"Read! In the name of your Lord Who has created (all that exists)"

Surat Al - 'Alaq (The Clot) XCVI

DISCLAIMER

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VISION, MISSION AND OBJECTIVES OF THE COLLEGE

VISION

The National Defence College is dedicated to be the premier national centre of excellence on defence, security, strategic and development studies.

MISSION

To impart training and education to selected senior military and civil officers from both home and abroad on national and international security related fields as well as to impart training to mid ranking military officers of Bangladesh on war studies.

OBJECTIVES

- To educate and train selected armed forces, civil services and allied officers at operational and strategic level of national security and development.

- To focus on long term national security and development issues and to suggest appropriate national responses.

- To support the national agencies in policy making on security and development matters.

- To support the armed forces on strategic and operational level planning of warfare.

- To strengthen civil-military relations in Bangladesh.

- To strengthen military to military co-operation in the region and beyond.

FOREWORD

National Defence College is on its track since 1999 with a vision to be the premier national centre of excellence on defence, security, strategic and development studies - meeting the challenges of the 21st century. Since the inception the college has been relentlessly presenting time - befitting academic curricula to the potential policy planners, leaders and strategic thinker of the future. Intent of the college is to create a balanced outlook and bring a visualization amongst the Course Members with a strategic and operational level understanding. Past 16 years of track record attests to the practicability of the learning regime that has made this premier institution a centre of excellence at home and abroad.

National Defence College being the premier national institution in Bangladesh, has always been emphasizing on conducting research in contemporary issues. The main aim of the research is to enable Course Members to make an original contribution to a subject of national or international interest that has a bearing on the national security and development. NDC journal is a reflection of the research works carried out by the Course Members and Faculty of the college. I am confident that selected Research Papers of the Course Members accommodating diverse subjects and merits have been included in this issue. I believe the readers will find the articles useful and intellectually stimulating.

My heartiest congratulations to all the members who have contributed to this journal. I appreciate the sincere efforts of the Research and Academic Wing and acknowledge the solemn endeavour of the editorial board to bring out the journal timely. This issue of the journal is yet another landmark in the path of advancement of National Defence College, Bangladesh.

CHOWDHURY HASAN SARWARDY
Lieutenant General
Commandant

EDITORIAL

NDC Journal is a bi-annual publication of National Defence College, the premier national centre of excellence on Security, Strategy and Development Studies. The articles for the journal (Volume 15, Number 1, June 2016) are mostly selected from individual research papers that the Course Members had submitted as part of the course curriculums. The College believes that a senior officer from military and civil services should have a good understanding of the major economic, political and social issues of the nation and be able to recommend measures to face the challenges.

National Defence College has been very regular in bringing out `NDC Journal` every year on time. This speaks of the laborious effort and genuine commitment on the part of both the editorial staffs and writers. While research papers are of usually of 10,000 -15,000 words, the abridged versions are of 4,000 - 5,000 words. The abridgement is executed in a manner that the principal arguments and the logical basis are represented succinctly, objectively and clearly.

A total 12 (twelve) have been adjudged for publication in the current issue in abridged form. The articles reflect complex and intricate multidimensional issues emanating from the long diversified experiences and the curriculum based deliberations and discourse on various topics concerning comprehensive national security during their trainings.

This volume includes papers of different categories those will draw attention to - The US Foreign Policy in the Middle East: Case Studies of Iran and Iraq; Future Media-Military Relationship in the Context of Bangladesh; Post 9/11 Security Scenario in South Asia: Options for Security of Small States With Special Reference to Bangladesh; BCIM and Connectivity for Bangladesh: Analysing Its Politico, Security and Economic Implications; Maritime Domain Awareness for Economic Development of Bangladesh; Water Resources Management in Dhaka City: Challenges and Prospects; Performance Appraisal System and Capacity Building: A Case Study of Bangladesh Civil Services; Network Centric Warfare- A Perspective and its Status in South Asian Militaries; Correlation Between Demography and National Security: A Nigeria-Bangladesh Perspective; Improvised Explosive Device as a National Security Threat: Selected Operational Response Measures; Climate Change and Internal Migration: An Analysis on Security Challenge for Bangladesh and Verdict on Bangladesh-India-Myanmar Maritime Dispute: Impact on Future Maritime Operations in the Region. A reader, before getting into the pleasure of reading, can get an idea of what these papers are about from the abstracts included at the beginning of this journal. We would like to express our sincere gratitude to the Chief Patron Lieutenant General Chowdhury Hasan Sarwardy, BB, SBP, ndc, psc the Commandant of NDC for his valuable guidance.

Research is a highly committed undertaking. Despite all efforts, unintentional errors in various forms may appear in the journal. We ardently request our valued readers to pardon us for such unnoticed slights and shall consider ourselves rewarded to receive any evocative criticism. We hope that all papers included in this volume will satisfy our readers.

HAMIDUR RAHMAN CHOWDHURY
Major General
Senior Directing Staff (Army)

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ABSTRACT

THE US FOREIGN POLICY IN THE MIDDLE EAST: CASE STUDIES OF IRAN AND IRAQ

Brigadier General Md Abu Naser, ndc, psc

Most striking feature of the US foreign policy in Iran and Iraq, especially during 1978-2003, is the consistent presence of contradictions. After an extensive research, this paper presents seven cases of contradictions. Subsequent examination of the cases reveals that the contradictions emerged because of the existence of two conflicting patterns of the US foreign policy in the Middle East. One of these patterns was a covert pattern and the other was an overt pattern. The covert pattern of the US foreign policy aimed at two broad objectives. First objective was to enable the rise of Shiite-cum-Persian nationalist ideology based Iran so that it could counter balance the Sunni Arab countries. The second objective was to weaken Iraq. To conceal the covert pattern, an overt pattern was designed and applied carefully. The research then unveils that the covert pattern of the US foreign policy actually pursued the Israeli objectives in the Middle East. Finally, the research explains how Israel and its Lobby in the US deliberately influenced US foreign policy to pursue Israeli objective of disintegrating the Middle East, and in the long run, of establishing Jewish state 'From the Brook of Egypt to the Euphrates'.

FUTURE MEDIA-MILITARY RELATIONSHIP IN THE CONTEXT OF BANGLADESH

Brigadier General Abu Naser Md Elias, ndc, afwc, psc

The relationship between the military and the media is changing, propelled by certain momentous developments, in all the major democracies of the world, including Bangladesh. The media and the military are two important organizations in a democratic state. The media's goal is to keep the public informed in a timely manner and to remain competitive with respect to the other media organizations. The military wants to maintain operational security for the success of the mission and the safety of the troops. Despite these conflicts in the past, the military needs to work closely and plan carefully for media involvement in any future contingency. In this era of technological advancement and their increased role, media is called the fourth pillar of the state. And military remains as one of the important elements of national power. Technological advances have greatly improved reporting from the scene of battle and conflict, and therefore have radically increased the media's potential to influence and impact the outcome of future military operations. Bangladesh did not experience a complimentary media-military relationship in the past. Therefore, a good and positive media military relationship is very important in future especially in conducting

military operations. Because both media and military is responsible in their own way for the protection of national interest and security. The unique attributes of military operations other than war have further complicated the issue for operational commanders. Information provided by the mass media can be a force multiplier for the astute commander; he must adopt a proactive approach toward media relations in order to realize the media's potential for improving the chances for mission accomplishment. Commander's approach must include personal involvement, organizational reform and force-wide education and training as he seeks to balance the legitimate and worthy objectives of both the military operation and the media covering the story shaping the public opinion. Military commanders need to study the military-media environment, new media technology and its impact on the military operations. And finally for developing a better media military relationship a comprehensive media policy of the armed forces is necessary.

POST 9/11 SECURITY SCENARIO IN SOUTH ASIA: OPTIONS FOR SECURITY OF SMALL STATES WITH SPECIAL REFERENCE TO BANGLADESH

Brigadier General Md Mohsin, ndc, psc

No part of the world has been more affected by the terrorist attacks of September 11, 2001 than South Asia. South Asia had to endure the strain and consequences of the war to such an extent that few of the nations of the region are labeled as 'Failed State' due to internal instability and dysfunctional governance. Due to the historical background, the regional security of South Asia has always been complex with many inter-state and intra-state problems emanating from diverse range of issues. Although they share the legacies of same colonial era, yet their co-existence is marked more by distrust, confrontation than by cooperation. Consequently, South Asia has become a nuclear concentration area making the region further unsafe. Post 9/11 had a huge impact on the South Asian nations. Religious extremism has spread all across the continuum. Afghanistan and Pakistan are the worst victims; due to ideological affinity and trans-border connectivity, religious extremists have set up a strong network across Afghanistan-Pakistan-India-Bangladesh-Myanmar making regional security more volatile. To come out of these menace, South Asia has to develop a South Asian Security Architecture in line with ASEAN Defence Ministers Meeting, a high level defence consultative and cooperative mechanism to promote mutual trust and confidence to greater understanding of defence and South Asian security challenges. SAARC charter should be reviewed to utilize it as multilateral platform to resolve all its contentious issues related to security and explore economic opportunities for poverty alleviation, peace and development of South Asia. Since 9/11, few extremist groups in Bangladesh are engaged in terrorists' activities defaming Bangladesh in the international community. Bangladesh being the most populous country of the world already plagued with number of NTS threats. It needs to adopt a holistic and well-integrated approach to secure

its ever vulnerable national security. Combining all elements of national power, government has to develop a comprehensive security plan with a higher security management platform to counter multi-dimensional threats. Political stability, good governance, rule of law, economic development, employment generating education system, strong foreign policy with economic diplomacy, progressive bilateral approach with India and Myanmar and a credible defence are essential for the national security and development of Bangladesh.

BCIM AND CONNECTIVITY FOR BANGLADESH: ANALYSING ITS POLITICO, SECURITY AND ECONOMIC IMPLICATIONS

Brigadier General Md Iqbal Akhter Mian, ndc, psc

In the modern days world, despite having abundant of resources, no country can alone develop without having regional or global cooperation. Bangladesh, China, India and Myanmar in short BCIM is geographically contiguous country enriched with huge natural, mineral and other resources. Though bilaterally each of these four countries is making effort for trade and investment but it lacks regional cooperation due to lack of connectivity especially road connectivity. Being land locked, the North Eastern part of India and South Eastern part of China could not derive benefit of the resources they have. Therefore, it was essential for establishing closer economic cooperation within BCIM region. BCIM EC is not only seen as a simple plan for making an economic corridor but had also emerged as a greater opportunity to tie up the four participating countries socially, politically and culturally. Like other three members, Bangladesh believes that BCIM EC would bring ample opportunities for the country in several areas like connectivity, trade, energy, power, water, environment, and tourism. Cooperation could be strengthened enormously by establishing multi-modal transport linkages within the BCIM region and linking it to the world's market through development of deep seaport in the Bay of Bengal. However, financing the projects especially the infrastructural projects, huge trade imbalances among the member countries, lack of preferential market access and trade facilitation measures, political discomfort and security related issues appear as economic obstacles in realising BCIM-EC. If the member countries undertake appropriate initiatives to overcome these challenges it could transform itself into a thriving economic belt which will ensure development, eradicate poverty and also ensure a secured and stable South and Southeast Asia.

MARITIME DOMAIN AWARENESS FOR ECONOMIC DEVELOPMENT OF BANGLADESH

Commodore Mohammad Nazmul Karim Kislu, (C), ndc, psc, BN

The Maritime Domain Awareness (MDA) is an umbrella term which covers a wide range of subjects. Firstly it includes all area under the MD of a country. These area covers sea area, internal waters, coastal areas, and everything on above and below it which cannot be bounded by any physical structure. Therefore the events in Bangladesh MD can be directly influenced by the activities of the region and beyond. MDA also maritime affairs related to sea trade and commerce, manufacturing, industries and livelihood. The maritime resources, their efficient exploration, harnessing, safeguarding and preservation is also the integral part of MDA. Besides, maritime security and law enforcement against piracy, drug/human trafficking, poaching, environmental protection are also included in MDA. Therefore to understand the dynamics of the MDA one has to know what is there in the MD and how to tackle it. MDA is not limited to development of general awareness of the people rather it includes a number of systematic approach to address all aspect of MD which includes safety, security, economy, and environment. They are interdepend and can't be separated from each other. For example the economic aspect is directly related to the safety and security of the maritime trade, resources and the environment for the inter generation sustainability. Again to ensure the MD security, surveillance, information sharing and rapid response to crisis is a must. These demand interagency, regional and global cooperation because one agency / country does not have all the assets. Specially to counter trans-border crimes like piracy, trafficking needs legal support and memorandum of understanding between the concern countries. To address the issues related to MD requires political will, government initiative, policy framework, infrastructure and credible security force. It also require cooperation amongst the stakeholders, positive mindset to share information and responsibilities. In addition to that it also requires strong infrastructure, fund and human resource. The economic development and the prosperity of Bangladesh lies in the Blue Economy which demand MDA. We all need to understand this and act to ensure it as early as possible.

WATER RESOURCES MANAGEMENT IN DHAKA CITY: CHALLENGES AND PROSPECTS

Group Captain M Yousuf Ali, ndc, psc

Bangladesh is blessed with abundant fresh water from its natural water bodies, downfall from upstream through rivers and canals, monsoon rainfall and aquifers within few hundred feet throughout the country. Similarly the capital of the country Dhaka along with the mentioned

blessings, is also surrounded with extensive wet lands, lakes and famous rivers. The annual rainfall at Dhaka is also higher than average rainfall in Bangladesh. Dhaka Water and Sewerage Authority (DWASA) is primarily responsible for fresh water supply for the dwellers of capital Dhaka city. The city in last four decades has grown many folds and now comprises of population over 15 million. The haphazard growth of Dhaka city, specially in terms of residential and industrial mix ups, caused the filling up of low, wet lands and natural canals, causing serious pollution of all the surrounding rivers. As a consequence, in one side, surface water runoff capability has decreased tremendously causing floods and water loggings; on the other hand DWASA is unable to use surface water from polluted rivers, thereby remained over dependent on ground water for supplying huge demand of water for city dwellers. In fact, due to over extraction of groundwater, the water table in-and-around Dhaka city has already gone down and the annual rate of groundwater table drop is 7-10 ft depending on the recharge phenomenon. If the drop of water table continues in similar rate DWASA will be unable for sustained water supply through existing system. More so, dependence on existing system would cause serious ecological unbalance and would force polluted and salt water ingestion underground, threatening the existing aquifers. The construction of Dhaka western embankment has improved the flood situation at western side but the planned Dhaka eastern embankment has not yet been constructed in last 25 years. As such during flood, and heavy rain, the eastern Dhaka mostly get inundated. An integrated master plan, comprising all the related stake holders or agencies, needs to be executed for effective water runoff system for Dhaka City. Accordingly, all concerned need to be aware of the situation and strict compliance of the rules must be materialized for sustainable water management for capital Dhaka City.

PERFORMANCE APPRAISAL SYSTEM AND CAPACITY BUILDING: A CASE STUDY OF BANGLADESH CIVIL SERVICES

Joint Secretary (Now Additional Secratary) Abu Taz Md. Zakir Hossain, ndc

It is hardly recognized that the traditional civil services at all times capable enough to cope with the modern day challenges and to perform their functions efficiently and effectively. To fulfill the people's aspiration and meeting the challenges of the 21st century capacity building of the civil services is crucial. Performance appraisal systems (PAS) are always authoritative concern of any organization while managing its human resources. Ineffective or lacking of appraisal system can bring various complications including low morale, decreased productivity and enthusiasm of employees. Therefore, introduction of PAS is indispensable for capacity building of Bangladesh civil services (BCS). The purpose of this study is to explore various aspects of PAS and to address the question of how appraisal can play its role in improving performance of BCS. For that commitments a combination of qualitative and quantitative research approach has been done. Findings of this research have shown that present evaluation system through Annual Confidential Report (ACR) is obsolete and ineffective. Exclusion of feedback, coaching, mentoring, and need based training; non-existence of performance reward

and correction approach decreased motivation and development, which are the potential hindering factors of ACR. On the other hand, PAS is based on preset objectives such as annual work plan in the broader perspective of organizational strategic goals, missions and vision and it's used for promotion along with financial incentives, reward, punishment, recognition, motivation and training for building capacity of the individuals as well as for organization that can ensure good governance.

NETWORK CENTRIC WARFARE: A PERSPECTIVE AND ITS STATUS IN SOUTH ASIAN MILITARIES

Air Commodore Surat Singh, ndc, VM , VSM, F(P)

Advancement in Technology has had great impact in every sphere of human activity, and so in the ways war has been fought. The two wars fought by Allied forces in the Middle East, have revolutionised the way war had been thought, planned and executed in the past. The usage of technology was extensive, and for more effective "effect based operations", aim being "more for less". The war had moved from the frontline, to rear HQs, and to some extent even to the drawing rooms across the world. The end of last millennium saw militaries being driven to a new era in warfare, the era of Net Centric Warfare (NCW). With the introduction of this new concept the underlying economics and technologies towards conduct of war had changed. It must be understood that NCW is more about networking than networks. It is about the increased combat power that can be generated by a network-centric force. We need to understand how the information technology has impacted the evolution of warfare specially in the last two decades and how the concept of NCW has developed as a force multiplier. Also, NCW has had a great impact on the Observe Orientate Decide and Act (OODA) loop in the decision making process in the military hierarchy. A look at the present status of NCW in the militaries and also the future trends in this field will be studied in this paper. The Militaries in South Asia have also embarked on the road to modernise their forces, specially with regards to Information technology. The paper will look at the present status of this aspect in the major militaries in the Asian region with specific reference to South Asia. In the end, the areas which need to be addressed to make the concept of NCW fully integrated will be studied.

CORRELATION BETWEEN DEMOGRAPHY AND NATIONAL SECURITY: A NIGERIA-BANGLADESH PERSPECTIVE

Captain Olusanya Abiodun Bankole, ndc

The interaction between demographic attributes, socio-economic activities and the geography of a nation impacts significantly on its development and national security. Hence, they pose challenges for governance and the nation's external image. This research, therefore, offers an overview

of the linkages between demography and national security in Bangladesh and Nigeria. The study examined how both countries have used their diverse resources to enhance the safety and welfare of their populations. The study viewed national security from the concept of human security which involves job and income security, food and environmental security; security from crime and discrimination, the right to education and a decent livelihood for the majority of the population. The study acknowledges that Nigeria and Bangladesh have very large populations which could be developed into great assets if properly educated and channeled into constructive ventures, otherwise the large populations could be a recipe for disaster due to conflicts arising from poverty and other social vices. The paper also noted that due to the effects of climate change and depleting ecosystems, there is an urgent need to significantly reduce population growth in both countries to below one percent in order to enhance sustainable development. The study highlighted some challenges of demography for enhanced national security in both countries, and suggested measures to mitigate the identified challenges. The measures include good governance, human resource development and strengthening internal security agencies amongst others. It was also noted that sub-regional and regional collaboration was vital to national development and the resolution of issues such as human and drug trafficking, insurgency, refugee issues and other trans-national crimes. The study further proposed a way forward and made some recommendations for the Federal Government of Nigeria (FGN) and Government of Bangladesh (GoB) accordingly. On the whole, the study provided insights into the feasibility of properly channeling demographic attributes to promote national security and development in Bangladesh and Nigeria.

IMPROVISED EXPLOSIVE DEVICE AS A NATIONAL SECURITY THREAT: SELECTED OPERATIONAL RESPONSE MEASURES

Lieutenant Colonel Abdullah Tafhimul Islam, afwc, psc, Ord

In contemporary world, day by day the threat of improvised explosive device (IED) is getting traction and Bangladesh (BD) is no exception to that. IED threat has now reached to a level where world community is sufficiently worried and has devoted scores of resources in pursuit of countering the threat. Recently Bangladesh has experienced widespread IED related incidents where IEDs were indiscriminately used against innocent people. At this circumstance, the obvious questions that come up now are: Could we really perceive the threat? Are we prepared to face it? What are the challenges and future action plan? Thus the research made an endeavour to find the answer(s). It has been found that BD lacks in both physical and conceptual preparation to fight against IED. We have limitations in threat perception, resources, implementation, training, procedures etc. In order to address the issues holistically and in a pragmatic manner, the paper opted to ascertain the lacunas and measures level by level (strategic, operational and tactical). In so doing it has underlined - Banning extremist groups/parties; Implementing laws/

acts strictly; Studying the environment to detect, deter and prevent IED chain; Introducing lines of operation at different levels; Improving tactics, techniques and procedures (TTP); Improving training and Furthering integration of efforts. The paper has emphasized in establishing an independent Commission and a Data Center to counter IED. Presumably these establishments can ensure better efficiency and economy of effort through integration of actions of different agencies. In this fight, Media and Business can also play important role. And finally, the paper believes that the menace of IED cannot be ruled out without the support of the population.

CLIMATE CHANGE AND INTERNAL MIGRATION: AN ANALYSIS ON SECURITY CHALLENGE FOR BANGLADESH

Lieutenant Colonel Abu Rubel Md Shahabuddin, afwc, psc, G, Arty

Bangladesh is a victim of climate change and the effect is going to be worst in near future. The displacement and internal migration due to climate change have already started. Natural disaster like cyclone, sea level rise, flood, drought, shore and river erosion, salinity encroachment etc are identified as the key effects of climate change which ultimately triggering displacement and internal migration. These are in turn causing food shortage, malnutrition, disease, poverty, social insecurity, human insecurity, loss of livelihood, loss of cultivatable land, etc. The climate induced Internally Displaced Persons (IDP) and migrants are the outcome of these climate change effects. These internal migrants and IDPs may be the causes of rapid urbanization, youth bulge, unemployment, socio-political disorder and unrest, conflict with existing rules and regulations, competition for resources, etc. They may also attempt for illegal transnational migration emanating heightened tension with neighbours and defaming national image. They may significantly upset socio-economic development which is the cornerstone of stability and security. These all may affect the security situation of Bangladesh severely. But the graveness of the issue on national security of Bangladesh is not yet profoundly identified and acted upon. Hence a great deal of consideration is needed to identify as how the issue of climate migration would create fog and friction in the society and in the national and regional politics. IDPs and migrants emanated from the adverse effect of climate change and there resettlement issue in the country may be major destabilizing factors for any national and regional security structure which need immediate attention. Though, government has laid down policy options and plans for coping up with the effects of climate change, formulation of a comprehensive policy on climate migrants and their resettlement is of paramount importance. Besides, adequate steps both by the government and different concerned international organizations should be taken forthwith to minimize the climate change impacts and reduce the emanation of climate migrants.

VERDICT ON BANGLADESH-INDIA-MYANMAR MARITIME DISPUTE: IMPACT ON FUTURE MARITIME OPERATIONS IN THE REGION

Captain Mohammad Atiqur Rahman, (G), afwc, psc, BN

Bangladesh-India and Bangladesh-Myanmar Maritime verdict have paved the way for exploration and exploitation of maritime resources in the Bay of Bengal. Myanmar has made phenomenal economic and political exploitation of offshore resources in collaboration with regional and extra regional actors. India is doing the same. Similar opportunities are also created for Bangladesh. Political leadership is trying to promote Blue Economy by exploiting maritime sector as new source of wealth, energy and food. Analysis shows that, directly and indirectly, verdicts have offered huge economic and geopolitical opportunities for Bangladesh. Interests of state actors are mostly complementing. SWOT analysis shows that Bangladesh needs to adopt cooperative and collective approach on hydrocarbon exploration, transit, maritime trade and connectivity issues. Non-traditional threats like trade security, human and drug trafficking need to be addressed with regional actors. Issues like poaching, pollution control, marine research, anti-smuggling and Search and Rescue need to be achieved through maritime agencies capacity building. Economic issues like production of various types of food, medicine, chemical, energy and bio-technology from the sea need to be achieved through a comprehensive plan. In this connection, the paper has proposed Perspective Plan for Maritime Bangladesh. The paper recommends that Bangladesh should declare maritime sector as 'Thrust Sector' and should form Separate Division to facilitate and expedite maritime operations. To harmonise operations, maritime activities should be coordinated under common umbrella through Regional Maritime Coordination Cell. Maritime agencies capacity building and Maritime Domain Awareness campaign should also be continued to remain at par with the age. Overall, the paper portray inference on maritime environment and actors interests in the BoB for policy makers, maritime clusters, professionals and comprehensive understanding on maritime affairs for further studies.

THE US FOREIGN POLICY IN THE MIDDLE EAST: CASE STUDIES OF IRAN AND IRAQ

Brigadier General Md Abu Naser, ndc, psc

INTRODUCTION

Most striking feature of the US foreign policy in Iran and Iraq during 1978-2003 is the consistent presence of contradictions. For example, on 31 December 1977, US President Carter during his visit to Tehran lavishly praised the Shah (Bourne cited from Murray, 2010, p.19).Carter's praising of the Shah was symbolic of the US support for the Shah. Soon, the Shah's Iran was stormed by Khomeini's revolution, and at this time, it was recorded that the US government was funding Khomeini (Evans, 2015). In 1981, while the war between Iran and Iraq was on, Israel, the trusted ally of the US, destroyed Iraq's nuclear reactor (Guzman, 2013). On the contrary, the US and Israeli response to Iranian nuclear program was limited to non-military options. Iran-Contra affair is another example of contradictory behavior of the US. While openly pursuing anti-Iran position, the US started selling arms to Iran through Israel (Murray, 2010, p.38). Aside the contradictions, Iran-Contra affair and destruction of Iraqi nuclear facility also reveal a glimpse of Israeli connection with the US foreign policy in the Middle East.

Of all the contradictory behaviors of the US, most significant one occurred at the aftermath of 9/11 attack on World Trade Center. In connection with the 9/11 attack, the US alleged Iraq for posing threat to the US, for possessing WMD and harboring Al-Qaeda. These allegations later were proven wrong (Arnove, 2001, p.1). Despite the fact that Iraq was in no way linked to 9/11 attack and that UN, as a result, refused to approve Iraq invasion, the US along with her handful of allies like the UK unilaterally decided to invade Iraq. But for many years, successive US administrations advocated multilateralism to solve international crisis.

