

Reintegration with Family

Children who leave the family due to abuse or fear and take to the street can be reintegrated with their parents through counselling. Counselling and advocacy for the children as well as family members help both parties to make adjustments, which have proved to be instrumental in solving these problems.

Education and Training

Education and training, especially night schooling and vocational training can help these children to gain confidence in building their rightful place in society. Some NGOs like Building Resources Across Community (BRAC) and Aparajeyo Bangla have already taken steps to help such children and dropouts from regular schools. Practical and flexible programs with friendly teachers like those employed by the ARISE project will induce street children to learn useful skills and obtain employment in future. This requires greater mobilization of resources both by the government as well as the private sector.

Motivational Programmes

Street life makes young children courageous, independent and freedom loving. They prefer to roam about instead of taking advantage of Drop in Centres. So motivational programs should be taken to persuade street children to leave the streets. Budgetary allocation for addressing programmes targeted at these children should be increased.

Healthcare Facilities

The unhygienic and disease prone environment of the streets, slums and public places as well as pollution from smoke, noise and chemicals adversely affect the growth of street children. There fight is worsened by lack of knowledge about healthcare and sanitation. The healthcare facilities that have been provided to these children is not sufficient. As most organizations have resource constraints program intervention and strategic planning, they are unable to address the multifarious problems. There is an urgent need for wider coverage through concerted efforts of the government, society and the community as a whole.

Planned Urbanization

To minimize unplanned urbanization and rural urban migration, the rate of migration should be slowed down by creation of employment in rural areas in agriculture and agro- based industries. Simultaneously, satellite towns and growth centres with adequate facilities must be made to provide alternative destinations for

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migration. Roads and communication systems have to be linked with these growth centres, while healthcare, education, housing and other welfare services also have to be provided.

Government Approach

Street children in particular have not been the focus of government policies and programmes until recently. The plan documents have not specifically addressed children's issues, although sectoral allocation of funds has been provided for education, health, family planning and social welfare related to children.

Street children are being covered as per Children Act of 1974 and Rules of 1976, where provisions were made for punishment against cruelty to children, juvenile court for shelterless and destitute children, penalty for employment of children for begging or giving intoxicating liquor or dangerous setup drug to child, exploitation of child applied employees forbidden etc. In 1989, the Government ratified the United Nations Convention of the Rights of the Child which has provided an impetus for formulating the National Children's Policy. However, no legal provision has been made and no new law has been enacted to cover street children as special case, except NCP.

Programme Implementation

Although there are a number of policies, strategies and programmes for the betterment of street children, the implementation process has not been effective. The state as well as the government has to consider the issue seriously and adopt a coordinated and integrated approach to implement existing policies. Current programmes have to be expanded to cover larger number of children and new programmes should be initiated based on the above recommendations.

CONCLUSION

Bangladesh's youth account for about half of the population of the country. They constitute untapped resources and wealth, if developed properly, can turn into valuable assets. However, they remain utilised due to lack of proper guidance, motivation and the basic necessities of life. Devoid of opportunities, many resort to the streets, gaining the identity of street children.

As street children live in miserable conditions, they struggle to survive. Hardship, uncertainty, deprivation and detrimental environment have had a profound impact in shaping the lives of street children. These adversities lead them to the path of crime, addiction, theft and various anti-social activities. The Government and various non-government organisations have been working to mitigate the sufferings of street children so that they can be provided with a future full of opportunities to lead a dignified life. However, these initiatives are highly

inadequate. Considering that the children of today are our future citizens, coordinated initiatives should be taken to aid the children to overcome their problems so that they can contribute meaningfully to society, and ultimately to the nation.

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CHALLENGES TO MARITIME SECURITY AND ROLE OF THE POLICY MAKERS: OPTIONS FOR BANGLADESH

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INTRODUCTION

The influence of power on the history of mankind cannot be overemphasized. Both land and sea theatres are important. However, in the post-cold war era geo-strategy is increasingly being replaced by geo-economics as a measure of National Strength. Since nearly three-quarters of the world is now covered by seawater. This great common area provides the opportunity to both good and evil in accessing different parts of the world. On the one hand, maritime trade is responsible for almost 95 per cent of the total world trade. On the other hand, many security concerns have also emerged in the maritime domain, affecting the states' security. Sea based resources such as oil, gas, and fish have become crucial for the economic success of littoral states and hence must be supervised and administered. Besides, the extensive use of sea as the cheapest and easiest means of mass transportation has contributed to the internationalization of world trade and commerce. Maritime security is that component of national security which deals with sea and matters related to it.

The concept of security has undergone a paradigm shift as globalisation and developments of information and communication technologies obliterated much of the geo-political boundaries of the nation states. Unfortunately, the spread of asymmetric conflict have emerged as the defining paradigm in the changing contour of politics, economics, military strategy and technology. The exploitation of sea resources plays an important role in the economic prosperity and the development of a nation and ultimately contributes to its defence. Every maritime state acknowledges the significance of its maritime assets and exploits the resources optimally.

Despite having direct access to the sea, Bangladesh has not been able to use it and its resources fully mainly due to lack of maritime awareness. Bangladesh's maritime sector is a vital component of the national economic and military power. But Bangladesh's security considerations continue to be dominated by developments on land; maritime affairs are perceived merely as an extension of these activities. The United Nations Convention on the Law of the Sea III (UNCLOS III) has opened up opportunity of having 1, 03,000 square kilometres of sea space as the Exclusive Economic Zone (EEZ) for Bangladesh. This is nearly two-thirds of her land area, which is only 147,570 square kilometres. The EEZ is

12. "Potshishuder bank", Shaptahik Obokash, Naya Digonto, 30 March 2008.
13. "ARISE: A ray of hope for street children", The Bangladesh Observer, 17 September 1994.
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rich with living and non-living resources. According to UNCLOS III, Bangladesh has the right to possess 350 miles of Continental Shelf for exploration and exploitation of non-living resources. Preservation and exploitation of all these maritime resources are major challenges for Bangladesh in affecting its total security environment.

