronts in the shelf seas.

(d) **Analysis of oceanic and tidal currents.**

d. **Security Measures**

- (1) **For optimum utilization of sea based resources, it is necessary that these resources should be effectively protected against enemy intervention or economic intrusion. A dynamic policy in this regard should ensure the basic minimum level of security, as under:-**
- (a) **Protection of sea lines of communication.**
 - (b) **Protection of coastal areas.**
 - (c) **Security of Exclusive Economic Zone, contiguous zone and territorial waters.**
 - (d) **Protection of living and non-living resources in Exclusive Economic Zone.**
 - (e) **Defence of harbours and coastline including coastal establishments.**
 - (f) **Protection against surface, sub-surface, air and amphibious threats.**
- (2) **Coast Guard should be integrated with Maritime Security Agency and renamed as Maritime Security Force (MSF) and more surface ships, salvage and rescue vessels, aircrafts and**

helicopters should be made available to perform the assigned task.

- (3) Manpower required for the Maritime Security Force can continue to flow from Pakistan Army and Navy, but gradually this intake should be reduced to 50% and remaining 50% strength should be made good by enrolling people from the coastal belt thus eliminating poverty and unemployment of the area.
- (4) Presently no specific responsibility has been assigned to any agency for defence of Karachi. There is a need to coordinate the response against any amphibious/helicopter borne threat to Karachi city.
- (5) Considerations be given that some of our existing and future merchant ships are modified/constructed and fitted with suitable weapons and requisite systems, in wartime.

e. **Coastal Defence.** Some measure to establish viable coastal defence are:-

- (1) The peculiar hydrographical features of coastal belt result in reduction of sonar detection ranges of the surface ships and due to less depth in our operational area (maximum up to 1000 metres), ships cannot exploit their low frequency sonar in bottom bounce mode to detect submarines at longer ranges. Our area is therefore termed as the paradise for submarines as

these can operate with relatively greater immunity and freedom. Therefore this should be exploited to its optimum.

- (2) Shallow waters close to Ras Malan, Ormara, Pasni, Gwadar and Jiwani offers good mining sites in these areas.
- (3) Adopt suitable naval strategy commensurate with our naval policy so as to protect own maritime interests and deny enemy use of her major ports especially those on Kathiawar peninsula.
- (4) Formulate a defensive plan for the security of the twin funnel of sea; one running along the Makran Coast to the Gulf, and the other south west to the Arabian Peninsula.
- (5) Places like Gwadar Bay, if seized by any hostile country will provide her the advantage of an advanced naval base, good bargaining ground after ceasefire, besides other political and psychological gains. Therefore Joint Forces Headquarter be established at Pasni/Ormara/Gwadar with forces earmarked in advance.
- (6) Adequate intelligence of the emerging threat be made available.

f. **Miscellaneous**

- (1) Launch campaign for promotion of fish foods among the people with a view to influence its nutrition pattern.

- (2) **Encourage open public debate on all aspects of maritime affairs through media and in higher forums.**
- (3) **To protect fishermen's on the high seas; provide them with information on high fish probability areas and to make them an effective partner in reporting on maritime pollution, establish information exchange link with radio for fishermen and information hubs along the coast. Fishermen training in identification and reporting on marine pollution need to be coupled with training in boat engine maintenance and trouble shooting at high seas.**
- (4) **Accelerate maritime awareness in academic curriculum.**
- (5) **The importance of the Maritime Sector is not fully appreciated in Muslim countries. There is a dire need to establish a forum which should help to carry out the maritime cooperation amongst the Muslim countries and should be the driving force for establishing Networks and other means to obtain maximum benefit from such maritime cooperation.**
- (6) **The exploration and exploitation of the deep sea bed and some of the resources within Exclusive Economic Zone is dependent on high technology equipment. There are only few developed countries who have the know how to undertake these tasks. It is therefore necessary that collective efforts be made by pooling the resources for the benefit of Muslim**

Ummah. Islamic countries must cooperate to exchange information on their experiences, provide data, training and transfer of technology to each other to become self supporting and self sufficient.

- (7) Increase in the number of picnickers demand development of beaches on modern lines to meet future needs and ensure protection to marine life. Karachi Coastal Recreation Development Plan conceived in 1990²² be implemented in order to ensure better coastal water quality, pollution control particularly at Boating Basin, Lyari Estuary, Hawkes Bay, Sea View and Sandspit and erosion control at rocky shoreline with overhanging paradise point.
- (8) Pakistan's coastal belt is open for all types of marine spots, year round. The common factor around the popular resorts around the world has always been the visitor's security and convenient access to the sites. Therefore security situation should be made congenial in collaboration with locals of the area.

21. **Conclusion.** Sea is not a human habitat and is easily downgraded or forgotten by most of those who live on land and believe in terra firma. We tend to forget that the European powers subjugated and exploited our lands in the past through the use of their sea power and the ships which sailed upon the seas. Due to the strategic importance of the Indian Ocean, Pakistan sitting at the head of the

²² Awan, Asghar Anwar. "Coastal Recreation Development Plan Gathering Dust." News. Aug. 22 2001.

Ocean and very close to the main oil routes, automatically acquires great importance. We must wake up to its potential and utilise it to the maximum for the benefit of our people. The development of sea power should not be seen as a resource drain, but as a necessary concurrent and complimentary activity to general economic growth.

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