The discussion above brings forth some striking issues of the US foreign policy in the Middle East. There were cases of contradictions, although exact range remains a subject for study. Importantly, there remains difficulty in understanding what these contradictions really mean, unless patterns are drawn from these contradictions. Lastly, some of these contradictions indicate Israel's connection with the US foreign policy. This paper identifies seven contradictory cases of

the US foreign policy in Iran and Iraq during 1978-2003. The paper then draws patterns from these cases of contradictions. Finally, the paper examines Israel's connection with the US foreign policy.

THE CONTRADICTIONS

The discussion on contradictory behaviors of the US in Iran and Iraq can get sidetracked by the claim that the US foreign policy in the Middle East was always consistent. Such claim is generally backed by the US foreign policy of persuading steady flow of oil at prices of US interest (Potter and Sick, 2004, p.193). But, a close examination rather reveals that there were number of contradictions in the US foreign policy and that these contradictions were not caused by the oil policy of the US. Following discussion elaborates seven such contradictory cases.

Khomeini's Revolution: The Treacherous US Support

By the end of 1977, when Khomeini's revolution was forming, US President Carter during his visit to Tehran in 1977 said, "Iran, because of the great leadership of the Shah, is an island of stability in one of the more troubled areas of the world"(Bourne cited from Murray, 2010, p.19). Carter's words of praise were symbolic of the US support for the Shah. Next year, as situation in Iran was rapidly deteriorating due to Khomeini's revolution, Mr. Sullivan, US ambassador in Iran, 'suggested that the US should start to anticipate the collapse of the Shah' (Sullivan cited from Staniland, 1991, p.90). Carter administration warned Mr. Sullivan for his pessimism of the Shah's surviving chance and reminded him that the US government's policy was to support the Shah (Sullivan cited from Staniland, 1991, P.91).

But a contradiction to such behavior, US administration supported Khomeini during the revolution. Khomeini's migration to France, as claimed by French journalist Dominique Lorenz, was a US plan. Dominique Lorenz wrote, "having picked Khomeini to overthrow the Shah, [the Americans] had to get him out of Iraq, clothe him with respectability, and set him up in Paris" (Evans, 2015). Not only that, allegedly the US government also provided Khomeini with fund while he was in Paris (Evans, 2015).

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Iran-Iraq War: Neutrality Redefined?

During the Iran-Iraq war, the US publicly declared policy of neutrality (Pauly cited from Baxter and Akbarzadeh, 2008, P.119). The policy meant that the US would not support either Iran or Iraq during the war.

But in reality, the US behaviors were altogether different. By March 1982, the US started to provide intelligence and military support to Iraq (Battle cited from Parsi, 2008, p.113).In 1984, $2 billion worth of US commodity credits were given to Iraq. In addition, Gulf countries were also encouraged by the US to extend financial support to Iraq (Jentleson cited from Potter and Sick, 2004, p.198).

Having the declared neutrality in place, the US also supported Iran during the war. Immediately after breakout of the war, the US and Israeli official planned to sell arms to Iran through a joint venture, which later became known as 'Iran-Contra affair'. Under this venture, during 1980-1983, over $500 million worth of arms from Israel were supplied to Iran (Parsi, 2008, p.107). Later, in 1986, President Reagan authorized US weapons sale to Iran (Parsi, 2008, p.121).

Iraqi Invasion in Kuwait: Change in the Known Face

On 20 July 1990, failing to solve debt problem with Kuwait, Iraq deployed 30,000 troops along the border of Kuwait. In this high voltage situation, on 25 July 1990, the US ambassador Glaspie in a meeting with Saddam Hussein commented,"... we have no opinion on the Arab-Arab conflicts, like your border disagreement with Kuwait"(The New York Times International, 1993).Not only that, Glaspie further commented, "I have a direct instruction from the President to seek better relations with Iraq" (The New York Times International, 1993).

But within hours of invasion in Kuwait, a different face of the US was exposed. The US reacted with lightening speed and with series of counter measures including passing of UN Security Council Resolution 660 demanding withdrawal of Iraqi troops and imposing economic sanctions on Iraq. By November 29, upon the US pursuance, UN Resolution 678 was passed giving ultimatum to Iraqi forces to withdraw by 15 January, 1991, and authorizing "all necessary means to uphold and implement Resolution 660". The US then quickly formed a coalition of 34 countries with 74% representation from her military to fight a war against Iraq.

The Uneven Sanctions: Ruthlessness versus Generosity

The effects of economic sanctions on Iraq were manifolds. By 1995, the sanctions caused death to 5,60,000 children of under five years age (Crossette cited from Garfield, 1999, p.5). During the same period, number of deaths among all ages was 1.2million, which later increased to 1.5 million in mid-1998 (UNICEF Report cited from Garfield, 1999, p.5). Despite this dire situation, the US along with the UK used veto power to ruthlessly ensure the harshest sanctions of modern history on Iraq (Global Policy Forum, 2002, para-4).

Quite contrary to the sanctions against Iraq, the US imposed sanctions on Iran did not restrict companies registered in a third country from doing business with Iran. As a result, American companies like Halliburton, General Electric and Coca-Cola got involved in trade and investment in Iran (Katzman cited from Kozhanov, 2011). Similarly, with US administration's approval, European companies also slipped out of the sanctions and continued trade with Iran (Katzman cited from Kozhanov, 2011).

Human Rights Protection: Compliance versus Violation

From the period of Carter administration, human rights as a concern of the foreign policy became a point of debate in the US. Later, in 1980s, human rights became a part of the US foreign policy as a non-partisan objective (Weiss et al. 2004, p.99). President Reagan in his second term often used the language of human rights. Senior Bush stepped further; he 'regularly and freely used the language of human rights, with apparent sincerity' (Weiss et al, 2004, p.100).

But a contradiction to such policy, serious violation of human rights by the US could be observed in the case of sanctions against Iraq. While the harsh economic sanctions were causing dire situation in Iraq, the US, along with her ally UK, did not allow Security Council to authorize even the assessment of humanitarian impacts of the sanctions. Highlighting such human rights violation, Hans von Sponeck[1] commented, "Every attempt that I made with the United Nations in New York to get an agreement to prepare an assessment of the humanitarian condition in Iraq was blocked" (Global Policy Forum, 2002, Chapter-7).

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1.   Mr Hans von Sponeck was the UN Assistant Secretary General and UN Humanitarian Coordinator for Iraq.

Nuclear Program: Iran on Course, Iraq at Gun Point

After many ups and downs since 1957, Iranian nuclear program resumed in 1991 (World Nuclear Association, 2015).The program remained on course, and by 2000, made a significant progress, when the sophisticated enrichment plant at Natanz was established. In response to Iran's continued nuclear activities, the US action was limited to imposing sanctions(Nakanishi, 2015, p.26).Israeli response, on the other hand, was limited to criticizing the Iranian government in the most offensive manner.

But Iraq's case was different. In 1975, by the French supplied Osiraq nuclear reactor, Iraq started her nuclear program. In response, the US did not adopt diplomatic measures as was adopted in the case of Iran. Instead, Israel, the US ally, used military means to destroy Osiraq nuclear reactor in 1981 (Reiter, 2005, p.357).

Multilateralism to Unilateralism: The Malicious Swing

The US, a proponent of multilateral approach for solving international crisis, used UN framework in number of occasions. For instance, in 1950s, with UN approval the US led a force of 21 nations in the war against North Korea. In 1990, the US again used UN platform to liberate Kuwait from Iraqi occupation (Soh, 2004, p.48). But, in 2003, the US passion for multilateralism suddenly faded. Despite UN disapproval, the US along with her handful of allies decided to invade Iraq displaying a swing from multilateralism to unilateralism (Soh, 2004, p.54).

The discussion, as done in this part, shows that on various issues the US behaviors were either contradictory to its own policy or contradictory to a behavior on the same issue. For example, unilateralism in the case of Iraq invasion was a contradiction to the policy of multilateralism. On the other hand, harsh sanction on Iraq was a contradiction not to the policy but to the behavior on the same issue against Iran. In isolation, the contradictions- however these occurred- apparently tend to initially skip one's notice and then to make one confused at the best. Such confusion continues until patterns are drawn from these contradictory behaviors. The next part of the paper will attempt to do that- form patterns from these contradictions.

FROM CONTRADICTIONS TO PATTERNS

Pattern in the foreign policy, as Kegley and Wittkopf (1991) defined, is a way of generalizing about and describing the overall thrust and direction of the foreign policy (p.4-5). Can patterns be drawn from the contradictory behaviors of the US? Every foreign policy behavior of a country must have an objective. This means that the US behaviors, even the contradictory ones, had definite objectives. For example, anti-Iran policy meant that the US objective was to oppose Iran's interest. But how, then, the US could supply arms to Iran? The US objective in the supply of arms to Iran was contradictory to the US objective of opposing Iranian interest. Can a country have opposing objectives on the same issue? Errors of judgment by the policy makers can be a plausible reason. But it is hard to conceive that the US policy makers- best known for their professional skill- can commit such errors over and over for a long period of time. So, it means that these opposing objectives were deliberately set.

Why the policy makers of a country should deliberately set opposing objectives, when the opposing objectives in simple mathematical rule result in zero? Was the US playing a zero-sum game in Iran and Iraq? The answer is- No. The US, in its foreign policy, was pursuing two patterns- a covert pattern and an overt pattern-, and the opposing objectives fell either in the covert pattern or in the overt pattern. A covert pattern means a pattern in the policy that is not deliberately exposed by a government. For example, although was leaked at the end, Iran-contra affair, by all means, was deliberately attempted to be concealed. A covert pattern sincerely pursues a set of objectives, which are different from those pursued by the overt pattern. The overt pattern, on the other hand, means a pattern in the policy deliberately exposed by a country and is used to disguise the covert pattern. An overt pattern pursues a set of objectives, which oppose the objectives pursued by covert pattern. For example, to act against Iranian interest through declaring anti-Iran posture was an objective of the overt pattern, which opposed the objective of supplying arms to Iran. The following discussion will attempt to describe the covert and overt pattern of the US foreign policy in Iran and Iraq by discovering and linking the objectives of the contradictory behaviors discussed in previously.

The Covert Pattern

The US deliberately pursued two broad objectives in Iran and Iraq. The first was to enable the rise of Shiite-cum-Persian nationalist ideology based Iran, and the second was to weaken Iraq. These broad objectives were attained through series of actions.

US Objective in Iran

Implementation of the US objective 'to enable the rise of Shiite-cum-Persian nationalist ideology based Iran' started by the incoming of Khomeini in the power. The event occurred in 1978 but it had its root in 1975, when the Shah signed Algiers Agreement. Shah's signing of the Algiers agreement started to defuse the Shiite-Sunni rivalry, ended US-Israeli support to Kurdish rebels in Iraq and signaled departure of Iran from the close relationship with Israel. As a whole, the US was alarmed by the Algiers agreement (Parsi, 2008, p.57). With that, Shah's prospect faded forever to the US.

Shah's fading prospect brought Khomeini into the spotlight. Khomeini, a hardcore Shiite religious leader, was a strong advocate of *Ulema* controlled Islamic government (Jasim, 1984, p.179). On Ulema's or in other word, Imam's jurisdiction, Khomeini's followers later illustrated that 'there is no geographic border for the Imam [Khomeini]' (Washington Post sited from Jasim, 1984, p.180). In this illustration existed veiled aspiration of the Shiite influenced Persia. Persia- the old day's Iran- was conquered by the Arab Muslims in 7th century. Although most Persians converted to Islam, in reality, there existed a distinct identity difference between the Arabs and the Persians. Later, this difference was further widened in 16th century, when the Safavid Persian dynasty accepted Shi'ism as the state religion. Since then, Ottomans, the guardian of the Sunnis, and Persia, the guardian of the Shiites, constantly struggled over number of issues. One such issue was the control of Iraq- once a rich province of Persia, and later, a place of holy Shiite shrines (Jasim, 1984, p.229). When Iraq emerged as an independent country, the old Persian aspiration became the key factor in Iran-Iraq relationship (Jasim, 1984, p.230). The Shah, after Algiers agreement, was seen to have departed from materializing the Shiite Persian aspiration. As a result, door was opened for Khomeini, who, the US thought, would serve the US interests better than the Shah by reviving the Shiite-Sunni rivalry and by extending Shiite dominance in the Middle East.

So, from mid-70s, as Houshang Nahavandi[2] noted, the US administration officials like Henry Kissinger started campaigning to depose the Shah from power (Perloff, 2009). The campaign reached at the peak during Khomeini's revolution. The US administration, during the entire revolution, stood inactive ensuring the incoming of Khomeini. To justify such inaction, the US administration officials like Brzezinski[3] fed Carter with surprising assessment of CIA. Ten months after

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2. Minister and closest adviser of the Shah. Nahavandi is the author of the book, *The Last Shah of Iran*.
3. Brzezinski was national security adviser to Carter.

street protests against the Shah had begun, CIA's assessment was- 'Iran is not in a revolutionary or even a pre-revolutionary situation' (Cooper, 2015).

When the Shah was gone and Khomeini was seated in the highest position of Iran, there was still problem for the US. New Iran needed protection, especially once Iraq initiated war against Iran. Protection of Iran became so important to the US that the Reagan administration in collaboration with Israel wasted no time to extend vital military support to Iran. During the early 80s, such US behavior was unimaginable for two reasons. Most people, even in the US, believed that Khomeini was hated by the US administration and that Iran crossed the red line by taking hostage in US Embassy of Tehran. How crucial the US support to Iran was for its survival against Iraqi invasion remains a subject of a separate study; nevertheless, eight years later when the war ended, the US objective was achieved. Iran not only survived, its military took the war inside Iraq. In the next decade, while Iraq was strangled by the harsh sanctions, the US objective was to ensure steady economy of Iran. Although sanctions were in place- just as an overt action-, Iran was given opportunity to exploit the loopholes of sanctions. As a result, while Iraqi economy was ruined, Iran's was steady. The US objective to enable the rise of Iran could also be observed by the way successive governments in the US and Israel dealt with Iranian nuclear program. While offensive rhetoric exchange among the leaders of Iran, Israel and the US continued, nuclear program of Iran remained on course.

US Objective in Iraq

The US objective of weakening Iraq began through destroying Iraq's nuclear facility in 1981, within four months of taking over the White House by Reagan- Israel's chosen[4] candidate. A year after, from 1982, the US started to implement new objective; it was to let Saddam Hussein gain confidence on the US. Under this objective, the US administration started providing financial and military support to Iraq, even when Iraq was engaged in the war against Iran. Having the declared neutrality in place, the US support to Iraq could be seen as part of dual contradictions, as the similar support was also given to Iran. Therefore, support to Iran and Iraq is often called as the US policy of dual containment. Dual containment was only a partial truth, for the support to Iraq was also an attempt to win Saddam's confidence that would be so vital for the US to let Saddam Hussein invade Kuwait. In the attempt to win Saddam's confidence, Reagan's special envoy Donald Rumsfeld paid two visits to Iraq during 1982-84.

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4.   Details will be discussed in part-3.

To compliment Rumsfeld's visit, the US also started to grant cash to Iraq. In 1983-84, the US provided $2.365 billion loan/commodity credit to Iraq. Between 1987 and 1989, Iraq again received another $3.1 billion loan from the US (Coleman, 1993, p.46 & 49). All these US financial supports aimed at, in James Kelly's[5] statement, not to let Saddam Hussein "swing against us" (Coleman, 1993, p.49).

Why in 1989- one before the Iraqi invasion in Kuwait- the US was so desperate to ensure that Saddam Hussein did not swing against the US? The US desperation was linked to the objective it had set for Saddam Hussein. This objective was to encourage Saddam Hussein to commit a blunder such as invading Kuwait. In 1990, while Saddam's military was pouring along the Kuwaiti border, the US, instead of warning, directed encouragements one after another towards Saddam government. A net result of these encouragements finally was Iraq's invasion in Kuwait- a landmark event that actually opened the door for the US to repeatedly use her military against Iraq in the subsequent years.

The US objective to weaken Iraq by crippling its economy through prolonged sanctions was a well-calculated US foreign policy. This had a cost; the human right violation by the US seriously injured its image. But the US administration was happy to pay that price for a simple reason- the price was worth for what sanctions had done to Iraqi economy. The sanctions, as was aimed, turned Iraq into an impoverished country by 2000. Even after that the US objective in Iraq was half-achieved. At this point, if Iraq was let out of the US grip, it could revive its past. In other way, weakening of Iraq had to be permanent in nature. For that, Iraq had to be reshaped and that needed an invasion in Iraq. Such an invasion needed an initiator, and thus, 9/11 came up. However, still the US had to connect Iraq with 9/11 attack and had to get UN approval. Unfortunately, the US plan doomed when UN disapproved the US plan to invade Iraq. In that situation, the only way to achieve the US objective was to use 'unilateralism' and the US administration exactly did that.

As discussed above, the objectives of the covert pattern clearly aimed at enabling the rise of Shiite-cum-Persian nationalist ideology based Iran and weakening of Iraq. However, these objectives also had risk. If these objectives were exposed, Sunni dominated Middle East could be united to counter the rise of Iran, and such unity in the Middle East could be dangerous for the US. More importantly, Saddam Hussein would not fall a prey of the trap set by the US. So, the overt pattern was designed to conceal the covert pattern.

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5. A lawyer for the New York Federal Reserve Bank and an US appointee for the operation of the BNL (Banco Nazionale de Lavoro), through which loan credits to Iraq were regulated.

The Overt Pattern

The overt pattern of the US foreign policy was designed to conceal the covert pattern. The overt pattern was designed based upon carefully chosen objectives: first, display a strong anti-Iran posture, and second, display support to Saddam regime in order to build a positive image of the US to the Sunni Arab countries.

US Objective in Iran

The US objective of displaying anti-Iran posture was manifested through number of actions or behaviors. One of these was the exchange of tough criticisms between the governments of the US and Iran. For example, after taking over power as the president of the US, George W Bush commented, "Iran's a destabilizing force" (Draper cited from Murray, 2010, p.116). The Iranians reciprocated to this kind of US rhetoric in the same manner. For example, Khomeini commented, "America is the number-one enemy of the deprived and oppressed people of the world...Iran has tried to sever all its relations with this Great Satan" (Khomeini cited from Baxter and Akbarzadeh, 2008, p.81). However these words sounded, in reality, Khomeini's Iran, in 1980s, purchased arms from this 'Great Satan' to fight Iraq. Similarly, since Khomeini came in power, Iran showcased an urge for 'liberation of Jerusalem', which was indirectly tied to anti-US manifestation. But in reality, as Parsi (2008) noted, Iranian cry for 'liberation of Jerusalem' was never acted upon (p.103).

Exchange of criticism was duly complimented by other US actions such as putting Iran in the list of sponsors of terror. As a result, the US was successful in creating an artificial image to the world, and specially, to the Sunni countries of the Middle East that US-Iran relation was as bitter as one could imagine. To add with this, the sanctions were imposed only with adequate loopholes so that Iran's economy was steady while the Sunni Middle East continued to believe that the US was harsh at Iran.

US Objective in Iraq

While anti-Iran display was on course, the US orchestrated a display of support to Saddam regime. Such display aimed at building a positive image of the US to the Sunni Arab countries. Accordingly, talking points of Rumsfeld for his visit to Iraq included message that the US 'would regard any reversal of Iraq's fortune as a

strategic defeat for the West' (Murray, 2010, p. 45). Similar message was reiterated by the US administration number of times in the subsequent years. In 1982, the US also removed Iraq from the list of sponsors of terror with an attempt to change Arab's impression that US policy was tied to Iran (Murray, 2010, p.45).

THE ISRAELI CONNECTION

Discussion in previous two parts shows that in number of occasions Israel was seen connected with the US foreign policy in Iran and Iraq. This part of the paper examines this connection in three steps: first, identification of Israeli objective in Iran and Iraq, and of connection between Israeli objective and covert pattern of the US foreign policy; second, identification of Israeli instruments for influencing the US Foreign Policy; and third, examination of Israel's influence on the US foreign policy.

The Israeli Prism

In early 1980s, an Israeli official said, "ideally we'd like to see Iraq disintegrated into a Shiite, Kurdish and Sunni community, each making war on each other" (Jasim, 1984, p.214). The bigger Israeli plan into which this statement was fitted came from Israeli think tank Yinon, who in 1982 'called for Israel to use military means to bring about the dissolution of Israel's neighboring states' (Sniegoski, 2004, p.50). Yinon's call was tied to Theodore Herzl's vision. Herzl, the founder of Zionism, in 1896 defined future Jewish state[6] as '*From the Brook of Egypt to the Euphrates' (*Shahak*, 1982*). In fact, Herzl's vision became the early source of Israeli thinking of dissolution of the Arab states, and therefore, Yinon's call was the proof of a long time nursed Israeli objective in the Middle East. In the dissolution plan of the Arab states, as Yinon viewed, Iraq was the top state to be targeted (Shahak, 1982). While Iraq earned the top position in the target list of Israel, Iran was altogether different. Ever since the Persian King Cyrus liberated the Jews from Babylonian rule in 6th century, Persia became a trusted ally of the Jewish people (Jasim, 1984, p.57). This alliance was renewed at different points of the history just as it was done in 1950, when Iran accorded *de facto* recognition to the state of Israel (Jasim, 1984, p.57). With this contrast Israeli view of Iran and Iraq, the Israeli objective was- partnership with Iran, an old and trusted friend, against Iraq, a common enemy.

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6. In his Complete Diaries, Vol. II, p. 711, Theodore Herzl, the founder of Zionism, says that the area of the Jewish State stretches "From the Brook of Egypt to the Euphrates" (cited from Shahak, 1982).

Relating this finding with discussed previously on the covert pattern of the US, it can now be realized that the US foreign policy in Iran and Iraq actually reflected Israeli objective in the Middle East. In other words, it was the Israeli prism that directed the US foreign policy in Iran and Iraq.

The Israeli Instruments

To implement the objectives discussed above, Israel's major weakness was her alarming inferiority to the Arab neighbors in terms of land mass and population. Therefore, Israel's only option was to ride on a world power. In that equation, the US became Israel's choice for two reasons: post WW-II geopolitical scenario, in which the US was one of the super powers, and the Jewish influence in the US. In the subsequent years, Israel purposefully mastered the art of using all its instruments to influence the US foreign policy in order to achieve its objectives. These instruments included the Neoconservatives, the Zionists and the Israel Lobby. Founded mostly by the Jews in the US during 1960s, the Neoconservative's key objective always was, and still is, to ensure 'support for Israel' (Boot cited from Sniegoski, 2008, p.26). The Zionists, according to its founder Theodore Herzl, are the "people who support the establishment of a Jewish state in the land of Israel" (Yehoshua, 2013). The Israeli Lobby, on the other hand, includes those of the Neoconservatives and the Zionists, who have any means to influence the US foreign policy.

Israeli Instruments in Action

Use of the Israeli instruments for influencing the US foreign policy has been systematic and well-planned. For a long time, Israel and its Lobby had been putting special emphasis on posting their chosen candidates in influential positions of the US administration. For example, Reagan came in power being a choice of Israel. Evidence suggesting such conclusion include 1980's election's voting pattern, which revealed that 'Israel and its US backers' supported Reagan (Curtiss, 1987). There is also argument that the hostage crisis was cleverly manipulated by Israel and its Lobby in collaboration with Iran to off-balance Carter ahead of 1980's election. The hostage crisis overtly, and in the background, Israel Lobby's dissatisfaction caused defeat to Carter in the election (Curtiss, 1987). Once elected, Reagan played significant role in materializing Israeli objective in the Middle East. Beside the appointment of US president, iconic figures in the US administration such as Henry Kissinger, Paul Wolfowitz, Richard Perle and Douglas Feith were among many of the chosen candidates of Israel and its Lobby.

Action of the Israeli instruments can be dated back to mid-70s, when Henry Kissinger- a born Jew and an influential member of the Israel Lobby- started his campaign to remove the Shah from power (Perloff, 2009). Later, Kissinger's campaign was complimented by Israeli Prime Minister Begin, who tried to convince Carter at the Camp David meeting that the Shah was no longer worthy (Souresrafil cited from Parsi, 2007, p.78). The concerted effort of the Israeli government and the Israeli Lobby influenced US administration to ensure fall of the Shah.

Israel and its Lobby were directly involved in Iran-Contra affair. One of the pioneers in this affair was Israel's ambassador to the US, Eprahim Evron, who lobbied with the US administration for arms sale to Tehran (Parsi, 2008, p.105). Iran-Contra affair later was operated by the hardcore personalities of Israeli Lobby such as Michael Ledeen, Elliot Abrams and Robert M Gates (National Security Archive, 2006). They all held sensitive positions in the US administration. Israeli Lobby played a crucial role in influencing US foreign policy to continue with the harshest sanctions against Iraq. An example of such influence was the US ambassador to UN, Madeleine Albright's comment. When asked about high figure of child mortality rate in Iraq, Albright, a Jew by birth, replied, "...we think the price is worth it" (Global Policy Forum, 2002, Chapter-5). While the sanctions were killing Iraqi people, the Israel Lobby, specifically the Neoconservatives were unhappy that the US administration did not invade Iraq in 1991. In early mid-90s, they started a new campaign to shape the US public opinion. To lead in this campaign was a prominent figure of the Bush administration, Paul Wolfowitz. A born Jew and a hardcore personality in the Israel Lobby, Wolfowitz along with his Neoconservative team advocated that the US should use pre-emptive strike against the hostile countries possessing WMD (Sniegoski, 2008, p.81). The term 'hostile countries' was made more specific later by the Neoconservatives through a paper titled 'A Clean Break: A New Strategy for Securing the Realm', written by an Israeli think tank. Behind this paper worked an influential panel of the top Neoconservatives such as Richard Perle, Douglas Feith and David Wurmser (Sniegoski, 2008, p.89). To secure the Realm or Israel, the paper echoed what Yinon said in 1982- reshaping of the entire Middle East with Iraq being the first to be dissolved.

To boost Perle, Feith and Wurmser's effort, another group of devoted Neoconservatives led by media personality Rupert Murdoch and the intellectuals such as William Kristol, Bernard Lewis and Robert Kagan played an important role. Murdoch's media empire deliberately contributed in the campaign of regime

change in Iraq. Murdoch in 1995 also financed Kristol for founding the Weekly Standard, which quickly became a leading publication to advocate for regime change in Iraq (Sniegoski, 2008, p.87).