Aim

The aim of this paper is to identify the maritime security challenges of Bangladesh, highlight the role policy makers should play and recommend viable options for Bangladesh.

Maritime Interests of Bangladesh

Maritime security has gained a strong foothold in the overall security paradigm of Bangladesh mainly due to its dependency on the sea. The increasing sea dependence of Bangladesh emanates from its pressing need of generating more wealth for benefit of its huge population. Given limited resources in the land area, optimum exploitation of the marine resources is very important in the national interest. The two Sea Lines of Communication (SLOCs) connected with the two seaports are the lifelines of the national economy. Since the country land-locked by only two countries on three sides, the Bay of Bengal provides direct access to the outside world and facilitates vital trade links. Any disruption of these activities and SLOC whether in peace or war will have a disastrous effect on its economy. Along the long coastal belt, millions of people survive on fishing, forestry and salt production. Thus, Bangladesh needs to secure its maritime interests from all kinds of threats. The maritime interests of Bangladesh are briefly described below:

- a. **Sea Areas.** Under the Law of the Sea, Bangladesh has an Exclusive Economic Zone¹ (EEZ) extending up to 200 nm from the baseline². The area of her EEZ is approximately 40,000 square miles. Bangladesh has a long coastline of about 710km (385 nm). The legal provision for the extension of the continental shelf is up to 350 nm by the year 2011. If the preliminary settlement of the extended area is completed, it will provide an additional area of about 30,000 square miles to the country.

¹ M. Khasruddin Alam, Commodore (Retired), Bangladesh's Maritime Challenges in the 21st Century, Pathak Shamshad, Dhaka, 2004, p-40

² The Law of the Sea, United Nations Publication (Sales No.E.83.V.5, Printed in USA 1983) P.18

³ The normal baseline is the low-water line along the coast as marked on the large scale charts officially recognized by the coastal state.

b. **Living Resources.** The marine waters of Bangladesh are rich in fish and fishery resources. Fishery sector is playing a very vital role in employment generation, animal protein supply, poverty alleviation and exports. According to the report of Bangladesh Bureau of Statistics (BBS) 2006, marine fisheries are contributing 4.86 percent to the GDP and 5.90 percent to the total country's export earnings.⁴ About 12 million people are directly or indirectly dependent on this sector. Labour employment in this sector has been increasing approximately by 3.5 percent annually. About 10 percent of annual export earning comes from the fisheries sector and it ranks 3rd among the export-oriented industries.

c. **Non-Living Resources.** The offshore gas-fields at Shangi have already contributed the country 89 TCF (trillion cubic feet) gas and more gas fields of similar type are being drilled in the Bay of Bengal and should go into production soon.⁵ The Government and the Bangladesh Oil, Gas & Mineral Corporation (Petrobangla) *Under Offshore Bidding Round-2008*⁶ has invited International Oil Companies (IOCs) to bid for acreage for exploration of Oil and Gas. Twenty-eight offshore blocks designated for Gas/Oil exploration by the government are currently available for exploration by the IOCs. Besides hydrocarbon, Bangladesh extracts salt and silica sand from sea. But due to technological backwardness Bangladesh cannot extract many other minerals like ferro-manganese, iodine, magnetite, garnet, zircon, retile, limonite, monazite, wave, tidal and generate hydrothermal energy etc.

d. **Maritime Trade.** Maritime commerce has been on the rise since independence and will continue to grow in the future with the gradual social, industrial and economic development of the country. Since 1976, on the average the sea has been accounting for 93.14 percent of total exports and imports where air and land have been accounting for 3.73 and 3.13 percent respectively. Another statistics shows that maritime commerce rose to 2,76,29,235 tonnes in 2007 as compared to 2,14,41,889 tonnes in 2003. The yearly average current growth rate of maritime trade is 11.66 percent.⁷ During the period between 2003 and 2007, the number of vessels handled per year increased from 1720 to 1945 at Chittagong Port of Bangladesh.⁸ The other port i.e. Mongla Port did not make any significant contribution due to existing navigational limitations of the Pussur river and berthing constraints of the Mongla port.

4. Statistical Yearbook of Bangladesh 2006.
5. Petro-Bangla official website at <http://www.petrobangla.org.bd/>, visited on Sep 04, 2008.
6. Bangladesh Oil, Gas & Mineral Corporation (Petrobangla) *Offshore Bidding Round-2008*.
7. Official Website of Chittagong Port Authority(CPA) at <http://www.cpa.gov.bd/nauticalinfo.html#cargo>, visited Sep 03, 2008.
8. Ibid.

Myanmar has declared its defence policy review in 1999 that it has essentially changed its threat perception from internal to external one. This policy shift has transformed Myanmar Navy from a constabulary one to an offshore territorial defence navy. Accordingly, it has displayed its naval might recently by placing an offshore rig in a Bangladesh claimed EEZ.

Together or alone, both these neighbours pose greater maritime security threats to Bangladesh. The growing size of the Indian fleet has capability to completely block both the SLOC of Bangladesh. Again, Myanmar's growing naval power development would enable her to carry out merchant raids on our eastern SLOC. It may also launch aggression on mainland from the sea or even carry out operations denying Bangladesh's right to use the seas.

Societal Issue

Migration. Because of the growing economic disparity between Bangladesh and developed countries, people would naturally seek new opportunities abroad. But immigration laws are making land/air routes increasingly restrictive for the illegal migrants worldwide. Hence, illegal immigrants have already begun to exploit maritime transportation. Illegal boarding of merchant ships at outer anchorage has been experienced in the past in Bangladeshi waters. Thus, migration is adding to maritime security concerns and requires greater monitoring and law enforcement at sea.

Environmental Issues

Maritime Pollution and Oil-related Environmental Disasters. Pollution and oil-related disasters at sea may create havoc with the ecology in the maritime environment and have the potential to affect maritime security.¹⁵ In Bangladesh, the product and transferee tanker used to import oil are mostly found not to have complied with the Maritime Pollution (MARPOL) 73/78¹⁶ requirements of equipment and operation. Again, external source of pollution, including nuclear dumping, is often suspected to take place in the Bay of Bengal.