Despite Israel's and its Lobby's concerted effort for regime change in Iraq, US administration and common people in the US remained short of convinced. In that situation, 9/11 worked as a stimulus- it angered the American people. Israel and its Lobby instantly exploited the American sentiment for aligning Israel's enemy as a common enemy of the US. Israeli Prime Minister Ariel Sharon quickly came in the scene to define this common enemy as 'forces of evil' (Bennet cited from Sniegoski, 2008, 139). In short time, the US Deputy Secretary of Defence, Wolfowitz, added more meaning to Sharon's 'forces of evil' by saying, "I think one has to say it's not just simply a matter of capturing people and holding them accountable, but removing the sanctuaries, removing the support systems, ending states who sponsor terrorism" (Knowlton, 2001). The Israel Lobby then appealed to the US President through a letter that 'even if evidence does not link Iraq directly to the attack, any strategy aiming at the eradication of terrorism and its sponsors must include a determined effort to remove Saddam Hussein from power in Iraq' (Sniegoski, 2008, p.144). By 20 September 2001, Israel and its Lobby had expressed clear meaning of Sharon's 'forces of evil'; it was Iraq.

Israel and its Lobby now concentrated full energy on selling this to the US administration and the US public. Douglas Feith established the Office of Special Plans to fabricate lies to justify the war (Petras, 2006, p.62). Until the invasion in 2003, Feith and his team from this office supplied manufactured evidences to the US administration and the media for supporting invasion in Iraq. Prominent Neoconservative Journalists such as Judith Miller, David Frum and Ari Fleisher propagated false evidences produced by Feith's office through articles, interviews, press conferences and even speech writing for President Bush (Petras, 2006, p.62). The coordinated effort of Israel and its Lobby was so powerful that eventually Iraq was invaded on 19 March 2003.

CONCLUSION

A closer look at the US foreign policy in Iran and Iraq, especially during 1978-2003, turns one's attention on a list of contradictory behaviors of the US. This list starts with the overt display of US support for the Shah government while providing support to Shah's rival Khomeini. When Iran-Iraq war started, the US contradicted its declared policy of neutrality by providing military support to

both Iran and Iraq. In 1990, when Saddam government signaled its intention to invade Kuwait, the US allegedly encouraged the invasion. Once Iraq invaded Kuwait, the US quickly responded with a comprehensive set of counter measures against Iraq. In imposing and observing sanctions against Iran and Iraq, the US again contradicted. While Iran had space to maneuver, Iraq was strangled by the harshest sanctions of modern history. Amidst the horrific situation of Iraq caused by the sanctions, the US manifestation of human rights protection remained dead, although, for many years, successive US administration claimed to be advocates of human rights protection. In the case of nuclear program, Iran received rhetoric and ineffective sanctions while Iraq faced precision military response. And, finally, the unilateral US decision to invade Iraq was a contradiction to its sponsorship of multilateralism.

The contradictions of the US foreign policy surfaced as a result of the existence of two patterns in the US foreign policy. One of these two patterns was a covert pattern and the other was an overt pattern. The covert pattern was designed deliberately to pursue two broad objectives: first, enable the rise of Shiite-cum-Persian nationalist ideology based Iran to counter balance Sunni Arab dominated Middle East, and second, weaken Iraq. The overt pattern of US foreign policy was designed to conceal the covert pattern. The overt pattern was designed based upon two broad objectives: first, display a strong anti-Iran posture, and second, display support to Saddam regime in order to build a positive image of the US to the Sunni Arab countries.

The covert pattern of the US foreign policy actually pursued the Israeli objective of establishing Jewish state 'from the Brook of Egypt to the Euphrates' by disintegrating the Arab states into ethnic and sectarian groupings, and by reshaping of the Middle East. The Israeli disintegration plan of the Middle East targeted Iraq as the first country. Why was Iraq first? It was because of the convergence of Israeli and Iranian interests. But why the US pursued Israeli objective in the Middle East? Because Israel successfully influenced the US foreign policy by her instruments, of which the Israel Lobby, consisting of the Neoconservatives and the Zionists, was the most effective. The Lobby's influence in the US foreign policy making ranged from posting its chosen candidates in the appointments of the US administration to drafting crucial foreign policies. The Lobby's effort was complimented by the Neoconservatives' propaganda in the main stream media. By such concerted effort, Israel and its Lobby in the US shaped the US public opinion, and in turn, influenced the US foreign policy for waging unjust invasion of Iraq.

The contradictions and the covert pattern of the US foreign policy, and the Israeli connection with the US foreign policy raise serious issues. Foremost of these issues is the unchallenged rise of the Neoconservatism in the internal politics of the US. From this issue emerges bigger one- the alarming phenomenon of wholesale submission of world's lone superpower to the state called Israel. The most alarming issue is the future of the Middle East, where countries one after another are disintegrating according to Israeli plan. 'How worse this situation will be' remains a question for further study; but for now, it is not irrational to say that the US remains responsible for allowing Israel to misuse its foreign policy for the implementation of an evil objective in the Middle East.

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Author

Brigadier General Md Abu Naser, ndc, psc was born on 24 Feb 1968. He was commissioned in the East Bengal Regiment of Bangladesh Army on 25 Dec 1987. Beside serving in regimental appointments as Quarter Master, Company Second in Command and Company Commander in four infantry units, he commanded 9 Bangladesh Infantry Regiment and 27 East Bengal Regiment. He was an operational staff officer of an Independent Infantry Brigade. In the instructional capacity, he served as an Instructor of Tactics and Weapon Wing of School of Infantry and Tactics, Platoon and Term Commander in Bangladesh Military Academy, and Directing Staff and Senior Instructor of Defense Services Command and Staff College, Mirpur. He commanded an Infantry Brigade before joining National Defense Course 2015. He attended number of courses at home and abroad. He obtained Masters on Defense Studies from National University of Bangladesh. He is also a graduate from Command and General Staff College, Fort Leavenworth, Kansas, USA. He served in UN mission in Bosnia and Herzegovina, Chad and Sudan. Brigadier General Naser has two sons, named Mohammad Shadman Rafid and Mohammad Yasin Rashad. His wife, Masuda Aleya is a housewife.

FUTURE MEDIA-MILITARY RELATION IN THE CONTEXT OF BANGLADESH

Brigadier General Abu Naser Md Elias, SGP, ndc, afwc, psc

INTRODUCTION

"Journalists will say that war is too important to be left to generals. Reporting of war is too important to be left to reporters. Soldiers need to get involved in this."

-Major General Patrick Brady - 1990 (former Public Relations Chief of US Army)

In all over the world, military and the media have a deep relationship though it has been debated for decades. Military needs a good image to uphold the morale of the troops and a rightness of the cause, appreciation of their job to make the supreme sacrifice if required (Bashar, Abul Group Captain-2003).The media military relation is highly altered in a globalized scenario keeping in view the future role of military forces both in peace and in conflict. The relationship between the military and the media is changing, propelled by certain momentous developments, in all the major democracies of the world, including Bangladesh. The revolution in information technology, from the transistor through widespread digitisation, deeply networked communications, as well as, the revolutionary changes in the employment of airpower have profoundly influenced analysts and planners and has completely changed the conduct of war. This scenario of change, which has evolved over a number of years, has shifted the balance towards the media and in the process, thrown up a new series of challenges to the military; especially in terms of media military relationship.In Future, the role of the press in reporting on the military is likely to be enhanced, and the military is increasingly to be fixed in the media focus. In such circumstances the military must take a long hard look at how it interfaces with the media and make the necessary changes (the necessary adjustments by the media not ruled out) to re-establish a relationship in which the military and the media will be able to successfully work alongside each other to the benefit of both. After all, the media have an important role to interpret the military to society and society to the military. Despite clashes, both military and media have worked together in the past. May it be in Vietnam War, Korean War, Gulf war and in the Liberation war of Bangladesh. (Tareq, Alam -2008).

After independence, Bangladesh has experienced intermittent military intervention, which brought in its wake restrictions on the media in accessing military related information. Repeated military interventions and political instability have resulted in an extended gap between the military and the media. After the fall of General Ershad's regime in 1990, the situation has gradually improved. However, after the 1/11, when army was supporting the caretaker government, the role of military was also severely criticized by the media and civil society. Hence, Bangladesh has still some problems in the area of military-media relationship that needs to be addressed.The Bangladeshi media, though now operating in the global arena, and very vibrant business industry as well, have so far not been able to use, to the desired extent, this advantageous situation for authentic, objective and substantive treatment of matters pertaining to defence, while the armed forces have yet to fully grasp the power and potential of the media in projecting their correct image.

Amidst these changing parameters and challenges of the media-military interface, the state of affairs in Bangladesh is not fully satisfactory. After thePilkhanacarnage in February 25, 2009, the role of media was criticized. There are apprehensions on the part both of the media and the military about each other's role and their contribution to governance, protection of democracy, national security and public opinion. Media is now enjoying total freedom in Bangladesh. The independent media has already emerged as the center of the democratic process and ultimately developing the potential to strengthen civil society institutions in Bangladesh. The media, in exercising their new found freedom of expression, have at times negatively impacted the military through their reporting. The military, now subservient to civilian control, needs to find new ways of undertaking their operations keeping in view the public support and national security.

There is difference of opinion about military and the media that media is interested in negative activities of military. This is the reason that military avoids media most of the time. Media feels that military is not transparent and is always try to hide the information from public view, reasoning national security is the vital reason. This resulted in a cold relation (ShaheenIqbal, NDC IRP, 2010). At times due to lack of knowledge or understanding media exaggerate the information about military which at times leads to strain relationship between this two. Though at present the relationship between media and military stand on a positive platform but which needs improvement in future for launching successful military operations.In the 21stcentury, the media in Bangladesh has acquired an entirely newdimension. With the entry of the internet (information

super way), permitting operation of private TV channels, web based newspapers, Bangladesh thus face 'media explosion ininformation age'.We now stand in a democracy where the media need the military to fulfill its role of informing the public. Healthy media- military relationship is a pre-requisite for a nation tothrive in a conflict situation. The basic tenet must hold: an unfettered press is a burden tothe military in the field, anathema at the seat of government and vital to a free, democraticsociety. Both the military and the media need to find out the balancing requirement, confer and agree. Despite the differences, it is a fact that both media and military are participantsin conflict situations. Therefore, media-military relations require a detail study.

HISTORICAL OVERVIEW: MEDIA MILITARY INTERFACE

World War I and World War II

Media restrictions and media censorship were imposed during World War I and II though Army granted some privileges to journalists in world war-1 but not many. They were allowed to go to France, but not usually to the front lines. And this was criticized. Perhaps because of the criticism by the press of the restrictions during World War I, the restrictions upon the press were less severe during World War II. The first restrictions were placed in effect a year before Pearl Harbour was attacked. The military authority requested that newspapers not to publish any information about troop movements or ship construction. Prior to the American entry into World War II, the Army and Navy established censorship plans in case of war. On December 7, 1941, the FBI assumed temporary control of news censorship and telecommunications traffic into or out of the United States (Media-Online). In general, censorship during World War II was well-organized and fairly consistent.

Vietnam War. It was the first war that received independent TV coverage, and one of the myth that emerged at the time that US had lost the war because of media,known as the "first war fought on television"(Wolfsfeld, 2011,p.28). Vietnam War appeared to be a source of scourge in the media military relation in American history. A 1995 study of the military media relationship conducted by Frank Aukofer and Vice Admiral William P. Lawrence showed sharp differences between the two institutions. The source of disagreement appeared to be the "Post – Vietnam Blame Media Syndrome". In the Aukofer-Lawrence study, more than 64 percent of military officers agreed with the statement, "News media

coverage of the events in Vietnam harmed the war effort." The military was forced to withdraw due to a collapse of public support at home, a collapse fuelled by hostile coverage by the media, and particularly by TV.

Liberation War of Bangladesh. Media coverage of our great War of Liberation was a far reaching and a very positive effect on its outcome. At the beginning of Bangladesh War of Independence, media was not much organized or developed. There were few daily newspapers from Dhaka and Chittagong and "The Joi Bangla" from Naogaon and weekly newspaper 'Mujibnagar Sangbadpatra' (English). "The Joi Bangla" could continue its publication during the war. Besides, the weekly newspaper "Mujibnagar Sangbadpatra"(English) used to publish the horror acts of the Pakistanis for the international world. However "Swadhin Bangla Betar Kendra" was the great source of inspiration for our freedom fighters as well for our common people. The broadcasting of "CharamPatra by M R Akhter Mukul and other famous nationalistic songs inspired the freedom fighters throughout the war and helped in reducing the suffering of the people and inspired the freedom fighters. It became the only source of information to learn the development of the struggle of the freedom fighters. The announcement of independence was also performed through this media.

Gulf War

Gulf War was the first test case for the global media network to cover a deadly war live with the help of satellite TV network. The media this time was with limited censorship. Having learned the experiences from Vietnam and Falkland campaign, the US military were ever prepared to handle the media in a planned and systematic way. More than 1600 reporters covered the war, which was of a great dimension after the World War II. Allied public relation departments found it extremely difficult to control and channel the CNN and BBC media teams. Regular press briefing were arranged at Dhahran and at Pentagon with details of the days events. It would be naive to believe that United States Generals were viewing CNN to acquire inputs of the combat area(Nair-1991). A major role of media was also to achieve the deception plan of coalition forces. After destroying all intelligence and surveillance system of Iraq, the demonstration and rehearsal of a large amphibious assault was carried out in the Persian gulf which was covered amply by news media specially CNN.

Kargill Conflict

Kargil became one of the worst nightmares for India. It not only caught them napping, but also exposed their extreme vulnerabilities and resulted in very high casualties. Having realised that, credit must be given to the Indians for their resilience and for their highly successful media and diplomatic campaign.

The way Indian media responded to the crisis, mobilized its resources and organized television programmes, newspaper reports, discussions, features, the famous "rogue army" posters and a wide array of coverage convinced the world media that Pakistan was on the wrong footing and the Indians were the aggrieved party. The Chanakyan principles of trickery and lies were fully exploited to dupe their own countrymen.

India also made a very intelligent use of the Internet and dedicated an exclusive website www.vijayinkargil.com to spread their propaganda. Trained PR officers manned chat sites on the web. On the other hand, the media was suppressed with iron hand within Pakistan. The Jung group and NajamShethi are two symbols of the growing belligerence of Pakistan media. Pakistan stands isolated in cyberspace with chat-rooms, message boards, chain letters and website expressing stock at the torture of Indian troops.

Principles of War Affecting Military-Media Relationship

For conducting any military operations, military leaders need to adhere some principles of war codified in the doctrine of that particular country.British Armed Forces, all leaders are trained in the 10 Principles of War. These short principles - many of them only a single word - are inherited from centuries of studying conflict and competition. While they are designed for warfare, they are a great set of guidelines for life in general and business in particular. The first principle is usually singled out as pre-eminent, with the second also considered to be special:

1. Selection and Maintenance of the Aim
2. Maintenance of Morale
3. Offensive Action
4. Security
5. Surprise

6. Concentration of Force

7. Economy of Effort

8. Flexibility

9. Cooperation

10. Sustainability/Logistics

These principles were codified by JFC Fuller, a Major General and military historian, after the First World War, but they incorporate the ideas of the greatest military thinkers in history including Sun Tsu, von Clausewitz and Napoleon. These set of principles are also accepted in the doctrine of Bangladesh Armed Forces and are taught to the all military leaders.Now it can be seen what are the principles of war affect the media military relationship:

"Security" becomes the most vital principle of war insofar as the military-media relationship is concerned.Commanders must prevent their own forces from being surprised and take calculated risks rather than gambling their forces. Hence, security is vital. It ranges from counter-intelligence to protect battle plans, and communications security to surveillance plans and flank security elements. This is the reason the military would shield its battle plans from the media before determining a time that it seems fit for dissemination. The media on the other hand, thinks the timing of dissemination is at their calling and this is where the tensions arise. Security is often interpreted as secrecy.

Media Landscape and Their Interactions with the Military

From the history of warfare military had observations about the role of media or press or vice versa. One of them is ignorance of operational requirement. First real "confrontation" was observed between the military and the media was in the Crimean War. William Howard Russell of the London Times exposed incompetence within the British high command. He reported on British misadventures, poor execution of the campaign and neglect towards casualties. It reformed British Medical Services; Florence Nightingale entered into the war and raised RED CROSS (Brown, Capt-92). In Bangladesh, Media probably are not giving appropriate attention about the role of peace keepers operating in the different parts of the globe. Military people think that media are less objective and less patriotic. Media often publish or broadcast misleading, unbalanced, fabricated, motivated and untrue news items. One of the most significant allegation against media by the military people is certain section of media are allergic to military and

not fair and balanced. Media have lacks of knowledge of defence needs. Role of media during the BDR carnage of 25 February 2009 was seriously criticized for initial two days. However military also to be blamed partially because they did not give required information/ true picture of the story to the media.

Challenges of Media–Military Relations

The spectrum of media has expanded so much due the advent of technology that a cell phone with camera can transmit a massage with live video throughout the world within a moment. The execution of death sentence of former Iraqi President Saddam Hossain could be viewed by the entire world instantly through the new media technology. Now the range of media includes all those platforms that empower a broad range of actors (individuals through nation states) to create and disseminate near real time or real time information with the ability to affect a broad worldwide audience, like internet websites, blogs and you- Tube etc. The present scenario has brought a bigger challenge before the military organizations in terms of handling new media technologies in the backdrop of its exponential reach, impact and the way the user content generated on these platforms can be distorted, manipulated andcirculated to millions in an instant which can be used by the enemy to its advantages. The usage of new media technology like in Israel-Hezbollah war of 2006 to in recent times Islamic State of Iraq and the Levant media campaign provides us an examples on how the current information environment has impacted the way the warfare is conducted today.In order to get information dominance in any given environment, undermining the importance and strength of new media can prove detrimental to the defence forces.

New media is one of the main forces in accelerating the trend of globalizations in the human society. Due to the thrust of new media, the global trend creates new social networks and activities, redefines political, cultural, geographical and other boundaries of human society, expands and stretchesso cialrelations, intensifies and acceleratessocial exchanges, and involves both the micro structures of person hood and macro structures of community. Givenits indispensable nature, nchallenging presence, infinitereach, deepimpact, it becomes paramount for the defence organization to understand it from the core and optimize its potentials for achieving the military objective.

Present Media- Military Relationship in Bangladesh

Present Relationship: An Overview. Presentlythe relationship between and media is on requirement basis. There is no continuous link between military and the media. The armed forces have an organization called ISPR (Inter Services Public Relation Directorate) under Ministry of Defence which is responsible for keeping contact with media agencies and performs all media related affairs of the armed forces. There is a perceptional differences that media feels military is not transparent and military feels media is interested about the negative aspects of military (Iqbal-2010). More over due to a long military rules are also responsible for distrust between this two organizations. This has resulted cold relationship. It is also important that due to very poor knowledge about the military affairs by the journalists, media at times projects either exaggerated or untrue information about military. This type of projection by the media leads to deterioration of relationship between media and military. At present both media and military maintains a fairly workable relations which needs improvement especially in the field of understanding each other.

Absence of a Comprehensive Media Policy. At present there is no clear cut media policy for the armed forces. Media is managed by the armed forces personal on required basis. A serious media phobia works among the armed forces personal even within the senior officers. There are lot of restrictions imposed by the respective services Headquarters concerning media handling. Some of them are:

a. Only ISPR is authorized to give any information related to armed forces to the media for publications.

b. Other than ISPR no member of the armed forces can contact with any media or can give any interview for private or official purpose without prior permission of appropriate authority.

A media policy is prepared by the AFD in 2010 which is still in draft form needs government approval. Draft media policy covers all aspects of media handling by the military personal at the appropriate level. Once this gets into motion the relationship of media military may get into a new heights.

Limitations of ISPR. ISPR is a very old and backdated organization having only 33 personals. (The organogram is at Annex A). The organization is headed by director at the rank of Lieutenant Colonel from the AEC Corps or an equivalent

officer from the Information Cadre of Civil Service. The officer of AEC or from civil service has very shallow knowledge about the operational aspects of military affairs. But the present regulations of ISPR does not permit any main stream military officer to be appointed as director. More so ISPR is also very poorly staffed. It does not have any branches outside Dhaka. It has to perform all its functions sitting at Dhaka. The most important thing is that ISPR functions under MOD but all military activities most importantly operational activities is planned, controlled and coordinated by the Armed Force Division (AFD). Therefore there is always a coordination gap between ISPR activities. For smooth functioning of ISPR, it has to be reorganized, adequately equipped, staffed with competent officer put under AFD.

Survey Result: Regarding Existing Relationship and Effects

A survey was conducted (questionnaire was at Annexure B) about the existing relationship. Total 50 respondent (all are senior military officials and civil bureaucrats) answered the questions. All the respondents were very spontaneous, gave positive answers and with the same opinion that a good media military relation can reduce the military intervention in future and can enhance the effect of military operations by taking the public opinion in their favour. Respondents also opined that present media military relationship is good and media need to come out from the partisan politics and yellow journalism. Military needs to take the media onboard about their activities and to train selected journalist as defence correspondents to cover the military activities, respondents opined.

Future Media Environment

Future media environment likely to be more complex. Just as time and experiences have shaped the military-media relationship of the past, so too will technological advances shape the military-media relationship of the future. Future military commanders will face a media in a technologically stronger position and even more competitively driven to report on military events than was the case in Desert Storm and other recent military operations. The media currently feels it does not have the capabilities needed to cover military operations.

Technological Advancement

During Desert Storm, the capability of cellular phones and portable satellite transmission equipment advanced to an astounding degree. CNN displayed this capability with their reporters' vivid descriptions of attacks on Baghdad. Despite the F-117's targeting of the international telephone exchange during the initial attack, the CNN crew was able to get its portable satellite connections working in a matter of minutes to broadcast to the world. This was the first time in war that the media broadcast live television from the enemy's capital while under attack. This stunning real-time narrative provided a world audience with bombing and cruise missile reports.

Future technology with respect to the media will be even more impressive. Specifically, the media is acquiring equipment that employs breakthroughs in miniaturization of electronic devices such as portable satellite-based phone and video systems. Motorola's Iridium system, for example, will enable world-wide communications for anyone with a cellular phone. The Iridium system will be a network of 66 low earth orbiting satellites and will provide voice, data, fax, and paging anywhere on earth.

Competitive Pressures

Now a days all the print and electronic media sell the news as product to the public and they also make profit through their rate of advertisement. The media which can provide real time authentic information can survive in the media competition. Otherwise, the viewers with a remote control at their hand switch to other channels. Both in peace and in conflicts media personals need to develop real professionalism and earn the credibility of the viewers to survive with their commodity.

Significantly, the media will be more diverse and fragmented in the future. Other nations and companies are starting 24-hour live news coverage to compete with CNN. News competition will make broadcasters more aggressive in reporting news and will make it more difficult to keep operationally sensitive news from leaking. Minutes in the television business can make the difference between winning or losing the public's viewership. Some media organizations may feel they have a responsibility to hold a story for security reasons, but do not want to be scooped by other news services. Thus, the temptation will be great to broadcast if they believe the story is going to come out anyway.

Analysis

The revolutions in the field of information technology have caused the media to have a much greater impact on operations. Thus it is imperative to take a closer look at the intricate relationship between the military and the media, and to understand the role of media in war.

The Military and The Media : Who Needs Whom?

This is the most important question while analyzing the relationship: who needs whom? Does the media need the military or military need the media? The answer is, however, may not be that simple. Throughout history both institutions have been at odds with each other. Our war of Liberation shown a beautiful cooperation and media's role as force multiplier but In the Vietnam war it was opposite. The military is enduringly popular, but is at its best in battle and conflicts like a conditioned athlete. However, it too, has its share of incompetence. So when the military makes mistakes, they can be monumental. Besides territory, a large number of lives can be lost. The military are disciplined, hierarchical and live within a homogenous, closed culture that can be —and often is — hostile to outsiders. (Hali-online, 2000).

The news media, are often unpopular with the military for which they function independently, without rules, regulations, or even a Code of Conduct except for some that are self-imposed. The media's Newspapers, Radio, TV and Cable have a variety of interests of their own and set goals to be achieved. May have a separate political ideology. Yet at their best, the media provide the nation with a vital service keeping the people informed, aware and it is one of the pillars of the state.

When the two institutions meet during a conflict, clashes are desirable. The media wants to tell the story, and the military wants to win the war and keep casualties to a minimum. The media wants freedom, no censorship, total access and the capability to get their stories out to their audiences quickly. The military on the other hand, wants control. The greatest fear of a military commander in a pre-invasion scenario is that something might leak out that would tip off the enemy. Commanders want to keep his operational plan secret and also try to confuse the enemy and to achieve surprise. These are fundamental differences that will never change. At times the military and the media also have worked together in harmony but usually bitterness tarnishes their relationship.

During the wartime when there is a life and death struggle for the military, personally as well as institutionally oath bound to make supreme sacrifice. Their dedication, commitment and patriotism comes to their rescue instinctively and through their long training. Media lacks such training and has nothing personal at stake. The military needs projection of its popular activities on media for its image building and growing favourable public opinion. On the other hand, media need information on military affairs for preparing factual and credible news stories and also cooperation and security during war and conflict scenario. So a close working relation is also necessary for knowing each other's capabilities, limitations and constraint (Rob- 2015). It is for the civil media to come forward with the remedy. And for the military to provide its own media to fill the gap and, more importantly to serve the nation keeping the national interest above everything.

Media as A Force Multiplier

Without the public support, no battles or campaign can be won. War of Liberation is the greatest example of defeating a stronger army by the weak and poorly trained freedom fighters. One of the major cause of Pakistani defeat was that lack of public support. The CharamPatra by MR Ahther Mukul from Swadhin Bangla Betar Kenro use to revitalize the freedom fighters and in spite of lots of odds keep the morale high thus worked as force multiplier. Military leaders are aware that news media coverage of their operations can be a force multiplier. Many military leaders have come to the conclusion that media coverage not only develops public awareness and the support of military units, it has the side benefit of enhancing their morale by informing their families and friends of the activities of the troops. If used prudently, media is indeed a Force Multiplier as it builds public opinion.