Maritime Disasters. Marine casualties in Bangladeshi water are not uncommon. On July 24, 2006, for example, BSC oil tanker BANGLAR SHOURABH caught fire at the Chittagong outer anchorage, or events which could have had a catastrophic environmental impact.¹⁷ The Sri Lankan flag carrier

15. P.K. Ghosh, No.25.
16. International Convention for the Prevention of Pollution from Ships 1973/78 (MARPOL). The MARPOL Convention has six technical annexes dealing respectively with prevention of oil, noxious liquid substances carried in bulk, harmful substance carried by sea in packaged form, sewage from ships, garbage and air pollution.

ISSUES AFFECTING MARITIME SECURITY OF BANGLADESH

Political Issues

Maritime Jurisdictional Dispute. Bangladesh's unresolved maritime boundary with two of her neighbours poses threats to its maritime security. This can become more complex and serious because of years of delay in finding out a political resolution. Both the neighbors do not recognize Bangladesh's present claim of EEZ and these have not been resolved bilaterally so far and this impasse has virtually made Bangladesh a 'Zone Locked State'. Meanwhile, the exploration of offshore oil/gas has been started by Myanmar on the claimed EEZ of Bangladesh. Besides giving rise to conflict over sharing of resources in the EEZ, this issue also constrains Bangladesh in claiming an extended continental shelf and new-born islands. Four meetings have taken place with Myanmar in the last year and a three-day Bangladesh-India maritime boundary talks began after 28 years on the same issue and ended in Dhaka on 17 September 2008 without any concrete progress on the pending issues, although officials of both the countries claimed to have had 'fruitful discussions'.⁹ Virtually, there had been no decisions obtained so far from all three round of talks with Myanmar and a recent meeting with India on the issue. The submission of the maritime claim with required data to the International Sea Bed Authority by 2011 is the biggest challenge ahead of Bangladesh. This will subsequently work as a base for the claim of Continental Shelf of huge potential sea area to be brought in future under the maritime jurisdiction of Bangladesh.

Regional Disunity. Historically, countries on the shores of the Bay of Bengal have strong national sensitivities and disbelief among them. This sentiments has been exploited by the extra-regional powers in the past and at present. Building consensus and unity is still a great challenge for the nations.

Economic Issues

General. Bangladesh's failure to develop its maritime potential in the last 37 years has caused a serious dent in its economy, apart from rendering the security of the country vulnerable. The country will pay a high price for such failures in the future as it did in the past if the realization at this stage is not developed and appropriate measures are not taken to redress the situation. The sooner the nation manages to gain control over the prevailing environment, the better it will be for its economic stability and maritime defence.

9. Bariater Hameer or Rashid- Former Bangladesh Ambassador to the UN, Geneva, Resolving the Bangladesh-India sea boundary issue, Article published in 'Daily Star', Dhaka, October 10, 2008.

'BADULA VALLEY' capsized after ramming into an oil tanker in the outer anchorage zone of Chittagong seaport on 20 August 08.¹⁰ The ship was carrying 3,600 tonnes of rice from India to Bangladesh. Besides these occurrences, accidents to offshore installations are also a security concern. With inadequate response preparedness, reporting system and recovery resources, Bangladesh faces great challenge in this regard.

Existing Mechanism of Providing Maritime Security

The responsibilities of maritime safety and security and constabulary services are primarily vested on the two security forces as described below :

a. **Bangladesh Navy (BN).** The main and obvious function of BN is territorial defence and maintenance of national sovereignty. Traditionally, BN has been tasked with the protection and control of various maritime activities. BN carries out constabulary functions like patrolling to prevent piracy, smuggling, drug-trafficking, gun-running, pollution, illegal fishing etc. and provides humanitarian assistance, including search and rescue at sea and disaster management. In fact, BN has become the main and leading force in Bangladesh's maritime domain to safeguard the country's economic interests and exercise maritime control within the EEZ and the continental shelf due to lack of capabilities of other agencies involved in this field. Since its inception, BN has progressed steadily to achieve its goal. Most of its ships are old and have age-old machinery, weapons and sensors, except for a Korean built guided missile frigate and few large patrol crafts/Offshore Patrol Vessels (OPV). Thus, the overall capabilities of the fleets are much more limited and it is difficult for BN to fulfil its missions in peace and in war. BN has no aerial maritime surveillance capability, which has been an agenda for almost last two decades. Besides, the absence of submarines limits BN from achieving sea denial capability. With all these limitations, BN is unable to provide proper protection and control over EEZ.

b. **Bangladesh Coast Guard (BCG).** Established in 1995, the Bangladesh Coast Guard (BCG) has a broad role to play in the country's internal maritime security. Its domain includes security, law enforcement, search and rescue, marine environmental pollution response, and the security to river, coastal and offshore waterways. It now operates five riverine patrol boats, four Chinese origin Fast Patrol Boats received from BN, one patrol boat newly built in Malaysia, and two patrol boats built recently in Bangladesh received from Chittagong Port Authority. All these amounts to a fleet of 13 small ships of limited capability. BCG, with this limited capability, is unable

10. The Daily Independent Bangladesh, August 21, 2008.

Port Capacity and Security. Bangladesh is not isolated in the globalisation trend where its international trade is growing at 15 percent annually by value. At the current rate of growth, Bangladesh's maritime trade may triple in around 14 year's time. This increase will strain Bangladeshi ports and then intermodal transportation infrastructure. If the infrastructure does not keep pace with the trade growth, then maritime trade may be diverted to other countries reducing the prospect of economic growth. Hence, the growth of international trade will pose a infrastructural challenge to Bangladesh. Again, the growing volume of cargo traffic will lead to increased traffic congestion and related maritime accidents. The port infrastructure and facilities, equipments, rules and regulations and basic pattern of organisation, including management, are outdated. Bangladesh's present port handling capabilities could be boosted by adopting better management techniques, automation of the ports and by reducing corruption, labour unrest and political violence. Again, the requirement of a deep sea port is being very much felt in the context of increasing sea borne trade and the need for a substitute of Chittagong port in case of emergencies.

Exploitation of Sea-based Resources.

a. **Fisheries.** The marine fisheries sector in Bangladesh consists mainly of small non-motorized craft operating within 30 miles (48 km) from the shore. Illegal fishing activities are threatening the conservation as the rate of harvest exceeds the reproduction rate, particularly in near shore waters. Presently, 73 registered fishing trawlers and about 6,000 mechanized registered fishing boats are engaged in marine fishing. Another 5,000 to 8,000 unregistered fishing boats also operate throughout the coastal belt¹¹. The total annual fish catch is 3,500-4,000 tonnes of shrimp and 10,000 tons of other fish. Even then, more of the available fishery resources in Bay of Bengal are yet to be explored. Fisheries resources have not been considered and managed as a renewable natural resource. This is mainly due to lack of appropriate fishing technology and technical awareness that is needed to avoid the development opportunities on the one hand and the lack of management capabilities of the public sector agencies on the other. Fishing is done presently up to 50 meter depth in Bangladesh; this covers only one fourth of the water area under the EEZ. The fishery resources of leftover areas of the EEZ are naturally lost every year. Again, illegal fishing activities in Bangladeshi waters by both domestic and illegal foreign trawlers are threatening the conservation of living resources.

11. Mohd Khurshed Alam, Maritime Strategy of Bangladesh in the New Millennium, BHSS Journal, Vol. 20, No.3, Dhaka, July 2000, Pp. 219-221

to perform necessary constabulary tasks in the maritime field. Bangladesh has approximately 710 kilometres of coast line and securing such a huge coast is a difficult yet critical task for it at this time.

CHALLENGES TO MARITIME SECURITY OF BANGLADESH

The maritime security of Bangladesh faces many challenges. Before addressing the maritime security strategy, these maritime challenges need to be identified. These are as follows:

a. Conventional Security Challenges.

- (1) **Challenges in Governance.** The biggest concern in the maritime theatre is the ignorance about importance of the sea not only among ordinary people but also the policy makers. Number of ministries, institutions and stakeholders are working on maritime fields without any common forum/platform to operate/cooperate towards a common objective. In parity with other departments in Bangladesh, maritime institutions have also fallen short in implementing rules and regulations. This is more pronounced in the absence of concerted effort between various ministries and autonomous bodies responsible for overseeing the maritime sector. This creates challenges to maritime good governance.
- (2) **Security Challenges.** Smuggling, maritime terrorism, piracy and arms trafficking constitute significant threats that affect adversely on the economy and maritime security of Bangladesh. In 2006, the International Maritime Bureau recorded an alarmingly high (47) incidents of piracy in Bangladesh. The majority of piracy attacks occurred around the port of Chittagong.
- (3) **Economic Challenges.** Lack of adequate resources and fund is the major challenge for development of maritime infrastructure. Almost every year accidents and sinking of ships inside the channel and anchorages severely interrupts port operation and affect the economy of Bangladesh. Besides, poor economy of Bangladesh does not allow her to exploit and utilise enormous offshore hydrocarbon potential.
- (4) **Maritime Sovereignty Challenges.** UNCLOS III has endowed Bangladesh with enormous opportunity. Because of lack of adequate technical and appropriate knowledge or inability to appreciate the urgency Bangladesh, as yet, could not place its case before the United Nations regarding the maritime demarcation, although it ratified the UNCLOS in 2001. Bangladesh has not yet carried out necessary survey to decide about

b. **Offshore Oil and Gas.** Gas/oil exploration in offshore areas are increasing. The nation's power supply is now largely dependent on the offshore gas being added to the national grid. More offshore blocks have been put under international bidding for exploration, which will again be a matter of security concern. On the other hand, the Indian government launched the sixth licensing round in early 2006. This included two blocks right below block 21 of Bangladesh.¹² Meanwhile, Myanmar has also started the exploration on the claimed EEZ of Bangladesh from December 2007, which is again on the overlapped claim area by Myanmar.

Military Issues

The Indian national budget of 2008-09 has allocated Rs. 105,600 crores (US \$ 30 billion) for India's defence which accounts for nearly 14.1 per cent of the total central government expenditure.¹³ For fiscal year 2008-09, India's defence allocation increased by 10 per cent over the previous year's allocation of Rs.96,000 crores(US \$ 27 billion). In the last five years, the Indian defence budget has increased by nearly 37 per cent from Rs. 77,000 crores (US \$ 21 billion) in 2004-05, which represents over 8 per cent growth per annum. The Indian Government is fully cognizant of its strategic maritime interests and has recently earmarked a sum of US\$ 4.5 billion for the Indian Navy (IN) under a new strategy of which the guiding principle is 'naval assets are the most suitable platforms for India's growing nuclear arsenal'. All efforts are in progress to transform the Indian navy into a Blue-Water Navy.

Indian Navy's (IN) blue water aspiration has led for a far reaching naval modernisation programme for her fleet. "By 2022, we plan to have 160-plus ship navy, including three aircraft carriers, 60 major combatants including submarines and close to 400 aircraft of different types. This will be a formidable three dimensional force with satellite surveillance and networking to provide force multiplication," Indian Naval Chief Admiral Suresh Mehta said while delivering a lecture on Navy's vision for the future on 10 Aug 2008.¹⁴ IN is getting a completely new look and will soon be able to project its world-class superiority in Indian Ocean. IN is focusing its strategy on the terms like 'from the sea' and 'Forward from the Sea', and augmenting its access to events ashore¹⁴. On the other hand

12. Khurshed Alam, Commodore (Retired), Importance of sea floor nautical charts in delimiting maritime zones and boundaries, Article published in 'Daily Star', Dhaka, 10 September 2007.
13. Integrated Defence Staff official website at <http://www.idsa.in/publications/stratcomment/Laxmibhethera19008.htm>, visited Sep 04, 2008.
14. Associated Press of Pakistan website www.app.com.pk, visited 04 September 2008.
14. Malik Munsir, Maritime security: The role of PN, Lecture held at Pakistan National Defence College, Islamabad, summer 2005, p.167

the extent of its continental shelf. The control points of its base line have been contested by both India and Myanmar. Bangladesh is likely to get 'zone or sea locked' if the issue is not resolved. Hence, asserting its maritime sovereignty in the Bay of Bengal will require concerted legal, political and institutional effort by the country to solve the maritime demarcation dispute with India and Myanmar as early as possible.