Information Security and the Military Culture

The U.S. National Information Systems Security Glossary defines "Information Systems Security" as the protection of information systems against unauthorized access to or modification of information, whether in storage, processing or transit, and against the denial of service to authorized users or the provision of service to unauthorized users, including those measures necessary to detect, document, and counter such threats.(Online, Definition).Traditionally, information security implies the military practice of reviewing a reporter's newscopy prior to his

filing to ensure that no information of value to the enemy was released. This system was effectively used during the Second World War but now technological innovations have called into question the whole concept.

The "Vietnam Syndrome" leads most Americans to believe that they lost the war due to the total freedom given to the media in their coverage of the war. Their pessimistic reports tipped the public opinion against the conflict. The tales of atrocities of US troops on My Lai and Iwo Jima and, Jane Fonda's radio speeches from North Vietnam and media reports of US casualties stirred public opinion in USA against the War in Vietnam.

In Desert Storm the Pentagon decided to use information security to avoid a Vietnam-like situation. The imperative for secrecy was great, because if Iraqi commanders had had even an inkling of the US attack plan, they could have repositioned their forces, jeopardizing the success of the operation and inflicting significantly higher casualties on Allied Forces.

Important Media Lessons from the Gulf War and Kargil

It is always said that nobody learns from the history and those who do not learn from the history are relegated to become a part of history. It view of above discussions following lessons may be drawn from the Kargil and Gulf crisis so that in future, employment of media in military operations is done prudently:

a. Public opinion must be supportive as whole nations go to war not just the armed forces. Public opinion can be built by the media.

b. Operational secrecy in modern limited wars now requires the active involvement of the media.

c. The propaganda effect may be market oriented and in outcome of an advertising campaign. The media involved in the Gulf War had ties to the US arms industry

d. There is a need for reporters to be educated about the military and the military about the media.

e. Media coverage plays as a force multiplier. People get their perception of the military as a dedicated and professional organization from media reports, therefore, mutual trust and confidence must be developed among this two organization.

Common Goal of the Media and the Military

The political masters and the military commanders must be able to identify capability of the media shall be utilized to shape up the national will in support of overall war efforts. It shall not be left to the media's own understanding and interpretation only, which at times may become detrimental to national objectives. All must be able to understand the strength of the media for forming and shaping up the public opinion in favour of national core issue. Media can perform this job by educating the nation and keeping them informed by timely delivery of the correct information. It is needless to mention that, all these activities shall be undertaken jointly by media and military planners together. As a citizen, we have the solemn responsibility to be united and have an integrated efforts for achieving the national objectives.

The armed forces is responsible for safeguarding the state sovereignty, where all the citizens will enjoy the freedom. But they need to understand that armed forces need to be trained and equipped with modern armoury. In a developing country like Bangladesh allocation and expenditure of defence budget is always talked about. The media can play an important role by emphasizing the need of appropriate defence budget and also can educate the general massabout the issue.

The righteousness of the cause in extremely important to win in the battlefield. In war of Liberation, main reason of Pakistani defeat was that they did not have right cause to fight. At the strategic level, issues of national interest and national security are not always understood by the general mass. The mass media can take this responsibility to create the awareness concerning the issue among the people. War in totally is a very expensive affair, which need huge economic and material support both from home and abroad. In the event of low intensity conflict, or army's deployment in aid of civil power, armed forces may have to use media to attain the public opinion in favour of military operations. But in case of general war, it would involve all segment of society. This situation would demand more coordinated demand by the media and military to sensitize the people to support the campaign by all possible means.

Influence of Media in Future Military Operations

In present day world everybody is concerned about the influence of media. Media are now determining factors about the popularity of any party or government. Another important factor is the speed and the global reach of

the new international media. The capacity for independent assessment and reporting has been reinforced by an increasing independence in communications and dissemination of information through the global media. Globalization has conferred on the media formidable power to influence national and international public opinion. Large news corporations like CNN or BBC have global impact and today can be found in the offices of nearly every senior government and military official throughout the world. Today the media can bring the graphic realities of conflict almost instantaneously into the public's living room bringing the conduct of conflict to the scrutiny of everybody, not just the military leaders and politicians.

The global reach of the media could allow coverage by other nations not bound by considerations of operational security. Such coverage, including input from the Internet, would be beyond sanction, and fully able to feed footage into a global system allowing rapid relay to both combatants and their home nations. While belligerents could place restraints on media in the field, censorship would be almost impossible to maintain in the face of expectations in the home nation. Not only the journalists, every soldiers will have a smartphone in the future battlefield connected with internet, you Tube, sky pie and twitter and can communicate the entire globe within a second. This new media technology can seriously influence the future conduct of war.

Challenges of Future Media-Military Relations in Bangladesh

The future media will have access to new technologies that will allow them to easily broadcast from the battlefield. New, highly mobile satellite uplinks and high resolution satellite images will make operational security very difficult for the operational commander. Also new networks such as the internet and you tube will distribute information from a wide range of sources very quickly. New world-wide satellite communication links from a variety of companies will allow unprecedented communication from virtually any spot on earth.

The present competitive environment of the media will get tougher for news organizations. Not only world-wide news organizations, such as CNN, BBC or Al-Jazeera are increasing at a dramatic pace, our local electronic and print media are also growing fast. They can overwhelm the military commander with numbers. All the media are always in competition and will remain in pressure to report the story first which will likely to make it difficult for the media to cooperate with the military.

The future military commander will need to plan for a large influx of media representatives. Open coverage likely to be normal procedure for combat coverage. Additionally, the commander will have to anticipate that the media will provide sensitive information which may be at the hand of enemy and may have an impact and possibly on the conduct and outcome of the war. The military commander could also face adversaries with advanced techniques for manipulating the media. Therefore military commanders should be trained andcompetent to handle media.

RECOMMENDATIONS

From the above study following recommendations are made:

a. Government should formulate a comprehensive media policy for the AF incorporating all aspects of media handling and appropriate training aspects for both military and media personals.

b. Government should focus on capacity building for both media and the military to face the challenges of advanced media technology which can manipulate the battlefield environment in this era of globalization.

c. Appropriate authority of Armed Forces may include the Media Effects as one of the principles of war.

d. ISPR should be re-organized and restructured,should be headed by a senior officer and it should be placed under AFD instead of MOD.

e. Media should play more pro-active role in creating awareness among the people so that they understand the capabilities and limitations of the armed forces. Media people should understand the operational requirements, sensitiveness and national interest behind each mission.

f. Military and media should have more interaction in the form of seminar, symposium and visits to various installations at various levels to develop better mutual trust and understanding.

CONCLUSION

The military and the media have a long history of cooperation and also conflict in wartime and in peace. The conflict in the relationship derives from the fact that the military and the press often have objectives that run counter to one another. The military wants to achieve surprise and maintain security to deny the enemy any useful information. The military would also prefer to restrict the transmission of images of war on television or newspapers. The media, on the other hand, want to provide firsthand information to the people and retain them as viewers, listeners, or readers and remain in the competitive media world.

Military should learn to tell their story of success, courage and glory to the media. Media should have access to the combat units, defence installation and cantonment areas. Timely response to the media is one of the means to improve relations with them. Interviewing by the concerned officers on a particular issue may be allowed. Briefing on defence budget would be mostly welcomed by the media personnel. Regular interaction through seminar, symposium on defence matter such as combating terrorism, UN peace keeping mission, disaster management, role of media and military in national development and ensuring national security may be arranged. Dissemination of defence information can build confidence among the citizens about the capability of AF in safeguarding national sovereignty and independence.Activities of AF may be published in the form of feature/article in newspapers will help to build up positive image.

Regular interaction with the media people will certainly create a congenial and faithful relationship with the media. Trust on media people will also produce a rewarding output. Media want timely information from their sources because they work within a deadline time frame. So timely information on defence matter which is publishable should be provided within shortest possible time. All the media have certain political ideology. So equal treatment to all press should be confirmed. Media culture should be respected. Human rights is much debated issue on present day situation.Therefore, training of military personnel on human rights aspects is required. Selected journalists and mediapeople should also be trained on defence matters who can performed as defence/war correspondent in times of needboth in peace or in war.

ISPR is only the agency who acts as bridge and plays an important role in strengthening relationship between military and media. It is assigned to deal with the media on behalf of Armed Forces. Both military and media can avail

cooperation from ISPR to meet their needs and narrow down the difference. Mutual respect and understanding each other is very important. But present organogram, role and its chain of command is not at all suitable to perform the desired responsibilities.

Military can recognize and endorse the importance of media engagement in their operational doctrine. Taking the lessons from the War of Liberations it is important that for a country like Bangladesh, where all powers of the Republic belongs to the people (Article 7(1) of the Constitution).Public opinion is very crucial for any mobilization of the armed forces, and media can provide the Force multiplier effects to the military. The future military commander needs to be more competent to handle the gamut of media –military environment. Military commander needs to understand the dynamics of information technology especially cyber security issues in conducting military operations.

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Author

Brigadier General Abu Naser Md Elias, SGP, afwc, psc is a Course Member of NDC-2015. He was born on 31 August 1967. The officer was commissioned in the Regiment of Artillery on 26 June 1987. Besides serving in all the regimental appointments, he also served as Deputy Director in Special Security Force. In command appointments, he commanded three Artillery Regiments including two medium regiments of artillery. As a staff he served as DAA&QMG of an Artillery Brigade and General Staff Officer Grade-1 in the Armed Forces Division. As a Colonel he was appointed as Station Commander of Comilla Cantonment. Before joining National Defence Course-2015 he was serving as Commander of an Artillery Brigade. He attended number of courses at home and abroad. He is a graduate of Defence Services Command and Staff College and attended Armed Forces War Course from National Defence College. He obtained Masters in Defence Studies from National University, Masters in War Studies also from National University of Bangladesh and Masters in Business Administration from a reputed private university. The officer participated in two UN assignments in the capacity of Contingent member and Military Observer. He visited many countries across the globe. Brigadier General Elias is a proud father of a daughter and a son, both of them are students. His wife, Mrs Shahwari Farzana Luna is a 'housewife' and she is committed to educating her two children in the best possible ways. Brigadier General Elias's hobby is playing golf, gardening, watching TV and reading books.

POST 9/11 SECURITY SCENARIO IN SOUTH ASIA: OPTION FOR SECURITY OF SMALL STATES WITH SPECIAL REFERENCE TO BANGLADESH

Brigadier General Md Mohsin, ndc, psc

INTRODUCTION

No part of the world has been more affected by the terrorist attacks of September 11, 2001 than South Asia. South Asia had to endure the strain of the consequences of the war to such an extent that few of the nations of the region are labeled as 'Failed State'. Emergence of asymmetric nature of transnational terrorism has created fluidity and uncertainty in many countries across the globe including South Asia.Subsequently many religious extremist groups have surfaced in Bangladesh and made security situation volatile, creating image crisis and negative impact on country's economy. One of the critical aspects of South Asian internal geopolitical realities is the mistrust and lack of cooperation due to their bitter historical backgrounds especially between India and Pakistan.

The strategic importance of South Asia lays in its geographical location also its political, cultural and ethnic structure. South Asia lies in the center of two volatile regions of West Asia and South East Asia, and it dominates the vital sea communications between the West and the East. To its north lies the great land mass of China, center of future geopolitical power hub. After the dissolution of the Soviet Union in 1991, India began to review its foreign policy and developed closer ties with the EU and the US. Current Indian foreign policy is based on maintaining strategic autonomy to promote and safeguard national interests. Key recent developments include the rapid growth of India's economy and bilateral trade with US, a geopolitical coalition to balance the rise of an increasingly assertive China, the weakening of US-Pakistan relations."The deeper US-India relationship was further lauded with Barack Obama's statement at his last visit to India on 26 January 2015, "the fortunes of the US and the fortunes of India are inextricably linked" (Price, 2015).

After September 9/11 attacks, US launched global war on terror in Afghanistan (October 2001)and stretched the security situation towards more complexities expanding from one Al Qaeda base in Afghanistan since 1990s to now pushed over into 15 different countries, causing more worries across the globe (Ibrahim 2015).

In Bangladesh, Harkat-Ul-Jihad-Al-Islami-Bangladesh (HUJIB) was formed in 1990 and Jamaat-ul-Mujahideen Bangladesh (JMB) was formed sometime in 1998 and gained prominence since 9/11. A series of bomb and grenade attacks since 2001 to 2006 killing hundreds of people including high profile personalities even attempt on the life of the then opposition leader Sheikh Hasina by religious extremist are few of the examples. Since 2013, Ansarullah Bangla Team (ABT), an Al Qaeda inspired Islamic extremist group has emerged in Bangladesh. The ABT objectives include the radicalization of youths in Bangladesh, inciting active participation in a local jihad and seeking control of areas in Bangladesh (TRAC, 2015). It is appropriate to comment that in the present socio-political situation, alongside the holistic national response, it demands also a shared regional response to combat such threat. As such, this study will focus on examining post 9/11 security scenario and its impact in South Asia and recommend strategy options for South Asian small states with special reference to Bangladesh.However, in this endeavor all pertinent NTS threats will be discussed.

Post 9/11 Security Scenario and Its Impacts on South Asia

Global Geopolitical Dynamics. The terrorist attacks of 9/11 are a turning point in the global security scenario, which has shaped many future courses of global events. This incident revealed a remarkable degree of US vulnerability to an attack on its main land, for which USA enacted laws and executive orders including US Patriot Act and establishment of US Department of Homeland Security. It has furthered the US urge for unilateralism. Thus, "US decision to deal with the terrorists through military means in different parts of the world has generated anti-west and anti-US sentiments among Muslim community because of imprison torture and casualties of innocent civilians in Afghanistan and Iraq, which was capitalized by different extremist outfits in spreading terrorism further globally" (Zaman, 2015).

Regional Geo-Political Dynamics in South Asia. After 9/11, India, stimulated by the hope of strategic gains offered its all-out support to US. Pakistan joined the American war unconditionally for its vulnerability to the perceived US pressure. The war on terrorism has now moved to Pakistan territory. The shift to Pakistan territory has had several major consequences, facing even tougher challenges than Afghanistan due to internal destabilization especially in North West Frontier Provinces and Federally Administered Tribal Area (FATA) (Nayak 2005).The war on terrorism evidently has incited new cooperation between domestic religious

groups and foreign terrorists. The concentration of militant in Pakistan now threatens its domestic stability and risks making it the new regional center for terrorism.

Pre 9/11 Scenario in South Asia. Traditional antagonism between the two arch rivals – India and Pakistan; nuclear and conventional arms buildup, ethnic unrest and insurgency kept the regional affairs volatile. A sense of insecurity and mistrust always haunted the smaller states. Lack of cooperation slowed down the progress of SAARC. In South Asia, India dominates the region, therefore, inter-states disputes also hinge around India with other regional countries, and while at the core remains the India-Pakistan's long drawn disputes.

Post 9/11 Scenario in South Asia. In the post 9/11, there has been a shift in the US's diplomacy in South Asia. Pakistan appears to be gradually sidelined in US's regional policy agenda with India coming into prominence. The challenges of terrorism, proliferation of WMD and numerous organized crimes are on the rise. Besides that, issues of non-traditional threats have been emerging at the forefront.In the subsequent paragraphs, traditional and NTS threats are discussed below:

Traditional Security Threats. South Asia is a conflict ridden region where India and Pakistan have emerged as the two world's nuclear power. Another giant China's close proximity has made South Asia a nuclear concentration area raising high level of tension and volatility in the region. "South Asia's defence spending is one of the highest in the world dragging human security challenges towards more complexities. To reduce tension and to promote mutual trust and confidence there is no security architecture in South Asia"(Muniruzzaman, 2015).

Non-Traditional Security Threats. South Asia is characterized by extremely high environmental stress resulting from cyclone, floods, earth quake, and scarcity of water, high urban population density, energy shortages, and air pollution. Climate change is expected to exacerbate the existing vulnerabilities, leading to further depletion of scarce food, health and water resources, augmenting migration and increasing the number of internally displaced people raising poverty level, deteriorating law and order and transnational crime. Drug and human trafficking has emerged as a major security concern due to the porous South Asian borders. It should also be stressed that throughout South Asia two types of migration is taking place, across borders and within individual countries.Of late, thousands of illegal migration from Myanmar and Bangladesh are being rescued from the

Bay of Bengal near Thailand, Malaysia and Indonesia. Discovery of mass grave of migration victims has signaled the horrors of human trafficking. It should be addressed nationally and regionally. The uneven distribution of energy supplies among South Asian countries has generated significant vulnerabilities to their economies. Threats to energy security in South Asia are predominantly caused by lack of political will. To optimize the region's economic potential, each South Asian state needs to explore the possibilities for regional energy cooperation and design long-term plans to secure its domestic requirement taking into consideration many opportunities for regional energy cooperation.

Transnational Crime, Terrorism and Gradual Radicalization. Organized criminal groups have been reported to smuggle banned prescription drugs i.e. Heroin, Phensidyl and Yabba across Myanmar, India and Bangladesh. In the aftermath of 9/11, religious militancy has intensified in South Asia. Political instability, poor governance and weak democratic institutions create a vacuum in the state functioning. Evidence exists of collaboration between terrorist groups from regional countries and extremists seeking safe haven or expanding their bases in neighboring states. Bangladesh has witnessed rising religious extremism in various manifestations for more than 10 years. A series of bomb and grenade attack in Bangladesh by HUJIB and JMB mirrors a deep rooted network across the region in India, Pakistan, Bangladesh and Myanmar. Of late, Al Qaeda has announced opening its branch in Indian sub-continent naming Al Qaeda in Indian Sub-Continent (AQIS). Without a regional cooperative approach it is not possible to address the issue.

India the Rising Power: Deepened Relation with USA. The 9/11 attacks have facilitated USA in establishing a "strategic partnership" and reshape its relations with India in the field of economy and military cooperation (Nayak 2005). Both the sides are concerned about the protection of sea lanes carrying oil shipments and sea-born trade. They have agreed for civil nuclear deal and defence cooperation. US also recommended India for a permanent seat in the UNSC. "The US could be India's "best partner" and further decided to establish hotlines between the President and PM and between their national security advisors"(Price, 2015). Such scenario is likely to have negative impact in regional states of Indian Ocean and in resolving issues among South Asian states.

Impact of 9/11 on South Asian Region

Impact on South Asia. Firstly, the US by dripping to pieces the Taliban regime, once again pushed Afghanistan into a new phase of insurgency and civil war. The unrest and turbulence in Afghanistan has leaked out into Pakistan and spread into neighboring countries. Second,the situation provided an opportunity for India to justify its previous allegation against Pakistan harboring terrorism in Kashmir and prompted India to justify a possible attack on Pakistan bringing the Kashmir insurgency into the US definition of terrorism. On the western border, Pakistan always likes to feel securethrough the presence of a friendly regime in Afghanistan. The war on terror has brought the Northern Alliances to the power in Kabul.9/11 has affected small states in a multi-dimensional way; impacting the ongoing insurgencies, fight for self-determination, struggles for autonomy, trade, foreign investment and their perceptions towards India and US.It brought a sudden slum in global aviation industry and Nepal's tourism was doubly hit. Nepal's position has been reduced from third highest destination of vacation to 14th.Impact on Sri Lanka and Bhutan was insignificant.

Impact on Bangladesh

Economic Impact. Because of the 9/11 terrorist attacks, there was a wide spread cancellation of RMG export orders.Consequently, by mid-October 2001, around half of the 3000 garments factories registered under Bangladesh Garments Manufacturer and Exporter Association (BGMEA) had to close down. The overseas job market also shrank after the 9/11 events creating severe impact on Bangladesh economy.

Political and Security Impact. Adverse media coverage was a severe blow to the image of Bangladesh. Second were the role perceptions and utterances in India. India has been alleging about the possible nexus between the Pakistani Inter-Services Intelligence (ISI) and Islamic forces in Bangladesh, which harbors not only the insurgents from the northeast but also Al Qaeda forces. Consequently, strains were added to Bangladesh-India relations with a good number of bilateral issues. No doubt, in recent times, the activism of the Islamic forces is on the rise."Of late, the National Investigation Agency (NIA) of Indian sleuths probing the Burdwan blast case has claimed that a key suspect identified JMB member has confessed of chalking out a plan to assassinate Bangladesh Prime Minister Sheikh Hasina" (Sujan, 2014, p.1).

Geopolitical and Geostrategic Impact. "9/11 has generated instable global rule, distrust and tension across the globe. As regards to Bangladesh and South Asia, it has more social and political consequences, declined democratic practices and influencing the growth of extremism and terrorism" (Zillur 2015). Capitalizing the anti-American sentiments, terrorists have increased more violence in the name of Islam.On the contrary, rise of China and its increased involvement in the region to counter US hegemony is also gaining prominence.

Option for Security of Small States in South Asia

Definition of Small State and its Vulnerability. Rothstein defined small state as "Which recognizes that it cannot obtain security primarily by use of its own capability and it must rely fundamentally on the aid of other states, institutions and processor development and so, the small powers' belief in its inability to rely on its own measure must also be recognized by other states involved in the international politics (Khan &Kabir, 1987, p.4). In fact, poverty, lack of national cohesion possesses greater potentials for insecurity to these nations. Political instability, poor governance,over population, unemployment and absence of rule of law has made Bangladesh susceptible to crime, terrorism and religious extremism.

Is Bangladesh a Small State? Considering the geographical size, small economy, smaller armed forces, weak political and democratic institutions and weak governance it can be said that Bangladesh is a small state. The crucial security challenge to the Bangladesh is an increased incidence of violence, particularly growing militancy.

South Asian Situation. The wide range of critical disputes has developed a state of mistrust and suspicion among South Asian states. The War on Terror in Afghanistan and the 'unjust war' in Iraq, resurgence of Taliban and Al Qaeda elements have been worsening South Asian security. Organized crimes like smuggling, illegal arms, drugs and human trafficking are on the rise. Besides, environmental degradation, natural disasters, epidemics, social and political deprivation and economic disparity are the growing concerns today. Scarcities of natural resources like water, energy and change of climate are also compounding the fragile economy and increasing poverty level. Nearly 570 million people are living below poverty line in South Asia (Canuto, 2013 p.1). Poor governance, lack of accountability, coupled with corruption infuses slackness and inefficiency

down the chain of state administration. "A large set of variables have been identified for this multifaceted insecurities. They include: irreconcilable national identities; lack of political development; weak economies; unsettled territorial disputes; and lack of regional institutions" (Paul 2010).SAARC is a South Asian regional forum could not be meaningful due to its weak charters and lack of political will. This reflects weak norms of cooperative behavior. Hence, the need for cooperation, nonintervention and territorial integrity is all the more important for regional security and development. Therefore, BIMSTEC, BCIM and SAFTA have huge economic potentials for South and South East Asia if engaged skillfully. Being a regional power the role of India is very crucial for stability, prosperity and harmonious South Asia.

Security Options for Small States

South Asian Security Architecture. A South Asian Security Architecture may be developed in the line of ASEAN Defence Ministers Meeting (ADMM),to promote mutual trust and confidence through greater understanding of South Asian security challenges.

Development of Democratic Institutions and Good Governance. There is strong evidence that mature democracies rarely fight each other. The emergence of strong democratic states (internally secure and legitimate) can change the dynamics of the region considerably. Therefore, it is essential to develop democratic institutions of the state, which should be transparent, functional and accountable to the state system.

Using SAARC as Multidimensional Cooperative Platform. Under the present reality, greater South Asian needs i.e. SAARC charter may be reviewed and complex issues related to security, economy, sharing of energy, water, enhancement of trade and commerce for equitable growth may be resolved in a multilateral platform.

Dialogue, Research and Training. Dialogue, research and training are essential for progressive development of any institution. Dialogue, seminar and workshop on critical security issues may be organized including sharing of information on common interest. Extensive research may be undertaken oncommon security issues, climate change, food, energy,health anddisaster management.Training of Law enforcement officials would be undertaken at the Inter-Government level. Capacity building measures could be undertaken through training/exercises.

Strengthening Defence Capability. Any state must possess a physical defensive capability. The objective here is to face a possible aggressor with resistance and certainty of bloodshed. Even a lion would hesitate to attack a prey which is capable to fight back.

Holistic Approach on Water Sharing. A holistic approach with all the affected countries may be needed for a comprehensive solution of water sharing. The proposed UN Convention on the Law of the Non-Navigational Uses of International Watercourses-1997 may be followed as a guiding principle in overcoming shortfalls in agreement.

Environmental Awareness Campaign. National and regional diplomatic efforts in all international forums should emphasize to generate funds and mitigate the risks and challenges of global warming and climate change.

SECURITY OPTIONS FOR BANGLADESH IN SOUTH ASIAN CONTEXT

Bangladesh's Geopolitical Relation with India and Myanmar

Bangladesh - India Relations. "Bangladesh is surrounded on three sides by India with whom it shares a 4,095 km boundary, means that irrespective of whichever government may be in power, India will continue to be Bangladesh's primary interlocutor in foreign relations. Logically and ideally it should be in the interest of both countries to build a stable relationship based on mutual benefit (Sobhan 2015).Despite of many pending tricky issues,recently there has been a qualitative shift in bilateral relations between the two countries. These have helped to reshape political, economic and security issues between the two countries. "Bangladesh's trade with India has reached to $ 6 billion in 2015; India has agreed to allow Bangladesh to export goods to Nepal and Bhutan using Indian territory. Beside, to increase connectivity, road, rail, air and water route will be made functional for trade and commerce between the two countries" (Ahmed 2015). To reduce trade gap, removing tariff and non-tariff barrier and to draw FDI from India positive developments are going on (Mamun 2015). After historical Land Boundary Agreement, Narendra Modi visited Bangladesh from 6-7 June 2015, where 22 deals, protocols and MOUs related to connectivity, security, trade andeconomy were signed between the countries. The Indian Premier also said, "I am confident that with the support of state governments in India, we can reach a fair solution on Teesta and Feni Rivers" (Karim 2015). Besides, both the countries

agreed to finalize three agreements of mutual legal assistance on criminal matters, transfer of sentenced persons and combating international terrorism, organized crime and illegal trade.

Bangladesh-Myanmar Relations. At present, Myanmar's inclusion policy, possession of huge untapped natural resources has made Bangladesh's 'Look East Policy' very promising. Myanmar can also be an outlet for Bangladesh to expand its trade and investment ties with the rest of South East Asia. Despite of some tricky issues, poor public diplomacy and absence of people to people contact is a major hurdle in developing relation with Myanmar. Absence of investment agreement and absence of banking facility to open Letter of Credit (LC) is a hurdle on investment in Myanmar (Islam 2015). In recent time, however, the relationship has moved ahead steadily because of profound changes in the domestic politics of Myanmar and exchange of several high level official visits. Bangladesh should give a high priority focus in developing relation with Myanmar. Only a skillful diplomacy can open the door of fortune and prosperity resolving outstanding issues.

China and India Factor. Bangladesh is considered as 'High Value Strategic Real Estate'. Due to the historical linkage, geo-politically India is of great significance to Bangladesh. Again, Bangladesh has established a good relationship with China, both at economic and strategic dimensions. The principle thrust of Bangladesh's foreign policy should be to try and work closely with both countries on a range of projects and initiatives. Bangladesh will pursue a non-partisan policy and make a critical balance with both India and China to secure its national interest (Sobhan 2015).

SECURITY DIMENSIONS OF BANGLADESH

Internal Issues of Bangladesh Security

Political Instability and Poor Governance. Instable politics is keeping the country seriously vulnerable to internal and external security threats.Poor governance results in corruption, nepotism, political interference in economic activities result in inefficiencies, wastage of public fund and lower rate of growth, and threatening the fabric of national security."Political turmoil of late 2013 and early 2015 has resulted loss in the economy. Different estimates of GDP foregone ranges from 0.55% to 1.1% of GDP" (Salehuddin 2015).

Economic Insecurity. Despite achieving significant landmarks in food production, microcredit expansion and RMG export, poverty remains still a daunting problem."Major challenges of the economy remain political instability; lack of good governance; reform measures; impact of climate change; improving human welfare: education, health, safety nets, income distribution. Risk factorsare insufficient infrastructures, constraint in domestic revenue mobilization,low level of financial development: capital market, insurance market, and hedging / future markets, accelerate pace of reforms to attract more FDI, contract enforcement, land registration for industries, (Salehuddin 2015).

Social Insecurity. An ever-increasing number of hard-core poor and floating population with no access to basic amenities pose a substantial threat to the social fabric of Bangladesh. Migration of poor people from rural to urban area in fact making slumization within urbanization giving rather a gloomy look to the city. Criminalization of politics andrent seeking are making the scenario more compounds (Barakat 2015).

CHT Peace Treaty Implementation. Slow pace of Peace Treaty implementation has the potential for an internal security threat to Bangladesh with cross border ramifications, which may destabilize the situation.

Weak Diplomacy. Diplomatic efforts are so weak that go at times against national interests. Signing of Trade and Investment Framework Agreement (TICFA) and deprived in getting GSP facility from USA is due to shocking diplomacy (Parvez 2015). For lack of proactive diplomacy, infrastructure, bureaucratic bottle neck and corruption, prevailing gloomy investment climate are failing to draw FDI.

Faulty Education System. Faulty education system in Bangladesh is producing unemployment, also failing to instill moral and ethical values. Such unemployment in an instable political environment is likely to act as breeding ground for religious extremism. For lack of moral values, most of the professionals causing anxiety at every tier of public, private and social service.

Religious Extremism and Radicalization. At present, religious extremism has become one of the major security challenges for Bangladesh. Numbers of militant organizations are actively operating across the country. Mohammad Ayoob, a security expert opines that the intensity and extensiveness of religious militancy since 1999 (Annex A) has been one of the major security challenges facing Bangladesh. It has significantly threatened the state structures, institutions and terrorized the people across the country and undermined the Constitution

and the democratic system (Akhter 2010). Due to the ideological affinity, religious extremists have established a strong network across the region. West Bengal has been used as a transit corridor by the militants to carry out subversive acts in Bangladesh. According to Bhattacharjee, (2014) "Bangladesh has emerged as the major coordinating centre of international jihadi groups and their local collaborators. It is essential to note that state failure in satisfying basic needs of the people, growing criminalization of the economy and politics, inequalities in the society, mass illiteracy, increasing unemployment, and lack of people's confidence in the main stream political system are conducive for growing radicalization in Bangladesh". All indication reveals that they are now in 'Strategic Stalemate' situation (Akhter 2010).

Absence of Integrated National Security Mechanism. With 160 million people Bangladesh is facing a host of challenges. Forty million people are still below the poverty line. Maintaining sustainable food sufficiency is a big challenge. Impact of climate change and scarcity of water is likely to throw more challenges. Shortage of energy, poor infrastructure and bureaucratic bottle neck is a major hurdle towards industrializationand FDI. Above all exploiting the confrontational political environment transnational crime, terrorism and radicalization have compounded the situation further. To come out of these menace,Bangladesh needs to adopt a holistic and well-integrated approach to secure its ever vulnerable national security with a higher security management platform.

Untapped Experience of Peacekeeping Operation. The engagement of peacekeepers in a multi-linguistic and multinational environment may be considered as a research laboratory, where continuously Bangladeshi peacekeepers are gaining rare experiences, which mostly remained untapped to counter future Bangladeshi security challenges.

Options Available For National Security of Bangladesh

Political Stability and Good Governance. Having established a healthy political environment, all the political parties should work to build national consensus on vital national interests like national identity, development of national economy, formulating defence and foreign policies in establishing good governance.

Economic Development. Faster GDP growth consistent with the poverty reduction goals can be met if; firstly the efficacy and quality of regulatory bodies (Bangladesh Bank, Bangladesh Energy Regulatory Commission, etc.) advance

significantly. Secondly, if the efficiency of the government bodies (Planning Commission, Tariff Commission, etc.) enhances considerably. Thirdly, if the agencies responsible (BOI) for promoting business become more dynamic and pro-business. Fourthly, if the bodies representing the business interests like FBCCI, BGMEA work in tandem with the government for sustainable and equitable development to ensure benefits of the poor and disadvantaged (Salehuddin 2015).

Review of Education System. Integrating moral science at all tiers of education system, a well thought out education program including madrasa education may be chalked out to generate employment and meet the need of today's globalized world.

Strengthening Foreign Policy and Diplomacy. Bangladesh needs huge investment in strengthening diplomacy and negotiating skill (Sobhan 2015). Ministry of Foreign Affairs may take the opinion of public, stake holders and civil society think tank while formulating foreign policy. It needs to be proactive in formulating foreign policy to ensure welfare of the people. Concrete steps may be taken to recruit quality personnel in Foreign Service providing higher training andacquiring state of the art in diplomacy.

Reliance on United Nations (UN) and International Legal Systems. Bangladesh should continue to participate actively in peace-keeping to enhance its global image and seek opportunities to become member of the UNSC and other UN agencies.The UN forum and any other international legal system should be used for drawing attention to a problem that is vital to the interests of Bangladesh.

National Security Council. Combining all elements of national power, government has to develop a comprehensive security plan with a higher security management platform. In this regard, government should seriously consider the need for a National Security Council (NSC) (with Honorable Prime Minister as the head),to counter its ever vulnerable multidimensional security challenges (Zaman, Faiz and Muniruzzaman 2015).

Bangladesh Bilateral Approach with India and Myanmar. At bilateral level, Bangladesh should adopt cooperative approach with India and Myanmar to safe guard its vital national interest, which will be sustainable and beneficial to its people. Bangladesh should use state of the art in diplomacy with both the countries.

Military Options: Modernization of the Armed Forces with Total People's War Concept. Bangladesh can only be successful in ensuring its security in the face of any strong aggressor if it uses 'state of the art' defensive weapons and extensive training is conducted for its forces. In order to maintain a strong and effective armed force, Bangladesh needs to continually strive to create deterrence through modernization. In this regard, Bangladesh may opt for medium but highly skilled armed forces with the concept of total people's war (Das 2015).

Regional Cooperation as a Security Strategy. Regional cooperation needs to be expanded and deepened, particularly in the areas of intra-regional trade, investment and industrial cooperation, for equitable gains of all participating member states as part of its security strategy.

Exploiting Peacekeeping Experiences. The experience of peacekeeping operations should be studied systematically for broader understanding to formulate a guide line in countering similar or different forms of future security challenges in Bangladesh.

Economic Diplomacy. To materialize the "Vision 2021" and "Vision 2030" Bangladesh needs to achieve prescribed economic goals within stipulated time frame. Therefore, Bangladesh should endeavor to develop special relations with countries which are economically and strategically important to Bangladesh.

RECOMMENDATIONS

Basing on the research, options have been suggested for the security of South Asian small states. Options have also been suggested as a security strategy for Bangladesh. However, finally, I wish to put forward the following recommendations:

1. There may be a separate study on (ASEAN) ADDM or any other such regional forum to formulate a framework and detail modality for South Asian Security Architecture.

2. A detailed study may be carried out on India, Pakistan and Sri Lankan NSC to formulate an effective higher level security management platform for Bangladesh to combat emerging multidimensional security challenges.

3. A separate study may be carried out to streamline age old education system to make it progressive, employment generating, moral and ethical bound.

4. An in depth study may also be carried out to organize a crisis management cell with realistic training and state of the art equipment and armament to combat natural and man-made disasterslike earth quake, building collapse and terrorism.

CONCLUSION

The wide range of critical disputes has developed a state of mistrust and suspicion among South Asian states. South Asia is one of the poverty stricken regions plagued with many traditional and NTS threats. Global war on terror in Afghanistan and 'Unjust' war in Iraq has provoked Al Qaeda and other religious extremists tospread gradually across the globe, including South Asia.In the post 9/11, extremism has become more complex and volatile and posing threat to our national security. SAARC charter should be reviewed to resolve all its contentious bilateral and multilateral issues. To defuse any kind of tention, South Asia should develop a South Asian Security Architecture.

Since independence, weak state characteristics and poor governance results in absence of justice, deterioration of law and order, trans-national crime and terrorismin Bangladesh. In the post 9/11, the situation has becomemore compound.Bangladesh needs to adopt a holistic and well-integrated approach to secure its ever vulnerable national security. No singular security solution will be able to counter the present challenges. Combining all elements of national power, government should develop a comprehensive security plan with a higher security management platform. NSC is now a need of the time.Healthy political environment, good governance, economic development, employment generating education system, strong foreign policy with economic diplomacy, progressive bilateral approach with India, Myanmar and a cooperative approach with regional countries are crucial for the national development.

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ANNEX A

Number of Bomb/Grenade Attack and Killing by the Activists of Religious Militancy		
Year	**No. of Bomb/ Grenade Attack and Killing**	**Name of the Incident**
1999	2	1.On the public meeting of Udichi, and 2. onAhmadiya mosque.
2000	0	0
2001	6	1. New Year's celebration in Ramna, 2. Time bomb explosion in Church Gopalganj. 3. Awami League office, Narayanganj, 4. AL election meeting, Mollahat, 5. Killing of Hindu educationist, Principal Gopal Krishna Muhuri, and 6. CPB public meeting, Dhaka
2002	2	1.Cinema halls, Circus in Shatkhira, 2. Four cinema halls in Mymensingh and 3. Killing of Buddhist monk, Gainjoti Mohathero
2003	2	1.Bombing in Sufi Shrine, Tangail and 2. Mess (dormitory) Dinajpur
2004	6	1. Bombing in Shahjalal Sufi Shraine, Sylhet, 2. Attack on Prof Humayun Azad, Dhaka, 3. Bombing in Shahjalal Sufi Shraine, 4. AL public meeting Sunamganj 5. 3 cinema hall, Sylhet, and 6. AL public Meeting
2005	12	1. AL public meeting, Hobiganj, 2. bombing on NGO office (BRAC), Naogaon, 3.Orosh or religious celebration Akhaura, 4.Akhaura Sufi Shraine, 5. Explosion in 63 districts, 6. Court premise In Laxmipur and Chandpur, 7. Court Premise in Chittagong, 8. Suicide bomb on Judge's car, Jhalokhathi, 9. Suicide attack On court premise, Chittagong, 10. Bombing In lawyers building in Gazipur, 11. Bombing In DC's office Gazipur, 12. Bombing in Udichi cultural program, Netrokona
2006	0	0
2007	1	Three explosion at the main railway Stations in Dhaka, Chittagong and Sylhet.
2008	0	0
Source: ZohraAkhter, 2010, Trends in Militancy in Bangladesh, page.62		

Author

Brigadier General Mohsin was commissioned in the Regiment of Artillery on 26 June 1987. He served in various command, staff and instructional appointments at different tiers of the Armed Forces. He commanded a military police unit, field regiment artillery and an artillery brigade. He served in Special Security Force in various appointments including Private Secretary to the Director General. He also served in Army Security Unit. He was Chief Instructor in Training Regiment of Artillery Centre and School.

Brigadier General Mohsin attended various trainings on professional courses both at home and abroad. He is a graduate of National Defence College and Defence Services Command and Staff College, Dhaka. In the service of peace keeping he served as a Provost Officer of a contingent in Sierra Leone in 2001-2002 (UNAMSIL). He served in UNMIL Liberia as Chief Military Public Information Officer (Staff Officer) in the Forces Headquarters in 2009-2010. He served as Forces Provost Marshal in MONUSCO, Forces Headquarters, DR Congo in 2012-2013.

Brigadier General Mohsin is a Master of Defence Studies (MDS) from National University of Bangladesh.

Brigadier General Mohsin has traveled different countries, which include India, Nepal, Bhutan, Thailand, Singapore, Korea, Dubai, Sierra Leone, UK, Turkey, Liberia, Ivory Coast, Ghana, DR Congo and Uganda. He is married and has one daughter and a son. He plays golf occasionally and passes time by reading books.

BCIM AND CONNECTIVITY FOR BANGLADESH: ANALYSING ITS POLITICO, SECURITY AND ECONOMIC IMPLICATIONS

Brigadier General Iqbal Akhter Mian, ndc, psc

Security is not military hardware, though it may include it; security is not military force though it may involve it; security is not traditional military activity, though it may encompass it. Security is development and without development, there can be no security.

-McNamara

INTRODUCTION

Bangladesh, China, India, Myanmar Economic Corridor (BCIM-EC), fostered from previous 'Kunming Initiative' of 1999, is a quadrilateral initiative with an agenda of promoting regional trade and economic development by building multi-modal connectivity, harnessing economic complementaries and enhancing people-to-people relations. The BCIM region is one of the richest in the world in terms of natural, mineral and other resources. The BCIM-EC has the potential to generate enormous economic benefits in the arena of trade, investment, energy, transport and communication (Bhattacharjee,R 2015) The Corridor is proposed to connect India's Northeast, Bangladesh, Myanmar, and the Chinese province of Yunnan through a network of roads, railways, waterways, and airways under a proper regulatory framework. This particular grouping bears some unique attributes which can potentially bring significant benefits to the four participating countries through deepening of economic cooperation and integration by leveraging on three types of connectivity: transport connectivity, trade connectivity and investment connectivity (Rahman,M 2014). Needless to say, the regions through which the proposed BCIM communication network runs are characterized by poverty, ethnic division, insurgency, smuggling, drug and women trafficking and collision and rampant transnational crimes particularly in Golden Triangle region. Bilateral tensions on border disputes, illegal trespassing, smuggling, drug and human trafficking or allegation and counter allegation on harbouring insurgencies often escalate around the areas through which the proposed communication hub is designed. Thus, being an initiative of the same region, BCIM led economic development can play the most effective role in eliminating these security vulnerabilities to enhance the security and a platform for long term political bondage of the region. Notwithstanding the fact,

there is no institutional framework in BCIM agenda for directly promoting security as well as political bondage from aspired socio-economic development. In this context, a study is highly essential to outline a comprehensive approach on how best we can tailor the socio-economic development through BCIM initiative towards the enhancement of security and political bondage of the region focusing Bangladesh.

PROSPECTS OF SOCIO-ECONOMIC DEVELOPMENT OF THE REGION AND BANGLADESH THROUGH BCIM -EC

Historical Perspective of BCIM

The concept of establishing closer economic cooperation within BCIM region was first developed by Professor Rehman Sobhan. BCIM integration through multi-modal transport connectivity and supported by other initiatives and infrastructure development could reduce transaction costs, encourage trade and investment. Thereby it would accelerate growth, reduce poverty and enhance security in this region. This pioneering ideas of Professor Sobhan motivated the platform which he helped to establish, which later came to be known as the Kunming initiative (Rahman, M 2014). The first Joint Study Group (JSG) meeting was held on 21 December 2013 in Kunming. Bangladesh hosted the second JSG meeting in the beach city of Cox's Bazar in 21 November 2014.The third JSG will be held in Kolkata, India in 2015 (Moazzem,K G 2015).

Rationale for BCIM EC Initiative and the Concept

At present, domestic trade of India's NE States with rest of India, or for that matter, its trade with outside world, is contingent on movement of goods through the chicken neck (a distance of about 1200-1600 km). Trade of Yunnan Province of China with outside world is contingent on goods moving more than two thousand kilometers east to the South China sea and thereon moving onward after transshipment. A Southern route for N.E. region and Kunming through Chittagong port would bring the distance down to 400-700 km, reduce the cost of moving goods significantly and would also lead to considerable reduction in the lead time. For Bangladesh and Myanmar, BCIM cooperation would offer them greater access in the growing markets of China and India if competitive strength could be raised by establishing seamless connectivity, reducing barriers to movement of goods and vehicles across borders and by attracting investment (Rahman,M 2014)

## Potentials of BCIM – EC Initiative for the Region

Given the commonalities in terms of history, culture, languages and trade complementary in many cases, the BCIM-EC is a win-win arrangement. The linkages of transport, trade and investment, energy, agriculture and telecommunications networks will enable the region to emerge as a thriving economic belt that will promote economic and social development of communities along the Corridor.

Road Transport Connectivity

For BCIM-EC, three routes have been identified as the most probable transit routes for the region. However, each route has its own merits and demerits (Hossain 2014):

North Route

This routes will start from Kunming , pass through Baoshan-Tengchong-Houqiao (China-Myanmar border)-Myitkyina (Myanmar) – and will connect Ledo (India). It is found to be the shortest road link from Kunming to Ledo (India).

Map 1: The North Route
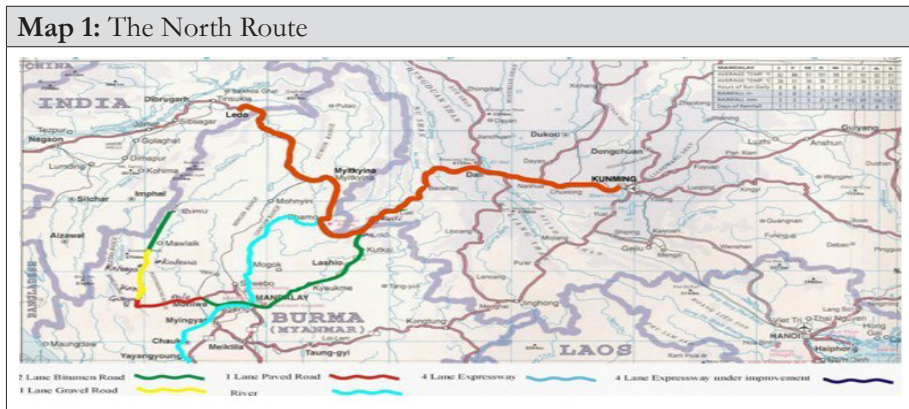
Middle Route

This route will connect Kunming with Kolkata through Ruili (Yunnan border city with Myanmar)-Bhamo-Lashio-Mandalay-Tamu (Myanmar)-Imphal (India)-Sylhet and then Dhaka (Bangladesh). This route has been identified as the best conditioned route to be used at present.
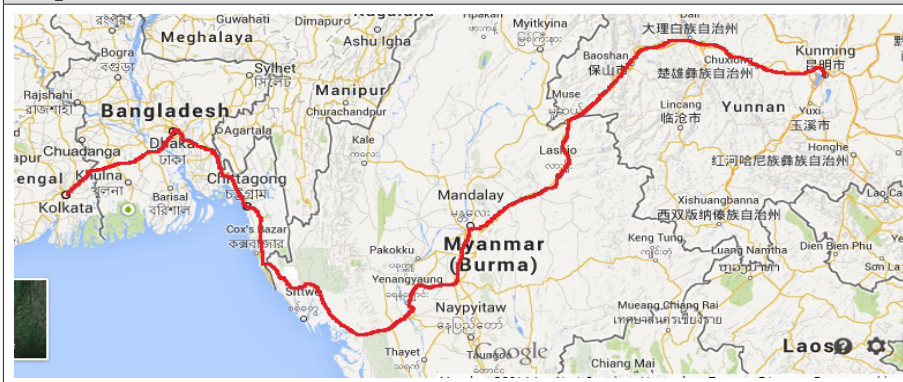
Map 2: The Middle Route (also the Car Rally Route)

South Route

The possible route will connect Kunming with Kolkata through Ruili (Yunnan border city with Myanmar)-Lashio-Mandalay–Meiktila-Ma-gway (Myanmar)-Chittagong (Bangladesh)-Dhaka and then Kolkata (India).

Map 3: The South Route


This route will add immense value to Bangladesh's economic growth and trade.

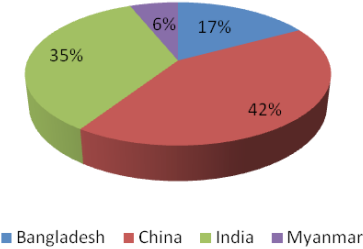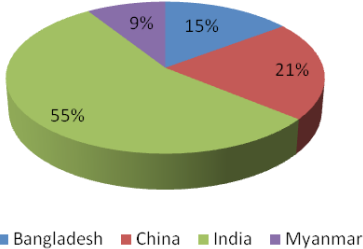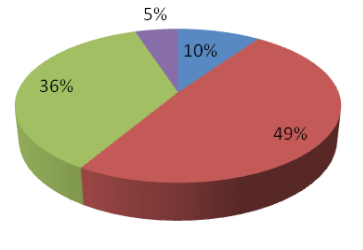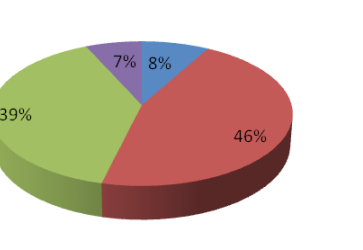## Likely Cooperation in the Area of Trade and Investment

It is perceived that the BCIM sub-region possesses enormous potential in regard to expanding trade and investment. Therefore one of the most important aims of creating BCIM-EC is to expand trade and investment among the member countries.

Present Trends and Pattern of Intra-BCIM Trade

From 2004 to 2013 Intra-BCIM export has gained six fold increases from US$ 15.4 billion to US$ 91.1 billion and intra- BCIM import has increased more than five times from US$ 18.8 billion to US$ 97.0 billion. During this period overall growth of Intra-BCIM trade was higher than total trade of BCIM countries. As a result, share of BCIM trade in its total global trade has increased.

A closer look of the contribution of BCIM countries in the intra-BCIM trade shows that dominance of China in intra-BCIM export has increased substantially from 57 percent in 2004 to 72 percent in 2013. This resulted in drop of share of India from 38 percent to 23 percent. On the other hand, shares of Bangladesh and Myanmar, which were insignificant, remained unchanged during this period (Figure 1 and 2). As regards Intra-BCIM import, although contribution of China was the highest in year 2003 representing 42 percent of intra-BCIM import, it has dropped drastically to 21 percent in 2013. During this period import of India from BCIM region has increased manifold and its share increased to 55 percent from 35 percent in intra-BCIM import. During this period, Bangladesh's share registered a slight decline (2 percent), while Myanmar's share has increased by 3 percent (Figures 3 and 4). This change also reflected in shares of BCIM countries in Intra-BCIM Trade. During this period, shares of China and Bangladesh have dropped by 3 and 2 percents, while shares of India and Myanmar have enhanced by 3 and 2 percents (Figures 5 and 6). (Khan 2014)

Figure 1. Structure of Intra-BCIM Export (2004)	**Figure 2.** Structure of Intra-BCIM Export (2013)
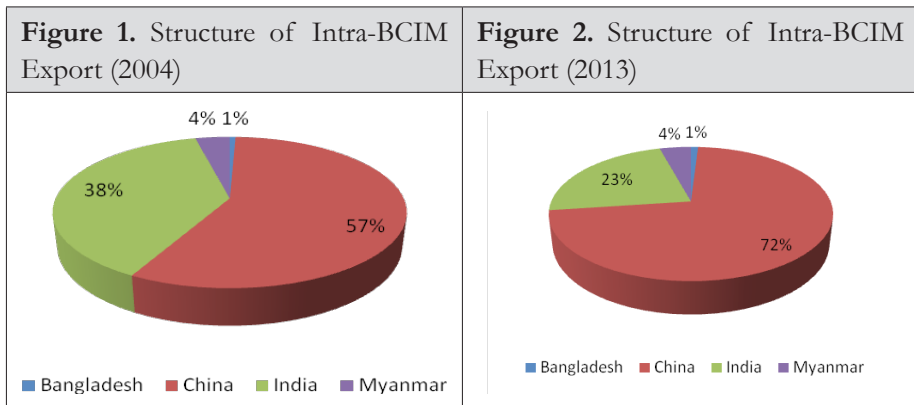
Figure 3. Structure of Intra-BCIM Import (2004)	Figure 4. Structure of Intra-BCIM Import (2013)
Figure 5. Structure of Intra-BCIM Trade (2004)	Figure 6. Structure of Intra-BCIM Trade (2013)
Source: Estimated from the data available from Direction of Trade Statistics, IMF, June 2014	

Future Potential Areas of Trade and Investment

Geographically BCIM comprises contiguous region, hence, there is a huge areas of trade and investment potential for energy, transport, people-to-people, social and cultural connectivity and these are briefly described below:

Energy

Energy requirement is increasing day by day. The member countries are concerned about the need and sources of energy. BCIM region is endowed with huge natural resources namely offshore gas and oil. Therefore, there are enormous scopes

for energy cooperation in gas, oil, and hydroelectricity through energy trade and regional energy grids among the member countries.

Connectivity

Multi modal Connectivity through road, rail and air remains as the most focused area for enhancing regional economic cooperation. If the BCIM-EC comes into reality, the intra BCIM trade volume would increase in many folds. This would also attract investment of considerable figure.