- (5) **Infrastructural Challenges.** The maritime infrastructure of ports, shipping, fishing, oil and gas rigs, and other resource exploitation and conservation are to this point inadequate, posing a greater developmental challenge for Bangladesh.
- (6) **Technological Challenges.** Bangladesh's political commitment and will power will face the challenge in harnessing the benefits of technology and ocean monitoring assets. The pace of technological development and dual use by both licit and illicit agencies challenges Bangladesh's ability to maintain technological edge over its competitors.
- (7) **Environmental Challenges.** Sea level rise, tsunami, cyclones etc challenge Bangladesh's coastal communities. The country's sea area is experiencing pollution from land and vessel-based pollutants. Indiscriminate use of harmful chemicals and oil spills are the main causes. Any fire onboard merchant ships at outer anchorage could be fatal and will cause catastrophic oil spills. BD lacks in technology and equipment/resource to contain damage from such accidents and pollution.

b. Unconventional Security Challenges.

- (1) **Piracy.** Piracy has become the bane of the modern seafarer. Numerous cases of reported and unreported piracy have led to considerable concern and multinational efforts to control this violent menace.
- (2) **Narco-Terrorism.** An important adjunct to maritime terrorism is drug trafficking. The nexus of these two phenomena is so deep that they are often analyzed under the same parameters.
- (3) **Gunningrum.** The symbiotic relationship between gunrunning and drug trafficking is well known. It is extremely difficult to control one without controlling the other.
- (4) **Maritime Terrorism.** Maritime security has assumed a new dimension in the post 9/11 era. The fight against this old and persistent issue has received a boost with the backing of the international community.

Maritime Awareness and Role of Policy Makers

The biggest challenge to maritime security in Bangladesh is maritime unawareness. The reasons for such lack of awareness spans over a broad spectrum ranging from demographic and socio-economic features on one hand and the non-availability of a technological base on the other. These are further compounded by the lack of understanding and attention paid towards the maritime sector. Bangladesh has not yet to exploited her maritime potential to her advantage due to the unawareness of its of policy makers about its maritime affairs. The main causes for lack of maritime awareness are discussed below:

a. **Exposure to Sea.** Unfortunately, whole coastline is desolate and sparsely populated. Most of the people of the area have shifted towards the capital or the urban areas due to non-availability of better livelihood in coastal areas. Out of 140 million people of Bangladesh, very few are exposed to the sea, because of being miles away from it.

b. **Maritime Knowledge.** The history taught in the schools and colleges deals mostly with the exploits of man on land and seldom deal with the role of sea power in shaping the destinies of various empires. Thus the general mass is unaware of the importance of the sea and its potential. The civil bureaucrats dealing with or deciding maritime issues have no or inadequate understanding on the importance of maritime security. Therefore, when they take up positions in practical life at different levels, they cannot appreciate the importance of the sea fully, and automatically their thinking becomes land-locked. There is no formal education on the maritime interest of Bangladesh in the basic education system of the country. There is no training on the maritime issues for the bureaucrats and the policy makers dealing with maritime affairs.

c. **Representation by Maritime Experts.** Most maritime organisations and regulatory bodies, namely the Ministry of Shipping, the Ministry of Fisheries and Livestock, the Ministry of Defence, the Ministry of Finance and the Ministry of Foreign Affairs do not have any representatives with maritime background/expertise. This does not allow the policy makers to appreciate the problems and prospects of maritime interests and maritime security.

d. **Lack of Interaction.** There are not enough interaction with the policy makers and the maritime institutions. As such, the policy makers who decide the future development of the maritime security forces do not always appreciate their functional capabilities. This situation demands closer interaction between the policy makers and the maritime operators on ground.

e. **Lack of Publicity.** The interests and the potentials of the nation on the maritime sector have not been well publicized to the people by the media. The maritime institutions and the maritime security forces do not project

adequately their activities in guarding the maritime security of the country. This situation really keeps the people and the policy makers either in the dark or in doubt about the maritime actions and huge maritime potentials of the nation; this is quite open and projected in other developing nations.

f. **Financial Constraints.** This has been a major factor, which has denied the country its right to grow as a maritime nation, even if the will to do so was there. Right on the outset, Bangladesh has faced a tremendous pressure due to financial constraints. Financial austerity measures have always been enforced restricting the ability of the country's defence forces to ensure the security of Bangladesh. The defence budget in Bangladesh is inadequate and the trend of the defence budget is declining, though an enhanced defence budget is needed to develop a modern and sophisticated defence force. Table 1 below shows the defence budget for the last four years:

DEFENCE BUDGET FROM 2004-2008

(Tk in crore)

FY	Revenue	Development	Total
2004-05	4610	48	4658
2005-06	4330	74	5404
2006-07	6466	115	6581
2007-08	6865	187	7052

Source: Ministry of Defence

Out of the defence budget, BN receives 12.5 to 16 percent share on average which is quite inadequate being the most expensive among the three Services due to its capital intensive structure. The cost of naval hardware is very high and the meagre budget does not permit to acquire the required assets. Besides, BN needs to spend most of its budget on revenue head. Acquiring ships, constructing harbours and ports need huge resources. Unfortunately, the people at the helm of affairs failed to realize the situation from true perspective. Thus financial constraints have always played a role in slowing down the progress of the maritime sector.

g. **Bangladesh's Maritime Policy and Defence Planning.** Defence is not achieved by physical force alone; it is secured through sea power. There is a need to have a national maritime policy, which should be constantly reviewed

and thirdly, being extra careful to avoid any future consequences make no new procurement or acquisition possible. Finally, and usually, being wrongly influenced by any interested group, the whole process at times falls into an undesirable situation.