Poverty Alleviation and Social Infrastructure

Poverty is a common problem for the member countries. It is expected that due to improved connectivity and infrastructure development there will be acceleration in growth rate. This would help to reduce poverty and improve living standard of the people. Cooperation in different areas such as agriculture, fisheries would help to alleviate poverty within BCIM region.

People to People Connectivity and Tourism

When there is mobility, there will be connectivity among the people, business and services. Cooperation and exchange in several areas such as education, technology, culture, health care, sports and academic studies would certainly facilitate people-to-people connectivity. Besides, cooperation in tourism industries, exploring tourism potential, and creating a BCIM Tourist Zone are essential for increasing more people to people contact.

Cooperation on Technology, Telecommunication, Climate Change and Human Resource Development (HRD)

From 2000 to 2009, 85 percent natural disaster took place only in Asia and the Pacific. This is alarming. That's the reason; climate change is a great concern for BCIM region. One of most vulnerable countries in this region is Bangladesh. Keeping in mind the extent and magnitude of the problem, a coordinated approach is required for the South Asian states to handle the future climate induced concerns. Besides, cooperation in the fields of technology, telecommunication and human resource development could be instrumental in expediting the pace of growth in the region that could ensure higher standard of living for the people.

BCIM-EC Initiative- Economic Prospect for Bangladesh

The opportunities which Bangladesh could tap from BCIM-EC connectivity are discussed in the following paragraphs.

Opportunities of Earning through Transit/Transhipment/ Corridor

Under the BCIM-EC framework Bangladesh will allow Indian transport to move through road corridor from mainland India to the Indian north-eastern states. India was perusing these facilities in the form of transit. Besides, Kunming will be also connected with India with this corridor.

Bangladesh would earn about US$ 98 million annually during first five years when facilities are being created along the identified transit corridors. Once the projects on infrastructures and facilities are completed, the country would earn more than US$ 2 billion annually from the 6th year onwards. From 11th year of the discounted period, the annual earnings would reach US$ 3 billion and would ultimately end up at US$ 5.9 billion. (Yunus M. 2014)

Scope of Earning Through Existing Port Facilities

Being a small country, Bangladesh is fortunate to have two sea ports. One is located at Chittagong and the other one is in Mongla. Currently Chittagong has 40% spare capacity and Mongla port has 80% spare capacity. With the minimum investment, container handling capacity of both the port can be increased significantly. Thereby with all these potentials, Chittagong and Mongla port could be used to its fullest capacity (Hossain 2014).

Future Prospect of DSP at Sonadia

Bangladesh is desperately thinking to establish a DSP at Sonadia, 100 km South of Chittagong. The purpose is to meet the growing demand for national and international trade. This will serve as regional hub for land locked NE part of India, Yunnan province of China and for countries like Nepal and Bhutan .After the completion of DSP the present volume of 30 billion US$ export-import business will be doubled (http://www.banglapedia.org/HT/S_0187.htm). Thus DSP will play a vital role for the economic development of Bangladesh integrating BCIM region.

Map 4: Sonadia DSP

Source:http://www.google.com.bd/

Trade and Investment Opportunities for Bangladesh

Trade Potentials for Bangladesh

All the members of BCIM EC enjoy tariff concessions for various commodities under different RTA. Bangladesh would be benefitted if the various NTB and other obstacles are removed. Finally, preferential market access under BCIM-EC would definitely enhance the trade opportunities for Bangladesh (Hossain 2014).

Investment Potentials for Bangladesh from BCIM-EC

With the establishment of BCIM-EC, the probable potentials for Bangladesh are discussed below.

Attract FDI in Infrastructure Development

BCIM–EC is designed to expand trade and investment through physical connectivity. Accordingly Bangladesh needs to develop its infrastructures like rail and road network along the corridor, improve the efficiency of Chittagong port, and establish new DSP at Sonadia, Chittagong. Bangladesh would require huge investment in this regard.

Bangladesh can invite FDI, may be from China, India or from any another developing partner like Asian Development Bank (ADB), European Union (EU) or recently established Asian Infrastructure Investment Bank (AIIB).

By Establishing Special Economic Zone

Setting up of Industrial Zones or Special Economic Zone (SEZ) in different strategic locations along the corridor would significantly benefit Bangladesh. It will have two fold effect. Firstly, it will lead to industrial transfer, boosting industries such as processing and manufacturing. Secondly, as labor costs rises in China, labor-intensive industries such as garments and agro processing will eventually be shifted out of China to new regions with lower labor costs.

State of Energy Situation and Prospect for Bangladesh

Bangladesh is facing electric energy crisis since independence. But over the period, the gap between demand and supply has reduced significantly with forceful drive of the government. Demand of power is increasing day by day. Maximum power generation in 2014 is about 7500 MW against demand of about 13500 MW. Bangladesh Government has taken number of steps to produce 20000 MW by year 2021(www.gcmplc.com/power-crisis). Bangladesh has limited domestic commercial energy resources to produce electricity. Beside existing bilateral energy cooperation, Bangladesh might take the opportunities of regional framework under BCIM-EC enhance necessary energy capacity.

Scope for Bangladesh to Alleviation Poverty

One of the objectives of forming regional cooperation of BCIM-EC is Poverty Alleviation. It can be achieved through Infrastructural development which will facilitate trade and investment in the region. And it is expected that BCIM EC will bring significant investment in Bangladesh. This will have far reaching effect on the livelihood of the people of Bangladesh. Poverty alleviation is also the integral part of social and human development. Inflow of economic services and subsequent investment to sustain and enhance these services covers, among others, the area of social and human development as well as poverty alleviation.

Opportunities for Bangladesh Through People-to-People Contact

In all the BCIM forum people-to-people connectivity was given priority. From Bangladesh perspective, different forms of personnel exchanges within the BCIM

regions had been existing and now it has increased significantly. People to people connectivity will bring the people of this area more closer. It will help to develop the tourism sector where Bangladesh can derive significant benefit.

BCIM DRIVEN SOCIO-ECONOMIC DEVELOPMENT: POLITICAL AND SECURITY IMPLICATIONS FOR THE REGION

Long Prevailing Political Discomfort

Inter-state relations among the member countries of BCIM-EC are not always smooth and devoid of irritants. Due to international and regional geo-political settings and outstanding bilateral issues, bilateral relations among the BCIM member countries impact their cooperative efforts. Bangladesh and India has their respective outstanding issues, while India and China as the two rising powers often engage in strategic competitions both within the region and beyond. Myanmar, being a closed nation for decades has limited interactions with India and Bangladesh. This state of inter-state relations in the BCIM region germinates political discomfort among the member countries often constraining their open-hearted initiative for regional integration in the contiguous region. These inter-state relations are briefly discussed below:

China-India Strategic Competition (Security, Diplomatic and Commercial Rivalries)

China and India remain always competitive, on both political and economic fronts. China's rapid expansion in the global economy is a great concern for India. In recent times, tensions between the two countries increased due to the border dispute. It can be mentioned that territorial dispute has always been a major source of debate between the two countries. This discomfort has the potential to cloud India-China cooperation for opening up their border to transport connectivity.

India-Myanmar Relations

The relationship between India and Myanmar is not consistent. The border issues between India-Myanmar relations always bring diplomatic row between the two countries. Besides, India believes that the clashes between Muslims and Buddhists in the Rakhine State have spillover effect in India as it would bring security concern of the latter.

Bangladesh-India and Bangladesh-Myanmar Relations

Between Bangladesh and India, the burning issues like management of porous border, border killing and water issues have always been impinging on the relationship.But during Indian Prime Minister Narendra Modi's recent two-day visit to Bangladesh, India and Bangladesh seemed to have moved on to opening a new chapter in developing closer economic cooperation to bilateral trade, improving regional connectivity and energy cooperation. The two countries have signed 22 agreements to link their economies and walk together down the path of development.

On the contrary, Bangladesh's relations with Myanmar could not reach at significant level and the relationship quite often become lukewarm and sticky due to the influx of large number of refugees from Myanmar to Bangladesh. These bilateral irritants of the BCIM member countries have the potential to offset their cooperative efforts.

Potential of BCIM Forum to Ease up Political Discomfort and Security Issues

To have sustainable political and secured environment, cooperation in the following fields are also essential:

Cooperation in the Field of Climate Change

The cooperation in combating climate change could bring huge economic and social benefits for all the member countries of BCIM-EC. This should be one of the main political commitments of two power houses. Both India and China are in search of renewable source of energy as it will reduce their burden of importing large resources of oil, natural gas and coal and will also reduce their carbon emission without hurting their growth.

Cooperation in the Field of Disaster Management

Natural disasters will continue to require greater regional cooperation and demand more resources. Member Nations must commit greater resources to capacity development and enlist the cooperation of the whole of society to mitigate economic and human impacts of natural disasters. In this regard, members of BCIM-EC have significant political commitment and roles to play in advancing disaster cooperation in the South and South East Asian region.

Developing Strong Trustworthy Regional Security Organization

International security threats are more complex and diverse today. To effectively meet various security threats, BCIM countries may uphold the new security concept featuring mutual trust, mutual benefit, equality and coordination seeking integrated security, common security and cooperation-based security. This can be achieved through regional security organization and by sharing data and information.

POLICY OPTIONS TO MEET THE CHALLENGES IN FOSTERING ECONOMIC, POLITICAL AND SECURITY DEVELOPMENT

Major Challenges for the Region

The idea of having BCIM-EC is definitely need of the time but not free from problems and challenges. Some of such issues are:

Lack of Trust and Confidence

Even though the two power houses, China and India are trying to come closer but there remains some unresolved problems. Some are like border demarcation, fear of containment and counter containment on advantage and disadvantage of being connected with the economic corridor and trust deficit between India and China.

Financing the Projects

For Infrastructural development especially in Bangladesh and in Myanmar, finance is one of the major concerns. In this regard, public-private partnership (PPP) options should be explored. Support from development partners and international financial institutions (IFIs) like Asian Development Bank (ADB), World Bank (WB) can be catered for. Chinese proposed AIIB could also be one of the major sources of financing the project.

Poor Infrastructure and Transport System

Infrastructure and connectivity are core elements of trade facilitation. To establish and simulate deeper integration among the aspiring members of BCIM-EC, a

good infrastructure and excellent connectivity are very essential. Although China and India by and large have better infrastructure facility compared to other two countries (Moazzem 2015). Lack of proper infrastructure facility and transport system are one of the barriers to the improvement of trade and investment in the region. In the present scenario, BCIM remains as one of the least connected regions in the world (Rahman 2014)

Tariff Barriers

A highly differentiated tariff rates are currently in operation in BCIM countries. Wide tariff differentials are observed between different categories of products in different countries which range between as low as 0.9 per cent for Bangladeshi's capital goods imported to China to as high as 19.8 per cent for Chinese consumer goods exported to Bangladesh. Tariffs are relatively high in Bangladesh and India in all categories of products (Moazzem, K G, Bashak K K and Raj S 2014).

Non-tariff Barriers

Non-Tariff Barriers (NTBs) including SPS and TBTs widely prevail in case of bilateral trade in BCIM region. These NTMs include certification requirements, labeling, marking and packaging requirements, traceability requirements, tolerance limits for residue and contaminants of restricted use of certain substances and are possible obstacles for growth of bilateral trade in the region once the BCIM-EC in operation. (Moazzem, K G, Bashak K K and Raj S 2014)

RECOMMENDED POLICY OPTIONS

Political Will of the Member Countries

Political will is the first pre requisite and leaders must have the will for materialising the BCIM-EC. Here, mutual visits by high level leaders can play very vital role in resolving suspicion and misperception about each other. The stake holders can also have sustainable dialogue, especially on security issues for reducing trust deficit.

Reducing Trade Imbalance

Trade imbalance among members of BCIM-EC can be reduced by removing all non-tariff barriers to trade. Harmonisation of standards, tariff structure, and dismantling of all para-tariff and non-tariff barriers are key to this.

Supportive Policies to Promote Investment

Non-reciprocal market access facilities, incentives for investors willing to invest in weaker economies and other supportive policies must be put in place to promote investment within the region. The major focus of BCIM initiative should be to develop the growth zone that is in a relatively underdeveloped area. Attracting investments, both from within and also from outside, to exploit the complementarities of the sub-region, through horizontal and vertical cooperation, should be at the centre of the design of BCIM cooperation.

Establishing Special Economic Zones along the BCIM-EC

Bangladesh needs to establish special economic zone and develop special infrastructure facility to attract fresh investment. It is important note that such a corridor could attract both intra regional FDI. Government needs to consider setting up industrial zones in different strategic locations which could exploit potentials of new connectivity within the region. The potentials for establishing power generation plants in the BCIM-EC needs to be realized which could supply necessary electricity to those economic zones. (Moazzem et al 2014)

Allowing Bangladeshi Investors to Invest in BCIM-EC Region

There are potential sectors in the BCIM-EC where Bangladeshi entrepreneurs would be interested to invest. Bangladesh could invest in Yanan's hydropower projects and could re-export the generated electricity through regional energy grid via Myanmar and India for the special economic zones. Bangladeshi investors may like to invest in small scale energy projects in Myanmar. In this context, development of regional energy grid and harmonization of energy pricing at regional level would be important.

CONCLUSION

BCIM countries hope to create a corridor that would combine road, rail, water and air linkages in the region which would facilitate cross border flow of people, goods minimize overland trade obstacles, ensure greater market access and increase trade .This will bring new economic opportunities and benefits for all the members of BCIM-EC. A number of meetings have been held including a study group setup to concretize the concept of the BCIM-EC

The Yunan province of China is a landlocked area. This is relatively poor and backward which needs to be developed. Similarly India's landlocked north east region has lagged behind compared to other parts of the country. BCIM, through its economic corridor and connectivity could facilitate China and India to give access to the sea through Bangladesh and Myanmar. This would generate economic development in the region. The corridor, it was agreed, will run from kunming to Kolkata , linking Mandalay in Myanmar as well as Dhaka and Chittagong in Bangladesh . But the physical connectivity seems to be the main critical challenge to initiate the process given the poor state of infrastructures, roads and highways, particularly in the Indian north east connecting Bangladesh and Myanmar. It would require careful and detailed planning involving infrastructure development, improving the transport linkages and mobilization of funds for the implementation of the projects.

There are other notable political and security issues. Trust deficit among the member countries is a major concern. Border dispute, insurgent activities, ethnic tension may slow down the initiative. These aspects need to be addressed by respective member countries. The member countries should ease up the tariff and non tariff barriers. They should make the investment friendly policy and remove the complicated trans border movement policy of man and material. Above all the political will is the main vehicle to take this initiative forward.

Bangladesh is located at the heart of BCIM-EC. There are many scopes for this blessed country to utilize its geographical location as a leverage to gain economically, politically in bi-laterally as well as regionally. It has the potentials to become regional economic hub. Besides, Economic and infrastructure development will generate employment in the country which will contribute in eradication of poverty at the same time will ensure security.

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Author

Brigadier General Md Iqbal Akhter Mian is a Course Member of NDC 2015. He was born on 16 November1966. He was commissioned in the East Bengal Regiment on 26 June 1987. Besides his regimental appointments as Intelligent Officer, Adjutant, Quarter Master and Company Commander in three infantry units, he was Second in Command of an Infantry Battalion and Commanding Officer of two Infantry Battalions, one in plain ground and another one in Chittagong Hill Tracts. He served in UN Mission as Contingent member in Mozambique, as Deputy Chief of Joint Operation Centre in Force Headquarters in Cote d'Ivoire and as Deputy Sector Commander, Sector South, Darfur, Sudan. He was an operation staff officer Grade 3 and Grade 2 in Division Headquarters and Grade 1 in Army Headquarters. He served as an instructor in NCOS' Academy. He also served as Sector Commander and as Deputy Director General (Operation and Training) in Border Guard Bangladesh. Before joining the NDC, he was Commandant of Army School of Education and Administration. He visited many countries across the globe. Brigadier General Iqbal is a proud father of two sons. His elder son is an Officer Cadet of 75 BMA Long Course in Bangladesh Military Academy and younger one is in class five. His wife, Mrs Farzana Iqbal is a 'housewife' and she is committed to educating her children in the best possible ways. His hobby is travelling.

MARITIME DOMAIN AWARENESS (MDA) FOR ECONOMIC DEVELOPMENT OF BANGLADESH

Commodore Mohammad Nazmul Karim Kislu, (C), ndc, psc, BN

INTRODUCTION

"Control of the sea by maritime commerce and naval supremacy means predominate influence in the world... [and] is the chief among the merely material elements in the power and prosperity of nations."

Alfred Thayer Mahan

Maritime Domain Awareness (MDA) is a very broad concept and it is not always clear exactly what does it mean for many people. To a general reader the meaning of maritime domain awareness may be quite confusing at times.[1] Because, 'maritime domain' and 'awareness' separately gives a general impression about making someone aware about the potential of a particular maritime area. Whereas 'Maritime Domain Awareness' means to have the total picture of a maritime area so that various stakeholders can effectively use this information to meet their specific needs. The aim of such awareness is to generate a common operational picture of activities at sea through an institutionalized mechanism for collecting, fusing, analyzing and disseminating the same to all users. No one country, department, or agency holds all of the authorities and capabilities to achieve effective MDA. It is only through unity of effort that the security, safety, economic and environmental objectives associated with MDA can be achieved.[2]

In the recent years, Bangladesh government has put enormous importance on the maritime sector, recognizing the fact that the maritime resources, trade and activities have a profound impact on the economic growth. The importance of sea has been revitalized with an increasing potential of hydrocarbon deposit and other living and non-living resources in the ocean areas and the sea bed. It is evident that the maritime activities will further increase in the coming days with adoption of 'Blue Economy Policy' by the government.

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1. Steve Kern, director of counter networks and illicit trafficking at the Naval Air Systems Command (NAVAIR)
2. US National Concept of Operations for MDA, December 2007. Available at: https://www.ise.gov/sites/default/files/National%20MDA%20CONOPS%202007.pdf Accessed 03 May 2015

Besides, achieving MDA has become more important in today's geopolitical context to promote commerce, safety and response to national disasters, piracy, illegal migration, smuggling and other economic activities in the maritime domain.[3] This is because; the effect of a national security breach in one country could impact negatively on others. Therefore, trans-border crimes in the MD need to be addressed collectively.

The effective utilization of the Bay of Bengal (BoB) resources and safety of sea born trade are vital for economic development of Bangladesh. Security of the sea area, safety of seaborne trade and protection of environment demands constant monitoring, surveillance and law enforcement in the MD. Due to limited resources and infrastructure the level of such awareness is meager in Bangladesh. Besides, the absence of a comprehensive maritime policy, lack of interagency cooperation and political commitment has made the situation more complicated. Therefore, the awareness has to be developed at all level for collective effort to achieve required level of MDA for the economic wellbeing of Bangladesh.

CONCEPTUALIZING MDA

"All of us have in our veins the exact same percentage of salt in our blood that exists in the ocean, and, therefore, we have salt in our blood, in our sweat, in our tears. We are tied to the ocean. And when we go back to the sea... we are going back from whence we came."

John F. Kennedy, September 1962

Selected Definitions

Following are some of the popular definitions which give a reasonable understanding about the MD and it's extend.

- In Wikipedia the MD is defined as all areas and things of, on, under, relating to, adjacent to, or boardering on a sea, ocean, or other navigable waterway, including all maritime-related activities, infrastructure, people, cargo, and vessels and other conveyances.[4]

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3. J Kraska, "Dark side of Maritime Awareness" Proceedings Magazine, Dec 09 Vol.135/12/1,282 Available at: http://www.usni.org/magazines/ Accessed 25 March 2015.
4. Retrieved from http://en.wikipedia.org/wiki/Maritime_domain_awareness#cite_note-1, Accessed 05 April 2015.

- International Maritime Organization (IMO) defines MDA as "the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment".[5]

- MDA deals with the situational understanding of maritime activities that could impact the security, safety, economy or environment. It enables quick threat identification, informed decision making, effective action support, knowledge sharing and more accurate situational awareness.[6]

MDA Concept

"The heart of the Maritime Domain Awareness program is accurate information, intelligence, surveillance, and reconnaissance of all vessels, cargo, and people extending well beyond our traditional maritime boundaries."

George W Bush, January 2002

Editor-in-chief of 'The Economist' John Micklethwait said that "Ocean issues affect billions of people, in ways that bring together business, politics, academia and science." The MDA does not merely focus on the thousands of vessels and boats at sea, but the cargos and crews, as well. Most importantly, MDA must tell us what doesn't belong on those ships, so that appropriate action can be taken.[7] The nucleus of MDA is a shared common operational picture for decision makers, operators and responders. The ultimate goal is to provide this awareness as thoroughly and rapidly as needed to allow effective decision making.

In simple term MDA demand an intergovernmental, interagency, military and civilian effort dedicated to achieving the maritime safety and security that is the foundation for economic growth and development.

Most of the technologies required to achieve MDA has been commercially available for several years. A standard MDA system includes four basic components which includes following:

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5.   Ibid
6.   White paper on Total Maritime Domain Awareness, Retrieved from http://www.larus.com/total-maritime-domain-awareness, Accessed 26 May 2015
7.   White paper on Total Maritime Domain Awareness, Retrieved from http://www.larus.com/total-maritime-domain-awareness, Accessed 26 May 2015.

- Detection, Monitoring and Collection of Information

- Tracking, Fusion and Identification

- Data Fusion and Analysis

- Sharing

MARITIME DOMAIN OF BANGLADESH

"Whoever controls the Indian Ocean, dominates Asia. This Ocean is the key to the seven Seas. In the 21st century, the destiny of the world will be decided on its waters."

Alfred Thayer Mahan

Sea Area

Bangladesh is a littoral state of the Bay of Bengal where sea is the only life line and it's gateway to the rest of the world. Bangladesh has respectable size of sea area which can play an important role in the national economy as well as wellbeing of the future generation. As the land resources are depleting very rapidly it is believed that the sea resources are the final destination for the livelihood of our future generation.

Thus, for harnessing those resources in an efficient manner, we need to have detail information of the sea floor, sub soil and whatever there on and above.[8] Bangladesh has now more than 118813 square km of sea area which has given Bangladesh the right on the mineral resources including wildlife and transformation of the same in a way to its advantage.

Now Bangladesh can explore and exploit living and non-living resources of water, seabed and subsoil of 200 nm and it has sovereign right over its 350 nm Continental Shelf. It now a big challenge for Bangladesh to protect this huge sea area in one side and on the other to explore and exploit the natural and mineral resources. The sea area of Bangladesh is shown in figure 1.

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8.   Captain Mir Emdadul Haque , Director Hydrography, Bangladesh Navy

Figure 1: Sea Area of Bangladesh
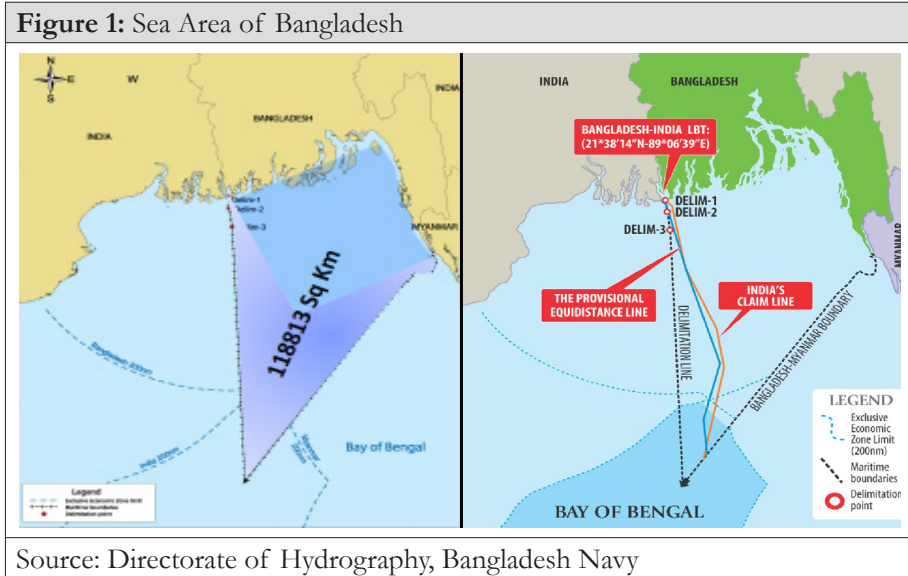
Source: Directorate of Hydrography, Bangladesh Navy

Geostrategic and Geo-economic Importance

In the present day geo-strategic consideration, the importance of the BoB as part of the Indian Ocean is on the rise. The extra regional powers are showing keen interests in the BoB and their presences are also frequent. There is a popular saying that came up in a recent maritime talks and that goes like this: "Atlantic Ocean is the Ocean of the past, Pacific is the Ocean of today; but the Indian Ocean will be the Ocean of the future." This statement makes lot of sense, if we consider the fast growing economies of the region like India and China.

Since the BoB leads to the Malacca Strait, that opens up to the South China Sea (SCS), these routes are crucial to economies in the SCS - which explains the growing interest and involvement of extra-littoral players in the Bay. Protection of SLOCs has added to the importance of increasing maritime power projection capabilities in the BoB.

The value of international trade that transits Indian Ocean Region (IOR) sea lanes is almost one trillion US Dollars.[9] Another aspect that significantly adds to

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9. Vice Admiral Muhammad Zakaullah, Commander Pakistan Fleet (COMPAK) of Pakistan Navy, Text of paper presented by Commander Pakistan Fleet at 'Galle Dialogue 2012' in Sri Lanka , 21 December 2012. Available at:
http://www.terminalx.org/2012/12/text-of-paper-presented-by-commander-compak-at-galledialogue2012 ,Accessed 17 February 2015.

the Bay's importance is the growing demand of landlocked areas for access to the waters such as Nepal, and Bhutan. Having access to the Bay could have an enormous impact on their development and economic growth.

Significance of IOR and IORA for Bangladesh

Fostering maritime cooperation in IOR is crucial to the socio-economic and strategic wellbeing of the rim nations and to global interests.[10] There are many opportunities for economic cooperation that can be explored to optimize the resources and strategic location of IOR for the benefit of the rim nations and international community. Economic cooperation can help reduce tension arising from strategic rivalries / competition in IOR because 10 to 15 years from now this area i.e., IOR countries will be the centre of gravity of world economy.