OPTIONS FOR BANGLADESH

General

The nature of challenges requires a multi-layered approach to ensure maritime security. Some challenges that are predominantly located around the Bangladeshi coast require a unilateral approach. These deal with policing and constabulary functions. Other challenges require a bilateral approach. The most desirable format would be a multilateral approach toward solving transnational crime and maintaining maritime order.

National Response Strategy

Maritime Consciousness. Bangladesh can only exploit the opportunities offered by the sea if there is maritime consciousness among the decisionmakers, thinktanks and as a whole the general mass. Constant endeavour to this end is required by the maritime stakeholders. The Navy and Coastguard can take the lead in this regard by emphasising the maritime domain in economic and security aspects. Equipping policy makers with adequate maritime knowledge and maritime background shall provide impetus in maritime activities and enhance the capabilities to ensure maritime security.

Credible Deterrent Force Structure. The navy is the state's instrument of maritime power. Although navies are primarily designed for war, they find their main utility in peace time also. Bangladesh has a small navy equipped for operations within the northern Bay of Bengal. For effective protection of the country's maritime interests, there is a need to have a balanced navy capable of contesting the sea. This will call for surface, sub-surface and aerial capabilities to check the responsibilities of maritime safety and security. There is a need for replacement of old frigates, a add few with appropriate weapons and gazette configurations. There is also the need to go for aerial surveillance and strike capability. A combination of missile armed frigates and corvettes, large patrol craft together with fast attack craft missile(FAC-M) and torpedo (FAC-T) will form the nucleus of 'Striking Force' to provide protection to the country's merchant ships/ fishing fleet/ commerce protection on the high sea. On the other hand, general

in the light of an ever-changing geo-strategic and geopolitical situation. No policy will succeed unless there is a change in the attitude of our people, especially those in positions of power and influence. The nation should be made aware of the extent of its hidden maritime resources, which has not been exploited so far. Our defence is based on territorial aspects based on the notion that the sea will defend itself. Resultantly, the attention accorded to this aspect of our defence has been inadequate.

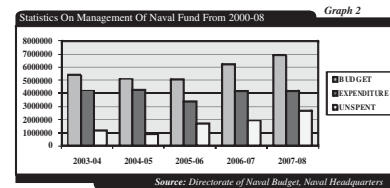
h. **Absence of Shared or Joint Objectives.** Several government agencies are working on maritime affairs but they have no shared or joint objectives. Ministry of Shipping, Department of Shipping, Bangladesh Shipping Corporation (BSC), Marine Fisheries Department (MFD), Bangladesh Inland Water Transportation Corporation (BIWTC), Chittagong Port Authority (CPA) and Mongla Port Authority (MPA) are all working on maritime affairs but have no shared or integrated objectives. Number of ministries, like Ministry of Water Transportation, Ministry of shipping and Ministry of Fisheries & Livestock are also need to be reorganized for effective maritime co-operation.

j. **Low Private Investment in Maritime Affairs.** There are ample opportunities and avenues in maritime sector, but a negligible portion of investment is attracted into this sector. Even the existing investments on fish industries are not well planned and technologically advanced or in line with the other industries of the country.

k. **Lack of Patronage of Maritime Activities and Industries.** Government, non-government and private level patronage is less forthcoming on maritime activities than on the land. Building of maritime based industries are not duly financed and backed by business and financial communities.

l. **Non-Accountability of Maritime Operators and Policy Makers to Government and People.** There are a number of maritime institutions to ensure the maritime security of the country. The development of these institutions have not taken place adequately for the last thirty seven years. But the policy makers of these institutions were never held responsible for their inactions by the government or the People. No central monitoring has been done to get the necessary feedback to suggest remedial actions.

m. **Planning and Budgeting-Working Relations.** Importance of the planning process in relation to budget allocation has always been considered as the decisive factor in the overall 'Decision-Making Tool'. However, in Bangladesh, long-term planning of forces' goal has so far not been done on the basis of yearly budget allocation. In India's case, this budget allocation is done



The case study above regarding the return of budgets reveals that all of the institutes involved in the process are somehow responsible for the existing problem. These are summarized below:

- (1) During budget allocation, the Navy gets a lump sum allotment much below the planned requirement due to lack of maritime awareness and security of financial resources of the government.
- (2) Time and bureaucratic complexities do not always permit to plan and go for acquisition within the same budget year. As such acquisition programs are often shifted to next financial year. So, occasionally allotted budgets are surrendered or cannot be utilized.
- (3) There are several types of mind-set towards the procurement process found in the policy makers. Firstly, absence of firm stance on the right choice leads them to shift the goal/ plan too often. Secondly, the fear of being entangled in complexities in the critical procurement system delays the process

area into a stable one by providing a vehicle for dialogue. It seems many countries are now harnessing the fruits of co-operative maritime security arrangements. ASEAN, EU and a few other countries of Asia-Pacific have already undertaken such schemes.

Bilateral Response Strategy

Bilateral Cargo Security Initiative. In order to ensure cargo security, detailed surveillance is required at the point of origin, in transit and at the point of destination. Bangladesh can cooperate with the ports used by Bangladesh-bound ships in this regard. Besides, implementation of International Ship and Port facility Security (ISPS) code and CSI etc may also be better implemented through bilateral cooperation.

Confidence Building Measure (CBM). To transit to regional cooperation, Bangladesh should undertake CBM with neighbouring nations. This would alleviate national sensitivities and prepare the regional nations for more constructive engagements.

Regional Response Strategy

Integrated Regional Maritime Governance. Only stand alone national maritime policy may fall short of achieving the broader security challenges due to the nature of the sea. Hence, an internationally integrated maritime governance approach is required. This will particularly help to address the issues of hot pursuit, pollution control, straddling fish stock management etc.

Regional Cooperation. This is the intermediate approach and can ultimately leading to regional governance. Bangladesh, Myanmar and India may share maritime intelligence, carry out combined/coordinated maritime patrol, undertake oceanographic research, develop common fishery zones, organize seminars on marine ecology and seabed exploitation etc. Advance maritime cooperation may encompass the use of combined forces for disaster relief, environmental protection, surveillance etc. A broader view would take account of joint development of maritime technology, development of eco-tourism etc. The regional forums already existing may be exploited in this regard to pioneer such cooperative approaches.