The Indian Ocean Rim Association (IORA) activities are now focusing on security and economic perspective of the region. Trade and investment is an area which directly impacts on job creation, poverty alleviation and economic development and falls within the objective of the IORA which is to promote sustainable and balanced economic growth of the region.[11] It has adopted the Blue Economy as the top priority for generating employment and ensuring sustainability in the region.

MARITIME SECURITY OF BANGLADESH - THREATS AND CHALLENGES

"Security means development. Security is not military force, though it may include it, security is not traditional military activity, though it may encompass it. Security is development and without development there can be no security"

<div align="right">Robert Mc Namara</div>

Threats

The high seas form part of the global commons and provide us the opportunities to harness their resources. They are also the best medium to carry out trade with other nations and enhance economic wellbeing. The very same waters present challenges that are related to safety and security of the seafarers.

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10. International Conference on "India and the Indian Ocean Renewing the Maritime Trade and Civilization Linkage" jointly organized by Research and Information System for Developing Countries(RIS) and Institution of social and Cultural Studies(ISCS) Bhubaneswar, Odisha, India, 20-22 March 2015.

11. Retrieved from http://www.iora.net/about-us/priority-areas/trade-investment-facilitation.aspx accessed on 12 July 2015.

MD of Bangladesh is a vast area which was less focused for a long time due to sea blindness. Seas being an enormous wide open area, these threats are now crossing the boundaries of nations. All the maritime nations are currently more or less subjected to these unconventional threats to varied degrees which includes following:

- Piracy and Armed Robbery

- Maritime Terrorism

- Illegal Trafficking at Sea(Drug, Arms , Human)

- Poaching

- Marine Pollution.

- Maritime Accidents

- Natural Calamities

Challenges

The security of the MD is always presented with distinct challenges which are different from the land. Firstly it is difficult to demarcate sea boundary by fixing installations which can easily be done on the land. Secondly the sea environment is unpredictable and multidimensional therefore difficult to preplan activities in a particular maritime area.

The challenges to ensure maritime security of Bangladesh are numerous. Firstly the vast ocean area is surrounded by socially and economically backward coastal population who can be de-motivated/derailed any time with very negligible economic wellbeing. This is also amplified by lack of technological competence and skilled manpower, lack of general awareness and proper governance. We still do not know what all our resources and in what quantities and how much we can utilize for our consumption.

Though all maritime security forces are responsible for the security of the MD but at the moment Bangladesh Navy is only designed and capable security force to operate beyond the horizon. BN is also trained to operate in offshore activities and dealing with unconventional sea threats.

Many of the problems in the maritime domain of Bangladesh like piracy, illegal fishing, trafficking arms, drugs, human etc. have regional links. As a result,

regional cooperation is an essential component of the maritime security. Many aspects of pollution, fisheries management, protection and preservation of the marine environment, marine scientific research, marine safety, enforcement responsibilities, disaster management etc. can be solved through cooperation between and among the littoral states.

ECONOMIC IMPERATIVES OF BANGLADESH MD

"The Indian Ocean area will be the true nexus of world powers and conflict in the coming years. It is here that the fight for democracy, energy independence and religious freedom will be lost or won."

Robert D. Kapla

Maritime Economy

Since the inception of mankind, sea has always been found as a hub of economic activities. As most of the earth is covered by water, and the global economy is connected by the oceans, not separated by them.[12] Due to huge population growth, the depletion of the land resources, ever-increasing world-wide competition of acquiring raw material of various kind and nature have compelled to look much more than before towards the sea.[13]

The sea is regarded as the last major frontier on earth for the exploration, exploitation and development of marine resources to sustain prosperity. The sea is considered as an unfailing source of food, minerals and energy. On the other hand, the Sea Lines of Communication (SLOC) comprise the umbilical cord of a country's economy.

Maritime Resources

Since the land-resources are being exhausted gradually, it will be necessary for Bangladesh to depend increasingly on sea resources. The economic potentials that lie at sea are directly linked with economic wellbeing of the country. Bangladesh EEZ extends to 200 nm from the coast and provides us vital maritime resources. There is a need to optimally exploit these resources and at the same time safeguard them. Maritime resources of Bangladesh includes following:

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12. Edward Lundquist, senior science advisor with Alion Science and Technology where he supports the US Navy's Surface Warfare Directorate in the Pentagon.
13. Captain Mainul Hassan, (ND), psc, Bangladesh Navy.

Energy. Eexploration area of natural gas has expanded from shallow waters to deep waters after the delineation of maritime boundary. Bangladesh offshore is now composed of 11 shallow and 15 deep water blocks.

Fishery. Bangladesh has about 475 types of fish in the sea areas. The fishermen of Bangladesh do fish only within 60 to 70 miles off the coast but the vast ocean remained untouched. If the Bangladeshi fishermen could equip themselves with modern fishing facilities, the total fish export would have risen in many folds. Pre-Investment Survey Project of BFDC and FAO/UNDP (UNSF-PAK-22) conducted in 1968-1971 depicts 4 fishing zones in the BoB as shown in figure 7.

Figure 2: Fishing Zones in Bay of Bengal

Source: Above fishing grounds were identified through survey of Sagar Sandhani and Meen Sandhani (1968-71), FAO/Pakistan
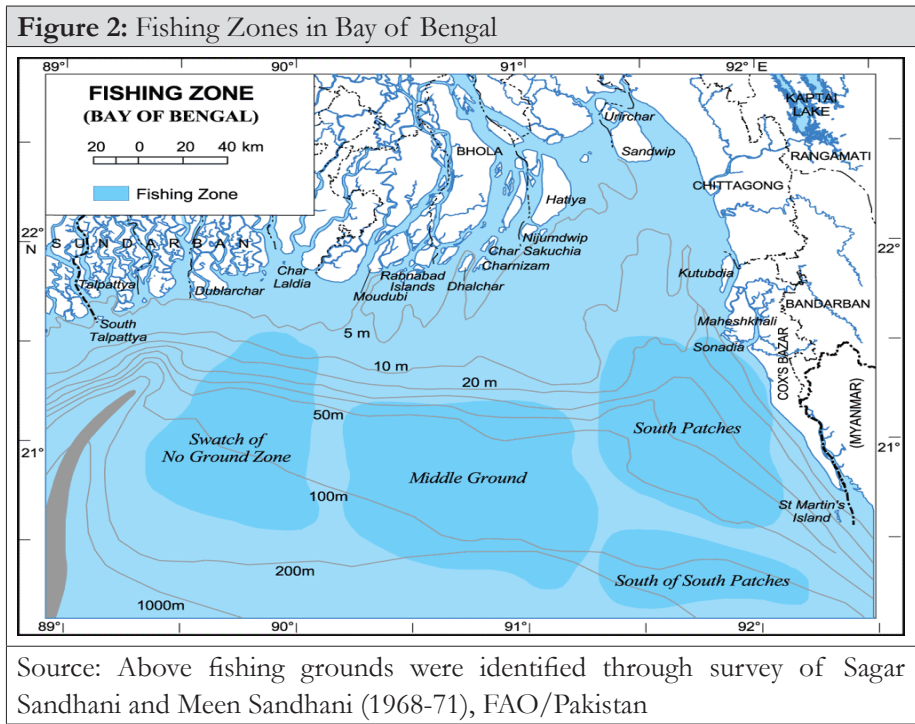
Medicine. Extraction of drugs/medicine from ocean is a century old business. At present about 2000 organisms in the marine kingdom are known to be poisonous or venomous. Many varieties of algae and seaweed are used in food, cosmetics and drug industries.

Other Natural Resources. Bangladesh can explore and exploit the natural resources (mineral and other non-living resources of the seabed and subsoil) within 350 n.m. continental shelf.

Continental Shelf Non Leaving Resources. Continental shelf resources hold enormous potential for many types of commercial applications which includes Aggregates, Heavy Minerals (Placers), Sea Water Resources, Deep Sea Mining (contains large deposits of nodules of poly-manganese, nickel, cobalt, copper, etc.)

Wind and Wave Energy. Like other coastal states particularly in the EU, the highest potential for electricity generation can be in the offshore wind turbines sector.

Salt. Industrial salt production using advanced technologies are available now. This would open an added opportunity of exporting salt from Bangladesh.

Ship Building. Bangladesh is one of the promising countries in the field of ship building. In Chittagong, Narayanganj, Khulna and other coastal districts, there is abundant opportunity to flourish this industry.

Ship Breaking. Bangladesh ranks 3rd in ship breaking industry having an annual turnover more than 1.5 billion USD. There are issues related to environment pollution and labour safety which need to be looked into. Moreover, majority of the country's steel re-rolling industries run on this sector.

Maritime Transport and Communication. About 2600 commercial ships brought through Chittagong and Mongla port every year. At present a good numbers of Bangladeshi ships are in the sea transport business. 40% of annual revenues of Bangladesh earned from custom related formalities and Chittagong port alone contributes 72% of this revenue.

Maritime Employment. Maritime domain of Bangladesh offers huge employment opportunity which is already a substantial job market for the country. Almost 20 million people live on sea-based activities.

Marine Tourism. Bangladesh has huge prospect of tourism and eco-tourism in the maritime domain. Cox's Bazar sea beach, St. Martins and the scenic beauty of Kuakata attracts huge number of domestic and foreign tourists. The mangrove forest Sundarbans and the low lying islands in the coastal zone offers a great opportunity of eco-tourism.

Sea Born Trade. About 95% of Bangladesh export and import is done through Chittagong and Mongla sea port. Besides, Bangladesh depends on almost total import of fuel, industrial raw material, spares and military hardware, as well as the export of finished products, which are transported through the sea.

Blue Economy

"Blue Economy" is named after this beautiful mother Earth whose sky and oceans are blue, as long as there is no pollution.[14] Blue Economy addresses the economic prospect of ocean resources. The developing countries have remained at the forefront of this blue economy advocacy, recognizing that the oceans have a major role to play in humanity's future. Blue Economy thus offers an approach to sustainable development better suited to their circumstances, constraints and challenges.[15]

After settlement of maritime boundary with India and Myanmar, a new Bangladesh has emerged in the Bay of Bengal comprising with approximately 118813.00 sq. km maritime zones.[16] This has created an unencumbered environment for oil and gas exploration. The primary assessment indicates few trillions gas in few zones are available within our maritime domain. In future 'Blue Economy' will become the lifeline for Bangladesh as 34 out of 47 hydrocarbon blocks are located at offshore areas. Figure 3 show the new look of GAS Blocks with in the MD of Bangladesh.

Figure 3: GAS Blocks with in the MD of Bangladesh
Source: Bangladesh Navy Hydrographic Department
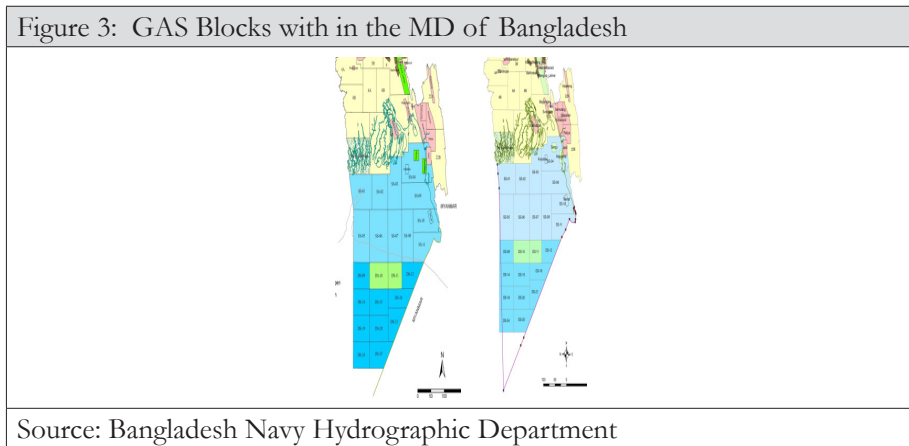
14. Nicholas Kathijotes, Keynote Paper on Blue economy - environmental and behavioural aspects towards sustainable coastal development in AMER International Conference on Quality of Life 6-8 April 2013, Langkawi, Malaysia.

15. Dhiraj Kumar Nath, Blue Economy, Opportunity of Enrichment, ehsannewyork, 03 September 2014. Available at: https://mygoldenbengal.wordpress.com/2014/09/03/blue-economy-opportunity-of-enrichment/ Accessed 13 May 2015.

16. Maritime Boundary Dispute between Bangladesh & India Available at http://bangladesh-tradeeconomy.blogspot.com/2014/07/maritime-boundary-dispute-between.html. Accessed on 04 March 2015.

PROTECTION OF MARINE ENVIRONMENT

The protection of marine environment and the sustainable use of natural resources are crucial to the success and to the sustainability of our economies, quality of life and health for current and future generations. On the contrary pollution causes instability, disorder, harm or discomfort to the physical systems or living organisms they are in. Therefore without sufficient knowledge and constant surveillance of the MD it is not possible to keep the ocean free from pollution and identify the offenders.

Marine Pollution

In Bangladesh the marine pollution has reached to a level that could create an unmanageable situation in the near future.[17] Following figure shows the pollution sources in aquaculture raising environments.

Figure 4: Pollution sources in aquaculture raising environments

Source: Nicholas Kathijotes/ Procedia - Social and Behavioral Science 101(2013)7-13
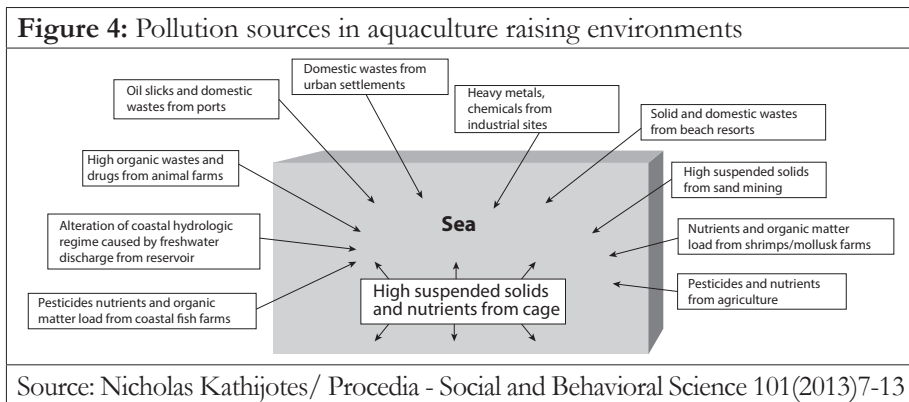
The sea water of Bangladesh gets polluted as the pollutants are carried through different rivers and canals to the sea. Water channels are used for dumping industrial wastes that ultimately end up in the sea. About three thousand ships including oil tankers come to Bangladesh ports every year. There are several thousand mechanized trawlers and boats that spill oil. Sea is also polluted by oil spill because of accidents in ships. Even our Port Authority has no laboratory to measure the extent of the pollution.[18] Besides, shipbreaking industry is located in Chittagong. Incidents like dumping of wastes into the sea by foreign vessels are also happening.

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17. Md. Shahidul Islam, Perspectives of the coastal and marine fisheries of the Bay of Bengal, Bangladesh, Laboratory of Marine Stock Enhancement Biology, Division of Applied Biosciences, Graduate School of Agriculture, Kyoto University, Kyoto, Japan

18. Rahman M M, A study on coastal water pollution of Bangladesh in the Bay of Bengal, BRAC University, September 2006, Dhaka. also found in http://dspace.bracu.ac.bd/handle/10361/215

Dumping

A Greenpeace fact finding mission revealed that hazardous waste continues to be illegally exported to Bangladesh as a result of the export of end-of life ships containing toxic substances and that Bangladesh is paying a high price to be the dumping ground for hazardous waste.[19] Sometimes it is not possible to take action against the ships as they flee very quickly after dumping waste in our sea area and early detection is not possible due to lack of MDA and surveillance capability.

Plastics Pollution

Plastic pollution is also common in Bangladesh which is mainly generated from the coastal areas and sea beaches. Plastics pollution has a direct and deadly effect on wildlife. Thousands of seabirds and sea turtles, seals and other marine mammals are killed each year after eating plastic or getting entangled in it.

Overexploitation of Fisheries

The marine waters of Bangladesh are having 442 species of fish 36 species of marine shrimps. But most of the commercially important fish stocks are either overexploited or under threat. Continued depletion of stocks could compromise regional and global food security as well.

Degradation of Critical Habitats

The Bay of Bengal is an area of high biodiversity, with a large number of endangered and vulnerable species. The major issues relating to habitats are: the loss and degradation of mangrove habitats in Sundarbans; degradation of coral reefs in St Martins Island; and the loss of and damage to, sea grasses.

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19. Retrieved from http://www.sos-arsenic.net/english/environment/toxicwaste.html. Accessed 15 July 2015.

PRESENT STATUS AND DYNAMICS OF MDA IN BANGLADESH

"Mastery of the sea has always been a dynamic power factor and nations neglect their Navies, do so at the peril of their present and future wellbeing"

Professor Ian Matthew Morris

Prevailing MDA Situation

Although MDA is a relatively new but the fundamental concept is not new. Bangladesh Navy and few maritime agencies like port authorities have been practicing some form of ship tracking as part of their operations for years. However these efforts were agency specific and facilities and expertise developed were not merged to achieve a common picture for all. It is true that these agencies can potentially support MDA but the existing infrastructure is not enough. For effective MDA all the agencies need to be linked in to a common protocol so that the information can be exchanged rapidly not only between the agencies but various levels within the agencies.

MDA Challenges

There are numerous challenges influence the MDA of Bangladesh. The major challenges includes following:

- Sea Blindness
- Absence of National Maritime Policy
- Lack of Effective Intelligence Network
- Limited Identification and Recognition Capability
- Rough Sea and Adverse Weather
- Inadequate Infrastructure
- Lack of Maritime Education and Training
- Scanty R & D
- Inadequate Entrepreneurship
- Limited Surveillance and Response Capability
- Inadequate Funding

SUMMERY OF THE CASE STUDY - MDA OF VARIOUS MARITIME STATES

The MDA efforts of the USA, China, Philippines, South Africa, and India was analyzed in order to draw lessons for the Bangladesh. The analysis revealed that the countries MDA efforts were driven by geographic location, national security imperatives, affordability and available technology. The USN was influenced by the need to have a global picture to monitor worldwide shipping to support the global war on terrorism. The SAN's efforts in collaboration with the SAMSA was dictated by the need to monitor the ships transiting her very long coastline, thus, the desire to incorporate satellite to achieve a wider coverage.

Most of the cases MDA responsibility lies with the navy except Philippines. The BN could draw lessons from USN where MDA efforts are coordinated by a Maritime Headquarters (MHQ). Like the South African experience, BN could collaborate with National Space Research Development Agency (NSDRA) to provide satellite imagery of the MD. Furthermore, Bangladesh like the India and Philippine could try to focus mostly on regional and International cooperation to achieve MDA.

Bangladesh needs to develop the capability to monitor the activities up to the end of its maritime boundary. This will require static coastal radar chain, a comprehensive network chain of AIS Stations along the entire coast in addition to the ship and airborne sensors. The need to protect the resources in the MD through total surveillance and presence could be the guiding principle of the Bangladesh MDA effort.

SUGGESTED MDA STRATEGY FOR BANGLADESH

"Maritime Domain Awareness is where it all begins. We cannot conduct the operations that we must if we don't have a good sense of what's out there, moving on, above or under the sea".

Admiral Gary Roughead, US Navy

Maritime Security Strategy

This maritime security underwent through paradigm shift as globalization, information and communication technologies obliterated geo-political boundaries of the nation state. Unfortunately, the spread of asymmetric conflict have emerged as the defining paradigm in the changing contour of politics, economics, military

strategy and technology.[20] This has shifted focus from force on force maritime security strategy to deal with the non-traditional maritime security challenges emanating from the littoral to the sea. Therefore, the maritime security strategy of Bangladesh should cover all unconventional maritime threats. Establishing joint maritime-security forces or maritime interagency task forces may go a long way toward that goal.

National Response Strategy

- Maritime Consciousness: Bangladesh can only exploit the opportunities offered by the sea if there is maritime awareness among the decision-maker, think-tanks and as a whole the general mass.

- Integrated Maritime Policy: To deal complex maritime situation, a formal mechanism for coordination among the multiple users of the sea is urgently required.[21] Bangladesh National Maritime Policy would be the most appropriate mechanism to deal with these issues.

- Capacity Enhancement: The capacity of marine infrastructure needs urgent overhaul and enhancement to deal with increased economic activities.

- Maritime Cooperation: To achieve MDA requires National, International and multi-agency coordination as well as the sharing of information, intelligence and data collected during surveillance and reconnaissance.

Regional Response Strategy

- Regional Cooperation: Some mutually acceptable framework of regional maritime cooperation would greatly facilitate the attainment of that maritime objective.[22] Therefore, international cooperation must be established and maintained through formal teaming agreements.

- Integrated Maritime Governance: Only standalone National Maritime Policy may fall short of achieving the MDA challenges due to international nature of the maritime threat. An internationally integrated maritime governance approach may be required to meet the challenges in future.

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20. W Lawrence and S Prabhakar, Securing India's Littoral's in the Twenty-first century: Issue and Challenges, Paper presented at Society for the Study of Peace and Conflict on 01 Aug 2006, p 1.

21. Khurshed Alam, Rear Admiral (Retd), Challenges to Bangladesh's Maritime Security, Strategic Issues published in The Daily Star on 10 March 2007.

22. Prof. K.R. Singh, JNU, Regional Cooperation in the Bay of Bengal: Non-Conventional Threats-Maritime Dimension, Available at: http://www.idsa-india.org/an-mar-5.01.html Accessed 14 May 2015.

MDA Enhancement Strategy

In the recent time the marine environment has evolved in dramatic ways. To enhance the MDA in Bangladesh following three approaches may be undertaken:

Short Term (1 to 2 years)

• Establishment of National Maritime Commission and nominate Bangladesh Navy as lead agency to coordinate national maritime activities.

• Approval of draft National Maritime Policy (submitted by BN) as soon as possible after necessary vetting by an appropriate committee.

• Carry out research to determine the appropriate MDA model for Bangladesh.

• Conduct regular meeting with stakeholders to bring them in common footing.

• Conduct seminar to improve general consensus about MDA.

• Integrate existing facilities and infrastructures of various agencies.

• Rely on manual system of information sharing till automated system is available.

• Opt for regional cooperation and cooperation with neighboring countries on maritime issues

• Human resource development in maritime sector.

Medium Term (2 to 5 years)

• Implementation of National Maritime Policy.

• Establishment of Maritime Domain Awareness Centre.

• Infrastructure development for surveillance and Response (Installation of Coastal Radar, AIS, data link etc.)

• Setting up automated networking system for information sharing.

• Strengthening maritime security forces (ship, MPA, helicopter, etc.).

• Expand and include additional partners to build regional MDA

• Updates national MDA plan.

Long Term (5 to 10 years)

- Self-sufficiency in surveillance, detection and response capability.
- Possession of a credible maritime security forces (BN , BCG).
- Participates in regional MDA networks.
- Contribute in global maritime domain awareness.
- Continuous improvement and advanced capabilities.

RECOMMENDATIONS

Considering the above discussion following recommendations are made to improve present status of the MDA in Bangladesh:

- Steps should be taken to increase awareness among the common people, stakeholders and decision makers through education and training.

- National Maritime Policy needs to be formulated and implemented as soon as possible to address the policy issues as well as the legislative and administrative framework.

- Maritime Security Forces (BN, BCG) need to be appropriately equipped, modernized and strengthened to counter the unconventional threats.

- Interagency, Regional and Global Cooperation needs to be enhanced.

- A coordinated and holistic approach needs to be taken for infrastructure and human resource development as well as for resource and budget allocation.

- Bangladesh Navy may be selected as lead agency to bring all stakeholders under one umbrella to coordinate maritime activities.

- At tactical level Land, Sea and Air Surveillance capability needs to be enhanced (Coastal Radar Stations, Naval Platform and Aerial Surveillance platforms, AIS) for better picture compilation.

- A central network has to be established to facilitate data sharing amongst the stakeholders. In this regard a comprehensive policy needs to be brought out for information sharing.

- To improve identification and recognition capability vessel registration, monitoring and marshaling has to be ensured.

- Sufficient budget should be allocated for infrastructure development and capacity building which should be separate from the yearly budget of the respective organization/agency.

- Suggested Short, Medium and Long term MDA enhancement strategy may be implemented.

CONCLUSION

Geo-strategically and geo-economically the sea is significantly important for Bangladesh. Our national maritime interests evolve around territorial integrity, law enforcement, trade security, resource protection, economic well-being etc. MDA is important to fight against unconventional threat, protect international trade and environment and to employ forces economically and effectively.

Present MDA status of Bangladesh is not up to satisfactory level. The professionals, think-tanks and decision makers are well aware about the urgency and importance of MDA but mare awareness is not enough. MDA should not be left aside as a futuristic project any longer. Therefore, immediate attention should be given to formulate National Maritime Policy and nominate a lead agency to coordinate all maritime activities. Special focus should be given to improve maritime surveillance and response capability as well as foster regional co-operation for effective MDA.

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18. Eshel, D., 2011. Flashpoints: Asia, 'String Of Pearls' Is Securing China's Unauthenticated Download Date | 6/21/15 11:43 PM Sea Lanes. Defence Update. [online] Available at: http://www. defense-update.com/analysis/2010/20122010_analysis_string_of_ pearls.html

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22. https://www.ise.gov/sites/default/files/National%20MDA%20 CONOPS%202007.pdf Accessed 21 February, 2015

23. http://www.navy.mil.bd/vision1.php Accessed 21 February, 2015.

24. http://www.larus.com/total-maritime-domain-awareness Accessed 21 Feb 2015.

25. http://navylive.dodlive.mil/2014/01/16/advancing-maritime-domain-awareness-mda-for-the-fleet-and-the-nation Accessed 21 Feb 2015.

26. http://www.ipcs.org/columnist/vijay-sakhuja visited on 22 February 2015.