20. ISPS Code requires vessels and port facilities to conduct security assessments develop security plans and hire security officers.

21. CSI is an awareness and prevention programme which requires screening of containers that pose a risk of terrorism. CSI inspection requires host nation participation as it is joint inspection.

20. M Khurshed Alam, Commodore(Retired), Scramble for Continental shelf rights in the Arctic and small's pace of Bangladesh, Article published in 'Daily Star', Dhaka, August 16, 2008.

RECOMMENDATIONS

It is evident that the challenges posed by the sea are vast, complex and uncertain. This calls for a coordinated, centralised and sensible development response by all sea related organisations of Bangladesh. A realization of the significance of the maritime sector requires a pragmatic approach and is an important national requirement for protection of our vital maritime interests. Unfortunately, the wealth that could accumulate with the development of Maritime Sector, have been denied to Bangladesh due to land-oriented mindset and maritime unawareness of the policy makers. Now, the time has come to pay immediate attention to this sector and to make up years of neglect. It requires the understanding of the subject from the right perspective and adopting a positive attitude for the promotion of maritime awareness in the policy makers. Accordingly, the following measures are recommended:

- The country needs to settle the problems of fixing its maritime boundaries with its neighbours and should prepare to face and convince international authorities in this regard. Concerted effort should be initiated immediately prioritizing this in the national agenda and not aiming to merely hold talks or arrange visits by the officials but making substantial progress towards the delimitation of maritime boundary and maritime zones e.g. EEZ and CS.
- Increasing threats of illegal exploitation e.g. smuggling, piracy, drug-trafficking, pollution, terrorism etc. demands a comprehensive approach to surveillance and monitoring the limits of the country's maritime zones for effective law enforcement. But at present, neither the Navy nor the Coast Guard is capable of effective surveillance in the entire EEZ. As such, Bangladesh Navy and Bangladesh Coast Guard need to be modernised to keep parity with the state and non-state threat scenario as per the 'Forces Goal'.
- The maritime infrastructures and organisations of the country need to be appropriately augmented by people with maritime knowledge and maritime awareness. The capacity of various maritime infrastructures including seaports should be upgraded.
- Bangladesh should formulate an integrated maritime policy covering all domains of maritime aspects. A standing committee on Maritime Security Affairs should be formed and should function with common objectives under an integrated maritime policy.
- The common people of Bangladesh need to be made conscious of the

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NETWORK CENTRIC WARFARE: MYTH OR REALITY FOR BANGLADESH ARMED FORCES?

Lieutenant Colonel Mohammad Qamrul Islam, afwc, psc

INTRODUCTION

In today's information age, the rapid development of technology has necessitated the concept of sharing information easily. With the worldwide expansion of information technology, the military warfare too has stepped into a digitised battlefield environment particularly in command, control and decision making. 'Network Centric Warfare' (NCW) has thus added a new dimension in the spectrum of command, control, communication, computer and intelligence (C4I) systems. NCW can be simply explained as the means of quick flow of information to assist in making quick decisions to execute a mission. In the Bangladesh Armed Forces, however, the concept of NCW has not yet been materialized. Nevertheless, it is indeed very useful for any force likely to get involved in future warfare. NCW enhances fighting power and acts as a force multiplier in the battlefield. The basic fundamental of NCW is to generate shared battle space awareness through synchronization of battlefield operating systems.

To build a military network centric scheme, reliable, robust and secured communication infrastructure is essential. In developed countries, NCW is based on the sensors, satellites and modern equipment. Though Bangladesh does not have its own satellite system, the information structure for NCW may be developed with the available communication facilities such as, fibre-optics networks, micro-wave links, hired satellite links etc. The key factor would be to establish a network between all the agencies to transfer data, voice and video through interfacing links. NCW has significant implications in conducting military operations as it provides unique opportunities in command and control and self-synchronization by commanders at all levels. Many countries, including USA, UK, Canada, Australia, India and Pakistan, have introduced NCW to enhance the synergistic effect in the battles pace. Currently, the Bangladesh Armed Forces may not be able to operate fully in the NCW environment; however, an effort may be taken to introduce the concept of NCW on a limited scale. A well-thought out programme should, in fact, be undertaken to transform the concept of NCW into reality.

Aim

The aim of this study is to throw some light on the necessity of conducting NCW and suggesting options for implementing NCW by the Bangladesh Armed Forces in the future.

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importance of the maritime security through extensive public relations and using mass media. Media needs to be more focussed on the maritime activities. The maritime institutions should form a media organization of permanent nature to project maritime activities, crimes state, action and the potentials to the mass. This will ultimately sensitize the people and policy makers and help in strengthening national maritime security.

- Officers joining the civil service through Public Service Commission should undergo maritime orientation program with the Navy during their training period.
- Lessons on maritime interest should be added in national education syllabus to inculcate knowledge on maritime issues to the future generations. Seminars may be organised on regular basis by the maritime institutions to highlight the problems and promote the prospects on the maritime affairs.
- Policy makers of maritime institutions and regulatory bodies need to address the above issues sincerely.

CONCLUSION

Maritime security is multidimensional and multi-faceted involving both military and non-military issues. The origin of these issues is again rooted in the perceptions of a nation's maritime interest. Being a coastal nation, Bangladesh's maritime interest revolves around asserting territorial integrity and using the resources of the sea for sustained development of the country. Various issues affect the maritime interest of Bangladesh. Firstly, the modernisation drive of neighbours' navies and increasing involvement of extra-regional powers in the maritime scenario have been posing greater naval challenges than before. Secondly, growing international trade is posing infrastructural and safety challenges on the economic front. Bangladesh's seaports are suffering because of inefficiency and inadequacy. Numbers of FOC vessels ply at the ports, which creates a security concern. Infrastructural weakness of sea-based resource exploration and exploitation challenge Bangladesh's ability to pursue economic emancipation strategies. Besides these, technological development and environmental disasters also affect maritime security of Bangladesh.

Free access to the sea is the gift of nature to Bangladesh. It can safely be said that maritime affairs must be given a very important place in the national policies. The present economic situation of the country has also been compelling us to

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What is NCW?

NCW is the emerging theory of war in the information age. It is defined as the information superiority-enabled concept of operations that generates increased combat power by use of networking sensors, enabling decision makers and field commander to achieve greater shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability and a higher degree of self-synchronization.¹ NCW is the combination of Network-Centric Operations (NCO) which is enabled by the networking of the forces.² It provides a force with the access to new and previously unreachable information domains. It is a process which correlates information sharing and situational awareness; therefore increases the speed of decision making. NCO also focuses on the tactical and operational levels of warfare, but its impact spills over all levels of military activity starting from the tactical to the strategic. At the operational level, NCO provides commanders with the capability to generate precise war-fighting effects to maintain operational tempo. NCW offers the following advantages:

- A robustly networked force that improves information sharing.
- It enhances forces' capability for shared information awareness.
- It augments speed of command.
- NCW increases mission effectiveness.

A Conceptual Framework of NCW

A military leader should understand the correlation between information and combat power. To analyze this relation, a conceptual framework is required to be drawn describing how the information network can be leveraged to increase combat power. A conceptual model has been developed recently that focuses on characterizing the relationships between shared information, shared situational awareness, and highlighting the processes of collaboration and synchronization.³ A key element of the model is the focus on three domains: the physical domain, the cognitive domain, and the information domain.

a. Physical Domain. The physical domain is the traditional domain of warfare. It is the domain where strike, protect and manoeuvre takes place across the environments of ground, sea, air and space. All the physical elements of a force are robustly networked with secured connectivity. The important metrics for

1. David S. Alberts, John J. Garaska, Frederick P. Stein, Network Centric Warfare: Developing and Leveraging Information Superiority, CCRP USA, 1999, p.2
2. Office of Force Transformation, Implementation of Network-centric Warfare, US Department of Defense, 2005, p.3
3. Alberts David, Garaska, Hayes Richard and Signor David, Understanding Information Age Warfare, CCRP, 2001, p.8

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enhance the maritime awareness amongst the people of our country and in particular the policy makers of maritime affairs. Unfortunately, the riches that accumulate in the maritime sector have been denied due to land-oriented mindset of the decision-makers. Bangladesh's failure to develop its maritime potential over the last thirty seven years has caused a serious dent in the economy. The country may continue to pay a high price for such failures in the future if the realization on this issue is not developed and appropriate measures are not taken to redress the situation. It is needed to lay down a positive maritime policy workable within the available financial resources and to develop maritime infrastructure along the coastline. The sea can provide as much needed economic prosperity with much less investment and ultimately, it can contribute to building strong defense for the country.

A multi-layered approach is necessary to ensure maritime security. As a national response strategy, Bangladesh should maintain deterrence capability, create maritime multi-agency information base, generate maritime consciousness, formulate integrated maritime policy and enhance capacity of various maritime infrastructure to implement the integrated maritime policy. Coupled with these responses, the focused presence of naval and coastguard can tackle the hardcore threats both from the state and non-state actor. It must also be recognized that the indivisible nature of the seas demands both bilateral and regional cooperation to address the translational issues. On the bilateral side, various trade protection measures like CSI, ISPS Code, ship alert system etc should be implemented. Again, bilateral CDM will reduce sovereignty sensitivities paving the road to regional cooperation. Regional cooperation can start with sharing of intelligence, joint patrol etc and may land up in cooperation in oceanographic research and joint fishery exploitation. Once such a congruent environment is created, regional governance can take place.

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measuring combat power in this domain are lethality of weapon, extensive use of sensors and survivability of the forces.

b. Cognitive Domain. In the cognitive domain, a force has the capability to develop a high quality of awareness and share it. The forces have also the capability to develop a shared understanding, including commander's intent. It helps the force to increase their self-synchronised capability in any operation. The objective of the NCW is that a force with their attributes and capability should be able to generate increased combat power by:

- (1) Achieving better synchronization effects in the battle space.
- (2) Achieving greater speed in command.
- (3) Increasing lethality, survivability and responsiveness.

c. Information Domain. In the information domain, a force must have the capability to share access and protect information to a degree that it can establish and maintain an information advantage over an adversary. The force must have the capability to collaborate in the information domain which will enable it to strengthen its intelligence collection process.

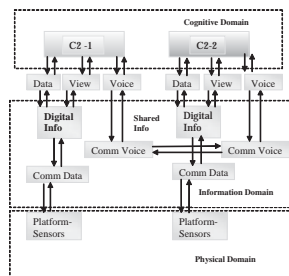


Figure 1: Conceptual Framework of NCW
(Source: John J. Garaska, NCW: An Overview of Emerging Theory)

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Author

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Capability of NCW

When warfare is represented in the information, cognitive and physical domain, the application of a multi-domain approach can assist in identifying complex relationships between shared information, shared situational awareness, and increased combat power. The power of NCO overrides existing concepts of platform-centric operations. In the following models, the power of NCO over platform-centric operations is illustrated:

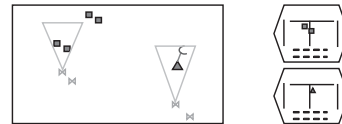


Fig-2 Own Aircraft Detects Enemy Aircraft and Radar Station Fig-3 Platform-Centric Display
(Source: Department of Defence Report to Congress- Network-Centric Warfare, 27 July 2001)

a. Model 1. To describe the performance of platform-centric operation in Figure 2, it is shown that one of four own aircrafts has detected two of the enemy aircrafts and another own aircraft has identified an enemy mobile radar station. Individual pilots with the voice communication would pass the information which may not be observed by others. In the display panel the information sent by the single platform is shown which presents information sharing in the physical and communication domain only.

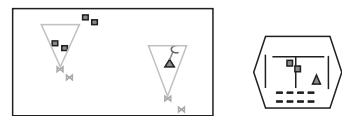


Fig-4 Own Aircraft Detects Enemy Aircraft and Radar Station Fig-5 Network-Centric Display
(Source: Department of Defence Report to Congress- Network-Centric Warfare, 27 July 2001)

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