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Author

Commodore Mohammad Nazmul Karim Kislu, (C), ndc, psc, BN, was born on 1st October 1965. A graduate from Defence Services Command and Staff College, he was commissioned in Bangladesh Navy on 01 January 1987. During his career, the officer underwent a number of professional courses in home and abroad. He did Surface Warfare Officers Course form USA, Communication Specialization Course from Pakistan and Principal Warfare Officers Course from United Kingdom. He has successfully commanded a good number of warships which include Fast Attack Crafts, Patrol Crafts, Offshore Patrol Vessel, Corvette, Frigates and naval base BNS ISSA KHAN. Commodore Kislu served as a Military Observer under United Nations in (MONUC) D R Congo and Executive Officer on board BNS OSMAN under United Nations Interim Forces in Lebanon (UNIFIL). He also served as an instructor in Bangladesh Institute of Peace Support Operation Training (BIPSOT). He was an instructor in Bangladesh Naval Academy (BNA), Signal Communication School and School of Maritime Warfare & Tactics (SMWT). He did VIP Protection Course form Thailand under Royal Thai Army and served as a Director Special Security Force (SSF). Cdre Kislu is a widely traveled person who has visited a number of countries around the globe which includes USA, UK, Switzerland, Turkey, Cyprus, Oman, KSA, UAE, Lebanon, Congo, Kenya, India, Pakistan, Thailand, Singapore, Sri Lanka, Philippines, Malaysia etc. The Commodore is happily married to Mrs Sayeda Nazmul and a proud father of a son and a daughter. Cdre Kislu's hobby is playing golf, tennis, travelling and listening to music.

WATER RESOURCE MANAGEMENT IN DHAKA CITY: CHALLENGES AND PROSPECTS

Group Captain M Yousuf Ali, ndc, psc, GD (P)

INTRODUCTION

Bangladesh, being a tropical and having vast alluvial plain sloping southward, from the Himalayas to the Bay of Bengal, facilitating naturally flood basins of major three rivers the Ganges, the Brahmaputra and the Meghna. It is a country of fertile soil, sun and abundant fresh waters from rivers, marshes, rains and easy access underground, made this country attractive for living and densest in human population in the world. Bangladesh for its location in the confluence of those three rivers, its drainage discharge from upper catchment stands 15 times larger than its surface area. Bangladesh receives average over 2000mm rainfall annually. The mighty river systems bring fertile silt and almost three times extra water from their upper catchments ie, from India, Nepal, Bhutan and China. Bangladesh, including 57 trans boundary, has over 230 rivers mostly the tributaries and distributaries of those three rivers, generally flows southward make a combined system to the Bay of Bengal. When there are over flow in these three rivers simultaneously, causing Bangladesh to suffer catastrophic floods, like happened in 1988 and 1998. The speciality of the water system in Bangladesh is that, it remains very active in the wet season from June to September each year making availability of abundant water including recharge of ground waters (aquifers). On the other hand, the country suffers acute water shortage in the dry season, specially from the month of March to May each year.

Dhaka is located in the central region of flat deltaic region of Bangladesh surrounded by the distributaries of three international rivers. The existing city is bounded by river Turag in the west and north, Balu in the east and Buriganga in the south. The greater Dhaka is surrounded by the rivers Dhaleswari in the west and south, and Sitalakha in the east. Because of urbanization and industrialization the water s of Turag, Balu, Buriganga, as well as Shitalakha have become over polluted and health hazard for human beings. Dhaka, after becoming the capital of independent Bangladesh, has grown faster covering over 360 sq Km with present population of approx 155 million. Dhaka Water Supply and Sewerage Authority (DWASA) is entrusted with the responsibility of providing water supply, sewerage disposal and storm water drainage services to the urban dwellers.

To meet the growing water demand by Dhaka city dwellers, DWASA has become over dependent on underground water source by extracting 82% of total capacity which is beyond the water recharge capacity for Dhaka. As a consequence, the ground water table in-and-around Dhaka is falling down by 7-10 ft annually, which is a red alarm for sustainable water supply for the dwellers.[1] On the other hand, because of unplanned urbanization, poor policy compliance and encroachment of rivers, canals, low lands of the capital by vested corner crated manmade obstruction against storm water discharge from capital causing the dwellers to suffer enormously.

To ensure the sustainable fresh water supply for growing dwellers of capital, maximum surface water is to be exploited and strict compliance of policy must be ensured. For fresh water supply, awareness programme and some cultural change must be made. Accordingly, all stake holders must be brought into the system of sustainable water management concept, and simultaneously make the actors of policy breaker accountable and bring them into justice. The stern pilot programme and policy action must be adopted without any mercy for the sake of our next generations to survive and live healthy in terms of fresh water availability and water loggings effect. This study aims to highlight fresh water management in Dhaka city excluding the part of water loggings or surface water runoff due words limitation and vastness of the subject.

CONCEPT ON WATER ISSUE

Water right and water policy

Historically all civilizations were born, flourished, survived and developed around some dependable fresh water sources. Therefore, water became the basic necessity for a community for drinking, washing, cocking and living. As such one has a right to access minimum quantity of water[2]. In Bangladesh the water right may be considered under basic need of 'food' which is constitutionally defined as,

'It shall be fundamental responsibility of the State to attain,, through planned economic growth a constant increase of productive forces and a steady improvement in the material and cultural standard of living of the people, with a view to securing its citizens through the provision of the basic necessities of life, including food, clothing, shelter, education and medical care'.[3]

1. Information provide by Garrison Engineer (Air), BAF Base Bashar, Dhaka Cantonment
2. Haque, M. Inamul, Water Resources-Management in Bangladesh, p18
3. Bangladesh Constitution, Article 15, clause (a)

Water Perspective - Bangladesh

Bangladesh is a tropical country located in the North East Indian sub continent and in the central region of the flat deltaic plain of three international major rivers namely the Ganges, the Brahmaputra and the Meghna which play a distinct role in the regional water system. There are over 250 rivers[4] including 57 trans boundary rivers (03 with Myanmar and 54 with India), making mostly interlinked system, carries the water to Bay of Bengal[5]. Dhaka, the capital city of Bangladesh is located generally at the central area, near convolution of those three main rivers, frequently experiences catastrophic floods in the peak wet seasons[6].

The close circle of Dhaka city is influenced by the rivers Buriganga in south, Turag in west and north and Balu in the east. The outer circle of greater Dhaka city is influenced by the river Dhaleswari in the south and west, and Shitalakha in the east. All these rivers are directly tied with the water flow of great rivers the Ganges and the Bhramaputra. The close circle rivers are extremely polluted and their water is totally undrinkable. A large swathe of the Buriganga River which is the lifeline of the capital has turned pitch-black with toxic waste, oil and chemicals flowing into it from industrial units. The theme in 2015 for World Water Day was 'Water and Sustainable Development', under the leadership of UNESCO.[7]

Environmentalists at Dhaka on World Water Day 2015, Source : DHAKA TRIBUNE, March 23, 2015

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4.   Pant, Water politics on Nepal's fresh water, SIRDUP, Kathmandu, p51
5.   Khan, Trans Boundary water issue in South Asira, p5
6.   Bahauddin & Hossain, Water Research and Management, p13
7.   EFE/EPA/ABIR ABDULLAH

National Water Management Plan

National water policy for Bangladesh was approved by GoB in March 2004 with 25 years plan; short term 2000-2005, medium term 2006-2010 and long term 2011-2025. The policy has considered different challenges in the water sector and aimed three objectives as rational and prudent use of water, people's quality life related to water and preservation of aquatic and water dependent ecosystem.[8] The 25 years water management policy included 84 programmes in eight groups of which two groups included town and rural areas and major cities.[9]

Surface Water Resources

The river system of Bangladesh facilitate on average 1,106 cubic km water to cross border out of which 54% is contributed by the Brahmaputra, 31% by the Ganges and 15% by the tributaries of the Meghna and other minor rivers.[10] About 10-15% land of Dhaka city comprised of surface water mainly from the rivers, lakes and other water bodies. There were about 35 natural canals within Dhaka city[11] but most of them are now encroached or polluted to a level that cannot be used even for general washing.[12]. Beside the rivers, Bangladesh experiences average 2,320 mm annual rainfall varies from 1,110 mm (North West) to 5,690 mm (North East).[13]

Ground water resources

Bangladesh is considered rich in ground water resources, having the water layer available within few meters to 30 meter distance throughout the country[14]. Ground water is recharged annually mainly by the rainfall, flooding and stream flow in the rivers by penetrating earth surface. However, with the increased urbanization, industrialization and irrigation in agriculture, the annual water extraction from underground surpassed the recharge capacity, causing the water table to fall every year throughout the country, and at alarming rate in the capital which is 6-8 ft annually.[15] DWASA estimates the annual water table is depleting

8.   Rasheed, K.B Sajjadur, Water Resources Management, p107-108
9.   Rashed, op cit, p108
10. Banglapedia, 2006
11. Khan, 2001
12. Report by Unnanyan Onneshan-The Innovators, Water Supply of Dhaka city : Murky Future, p11
13. FAO, 2010
14. Banglapedia, 2006
15. Unnayan Onneshan Report, 2010, p11

by 10 ft, with roughly five feet of an annual recharge.[16] The ground water use of selected Asian cities is stated in the table below:

Table 1 : Reliance on Groundwater : Selected Asian Cities[17]			
Cities	**Population in Million**	**Groundwater Use in %**	**Consequence**
Bandung, Indonesia	2.4	75	Excessive Abstraction, Land Subsidence
Bangkok, Thailand	11.5	9	Excessive Abstraction
Ho Chi Min, Vietnam	7.4	35	Water Level Decline, Saline Intrusion
Hyderabad, India	7.8	30	Water Level Decline
Kathmandu, Nepal	2.5	55	Excessive Abstraction, Rapid Decline
Lahore, Pakistan	8.0	100	Rapid Decline, Pollution
Tokyo, Japan	13.3	30	Excessive Abstraction, Land Subsidence
Yangon, Myanmar	4.7	50	Excessive Abstraction
Dhaka, Bangladesh	12.5	76	Excessive Abstraction, Water Level Decline, Pollution
Source : UN World Water Day Report – 2015, Chapter 1, p4			

The side effects of ground water over extraction are not only barrier to sustainable water supply but also a threat for eco system of the concerned area. This is the high time for the affected area to adopt a sustainable water management system and rely more on either or combination of treated, surface and groundwater (Within annual recharge level).

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16. Dhaka Tribune, May 05, 2015
17. www.unesco.org/images/0023

Future water demand and supply

The population of Dhaka city grew in average 5.6% after 1990 and stood 26th largest and 10th most populous city in the world in 2004. The projected population of Dhaka city would be 20 million by 2020 and 25 million by 2025 million if the present trend is continued.[18] The increase of urban slum population is higher than the average urban growth in Bangladesh which is compared and shown in the table below:

Table 2 : Slum to Urban Population Ratio (Study Year 2009)[19]			
Countries	Population in Million	Slum to Urban Population Ratio in %	Remarks
Iraq	30.1	52.8	
Nepal	26.55	58.1	
Bangladesh	150.0	61.6	Majority live in greater Dhaka
Source : World Water Day-2015, Facing the Challenges - Case Studies and Indicators			

WATER MANAGEMENT STATE IN DHAKA CITY

Physical and demographic development

After the independence of Bangladesh in 1971, its capital Dhaka got the momentum in terms of political, economic, industrial and commercial hub of the country. The population of Dhaka started increasing almost at an annual rate of 5.6% making it a Mega city by 2001. The population of Dhaka city is now approaching 15 million and it is estimated that, with the present expansion rate, by 2025 the population of Dhaka city would reach to 21 million.[20] Due tremendous geographical expansion and population growth in last two decades, Dhaka city has developed in a much unplanned way, forcing to pollute the natural water in one way, and on other way creating huge demand of fresh water from underground.

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18. Towhid, Report on Causes and effects of water logging in Dhaka city, 2004, p27
19. World Water Day-2015, Facing the Challenges - Case Studies and Indicators, p35 (www.unesco.org)
20. Khalid Md. Bahauddin & Nasir Hossain, Integrated water management for mega city : A case study of Dhaka city, Bangladesh, Water Resource Management, Vol 3, No 3, 2013, p13

Water supply and situation

The first piped drinking water system in Dhaka was established in 1874 by Khwaja Abdul Ghani, the aristocrat, who ruled Dhaka under the British colonial authorities. The system was fed by water treatment plant in Chadnighat near the bank of river Bruiganga.[21] At present the DWASA now provides piped water for over 12.2 million dwellers of Dhaka city which meets almost 90% of the demand. The state of population without improved water and sanitation of Bangladesh is compared and shown in the table below:

Table 3 : Population Without Access to Improved Water and Sanitation			
Countries	**Population in Million**	**Without Access to Improved Water in %**	**Without Access to Improved Sanitation in %**
India	1,236.6	7.4	64
Indonesia	246.8	15.1	41.2
Nepal	27.5	11.9	63.3
Pakistan	179.2	8.6	52.4
Bangladesh	154.7	15.2	43.0
Philippines	96.7	8.2	25.7
Source : unesco.org (World Water Day-2015, Facing the Challenges - p49)			

Despite sanitation development in last two decades in most of the Asian developing countries, still almost half (Except Philippines) the population are yet out of improved sanitation. For Bangladesh the situation is slightly better but yet to achieve significant sanitation for reaching the Millennium Development Goal (MDG) as well as status of middle earning country.

Role of DWASA

DWASA is a service oriented autonomous commercial organization in the public sector and entrusted with the responsibility of providing water supply, sewerage disposal and storm water drainage services to Dhaka city dwellers. DWASA has now 4431 manpower of which 87% engaged for water supply and rest 13% for sewerage system.[22] The DWASA service is shown in table 4:

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21.   Public information dept, DWASA, Date March27, 2014
22.   Khan, Engr. Taqsem A, Article DWASA: Performance and Challenges, p1

Table 4 : DWASA Services	
Water Supply	Description
Total Coverage (Population)	93%
Demand Quantity	2,250 MLD
Production Capacity	2,420 MLD
Supplied Quantity	2,063 MLD
Deep Tube Well	675 Nos.
Surface Water Treatment Plant	04 Nos.
Length of Water Line	3,036 Km
Public Standpipes	1,643 Nos.
Source : DWASA report 2014	

DWASA provides water for drinking, industrial and commercial purpose to DCC (Now DCC South and DCC North) and its adjoining areas including Narayanganj and adjacent Dhaka city. Along with DWASA, some NGOs and few other Aid groups are also assisting in water supply mainly in slum and very low income areas. It may also be mentioned that, numerous private underwater pumps are also established to be self sufficient for its own requirements. The DWASA distributes the water to the consumers through supply pipelines and some water vans, where pipelines are not available. It has network of water supply pipelines approx 3,036 km spread over a coverage area of 470 sq km, and there are as over 215,000 connections for the consumers within the coverage area.

CHALLENGES OF WATER MANAGEMENT IN DHAKA CITY

Over Exploitation of Groundwater

Dhaka geologically is under the category of the Pleistocene terraces, mostly composed of the Modhupur clay deposits whose thickness varies from 8-45M with an average of 10M in the city. The underlying layer is known as Dupi Tila, composed of sand particles that are considered in the main aquifer of Dhaka city, with a thickness of 100-200M (Unnayan Onneshan, p14).The aquifer piezometric level of Dhaka city is continuously going down at a rate of 2-3M annually due to over extraction of ground water. The city's ground water level has dropped about 20M in seven years since 1993, which is even higher after 2000, the worse case at

Mirpur area stands 3.2M per year.[23] Out of three known aquifers underground, the 1st layer of aquifers is almost ineffective, therefore, DWASA now digging down the water pump beyond 700ft below the ground to extract water. Even, due to excessive underground extraction for agriculture use in the rural areas, water wells have been eliminated and the manually operated tube wells mostly go in operative in dry season. Unless the ground water use can be brought down to its annual recharge level, the water table will continue going down beyond red line threatening supply of water for drinking and domestic use, as well as irrigation.

Unplanned Urbanization

Dhaka city has experienced significant urban growth during last 50 years. The land use has undergone radical changes since 1971 when Dhaka became the capital of the new sovereign state of Bangladesh.[24] Change in land use alters the physical characteristics of an area, which in turn brings changes in hydrological regime. But no master plan was made or implemented for planned development of the city. Dhaka city had excellent natural drainage system even 40 years ago. With rapid expansion of the city, the natural drainage system had been intervened and in some places destroyed. Latest satellite image revealed the concrete buildings occupied 40% area of Dhaka city in 2000, which has increased to 56% area in 2013.[25] One of the main factors that are responsible for modification in hydrological responses of the city is increased in impervious area.[26] It has reduced infiltration of water for aquifer recharge causing ground water level to deplete faster.

Water Pollution

Along with unplanned urbanization, Dhaka city has unorganized rapid industrialization in last two decades. There is no clear-cut sectionalisation among the administrative, commercial, residential and industrial zones in Dhaka city. Several chemical factories and chemical stores have been established within the heart of residential area, specially in old Dhaka. Also many commercial organizations have been established within residential area like, Dhanmondi, Banani, Gulshan or even at Uttara. The industries are discharging untreated effluent into rivers surrounded the capital. The industrial waste along the belts of

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23.   The daily Star, 2010
24.   Chowdhury, Rahman, Bala, Islam, *Op Cit*, p 9.
25.   The Daily Prothom Alo, Dated May 17, 2015
26.   Water logging in Dhaka City-Socio Economic Impacts and Mitigation Options, NDC IRP, p20

Dhaka, Tongi, Savar, Joydebpur and Narayanganj are the main polluters of rivers like Turag, Balu, Sitalkhya, Buriganga and Bangshi. The major polluting industries are chemicals, Tanneries, paper and pulp, sugar, food processing, tobacco, textile, dying, hydrocarbons etc. Approximately 80,000 tonnes of human waste is generated daily but only 1,600 tonnes (2%) is treated at Pagla treatment plant near the capital, and the rest eventually ends up in rivers.[27] In the dry season the stagnant water of these rivers get so badly polluted that, water becomes almost unfit for use by humans or any aquatic lives.

Poor Quality of Service/Sanitation

About 70% of the population of Dhaka city have adequate sanitation and 39% are served by sewer networks. Only one sewage treatment plant exists at Dhaka with a treatment capacity of 49,000 domestic connections which is too small for a megacity. Over 25% of the population lack adequate sanitation mostly in the slum and poor areas. Prof Dr Mohammad Ali, who has carried out the first liver transplant in Bangladesh, said excessive accumulation of heavy metals through regular consumption of contaminated food and water might damage brain, liver, kidney and the nerves. The contaminated water could cause deadly hepatitis A and E and typhoid, and eventually lead to lever failure, particularly in children and pregnant women.[28] In a recent study it is found that, more than 7,000 children under five years, die from diarrhoea while waterborne diseases cause nearly a quarter of total deaths.[29]

Probability of Salt Water Intrusion

The over extraction of ground water lowering its level and increasing the probability of intrusion of saline water towards further north threatening the central part of the country. It is natural that, when ground water level goes below the sea level, the saline water flows inwards during tidal surge in different rivers including underground intrusion. The same effect is already acute in the southern coastal area of Bangladesh. In the 70s, a depth of 300-450 ft was enough for DWASA to install tube wells at Dhaka; but now required depth is 500-1000ft and accordingly, the installation cost has also gone very high. The properties of the aquifer, the soil that holds the water, are being damaged gradually. The soil might

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27. The daily Star Dated March 22, 2015
28. Prof Dr Mohammad Ali, founder secy gen, national liver foundation, The Daily Star, dt March22, 2015
29. Water Aid Bangladesh

become compact and its capacity to hold water might be lost in future.[30] Over extraction of ground water in Dhaka city area will definitely invite saline water towards affected aquifers in long term. As such DWASA must keep the ground water extraction within annual recharge level.

Impact of Growing Water Business

The first mineral water with brand name '*Aqua*' started marketing in mid 80s at Dhaka on experimental basis, with lot of suspicion and risk factor. However, the demand of such bottled mineral water was so exciting and flourishing that, immediately several private companies started investing in the bottled/potable water sector. According to Pran-RFL Group marketing director Kamruzzaman Kamal, the mineral drinking water market size in Bangladesh is around Tk 2.5 billion. The market leader of drinking water is *Fresh*, which is owned by the Meghna Group, holds almost 32% of the total Bangladeshi market. *Mum*, owned by the Partex Group, holds the second position in the drinking water market by covering 20%. The third is Acme which holds 5%, *Pran* holds 4% and *SPA*, owned by Akij Group holds 4% market share. There are around 20 players in the organised market who produce and market drinking water on a large scale. Additionally about 30 companies have area-based market in the capital and elsewhere in the country. Industry insiders said the bottled water market is growing at a rapid rate of around 20%. At this growth rate, Taka 2.5 billion market is estimated to overtake existing soft drinks market soon.[31] The potable water would ease out the life of economically solvent families but general people would remain dependent on supply water.

Degradation of Water

Industrial effluent, residential and commercial waste, hospital waste, untreated sewerage disposal, slum settlers, agro chemical waste, water transport pollution etc continuously polluting water in and around Dhaka city. About 1,800 factories are established in and around Dhaka city which mostly situated on the bank of rivers causing serious pollution of river waters. The government issued an ultimatum to set up Effluent Treatment plants (ETP) by October 31, 2006. Only 89 of these factories are having in-house ETP. Most of the waste of rest of the factories directly or indirectly enters into the nearby rivers or in nearby water

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30. Tawfique Ali, the Daily Star, dt March 22, 2015
31. The Financial Express, March 22, 2014

bodies causing toxic pollution and degradation of quality of fresh waters.[32] Strict compliance of the rules related to ETP must be ensured for the sake of safe water supply at Dhaka.

No Practice of Rain Water Harvesting

Rainwater harvesting is the accumulation and deposition of rainwater for reuse on-site, rather than allowing it to run off. Its uses include water for garden, livestock, irrigation and other domestic use with appropriate treatment. It is also used for indoor heating for houses in winter, or even for drinking by human beings. The rainwater is substantially free of salinity effect and other salts, and mostly contains rich minerals. It can be of independent water supply under any restriction on main water supply system. In the coastal belt of Bangladesh, few families do preserve and use rain water in traditional methods. Brazil has the largest rooftop rain water harvesting practice. The Diola people of Senegal and Guinea-Bissau regularly use homebrew rainwater harvesters made from local organic materials. The students of Monterrey Institute of Technology and Higher Education at Mexico City are given practical knowledge on Rainwater capturing, subsequent treatment and storage system.[33] Bangladesh can adopt similar rain water harvesting practice soon.

PROSPECTS OF WATER MANAGEMENT IN DHAKA CITY

Abundant Water Sources

Thanks to Mughal rulers who established Dhaka city most probably based on abundant water sources in all around and the most nearest groundwater aquifers, Dhaka's numerous lakes, marshy lands and rivers. The first layer of aquifer with abundant water was available within 100 ft distance at Dhaka. Despite some effect of climate change, Dhaka experiences annual about 2000mm rainfall. The so called unplanned urbanization, scattered industrialization and greedy land developers have tortured the entire inner cordoned rivers, lakes and marshy lands of Dhaka city which can be halted. On the other hand, the DWASA has already malnourished the first layer of aquifers by over exploiting groundwater which can also be re nourished by increasing dependency on surface water. The rainwater harvesting, water recycling, water storage and water reservoir system

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32. www.thedailystar.net/2007/05/14 'Owners' Apathy Over Waste Treatment Plant, at

33. Wikipedia, Rainwater harvesting

can ensure sustainable water management for the growing Dhaka city. Overall, there is no shortage of water sources around Dhaka city, rather rational and modern management of water resources can ensure sustainable supply of water for Dhaka city dwellers.

Increasing Dependency on Surface Water

Recently DWASA has undertaken project for surface water treatment plants to be completed by 2021. The projects include Saidabad Phase II and III, Pagla and Khilkhet projects with the cost of USD1.8 billion.[34] These four treatment plants would use the water drawing from upstream and less polluted area of rivers Padma and Shitalakkhaya/Meghna at a distance of 27 and 34 Km respectively.[35] The project of Saidabad Phase II has already been in operation by groundwater and awaiting for surface water from Meghna. On the other hand, surface water for Pagla project from Padma is now under long technical study. The recent feasibility study for water treatment project of Sayedabad phase III revealed the alarming facts that, water of Shitalakkhya (initial plan), may no longer be treatable because of developing industrial contamination.[36] The alternate option remains open as the river Meghna which would be far expansive because of greater distance. WASA is now restudying both the options. Despite higher cost, it would be wiser to bring water from Meghna river considering sustainability.

Increased Operational Efficiency

DWASA presently has four water treatment plants, 675 deep tube wells and 3,036 km length of water lines by which it has the ability to cover 93% population under water coverage network. Though DWASA is a public service enterprise but stands to operate on commercial footing, means self sustained agenda. It has successfully brought down the operating ratio from 0.90 to 0.70 during the turnaround period. At present the operating ratio has further come down to around 0.70 which is a significant achievement. DWASA has undertaken project of total US$1.8 billion for switching from ground to surface water dependency.[37]

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34. Interview with Md Ataur Rahman, Joint Secretary, Deputy MD (Admn), DWAS on February 21, 2015
35. Interview with Mr David M Khan, P.E. CFM, Senior Specialist, Water Research Planning Division, Institute of Water Modelling,H-496, Rd-32, New DOHS, Mohakhali on April 19, 2015
36. Dhaka Tribune, Dated May 05, 2015
37. Khan, A Taqsem, DWASA : Performance and Challenges, p10

Bifurcation of DCC for Better Services

The government on 29 November 2011 dissolved the Dhaka City Corporation by the Local Government (City Corporation) Amendment Bill 2011 passed by the Parliament of Bangladesh on November 23. Accordingly the DCC was split into two corporations, DCC North and DCC South, with the southern wing holding more territory than the north. Each corporation has a self-governing entity, thus giving the city of Dhaka two mayors. The government believes that, bifurcation would ensure better quality of civic services including water, sewerage, drainage, waste clearing etc to the citizens of the city.

DCC Election for Empowering Mayors

Dhaka municipal election was suspended for nearly three years instead the GoB appointed Additional Secretaries as CEOs of DCC to run the routine administration. However, despite criticism of election credibility, there have been now two public representatives in DCC (North) and DCC (South) offices. They have also been given the status of State Minister and a handful budget is allotted immediately for some new development works in respective area. Their offices are now quite active and likely to make some positive improvements in better water management in collaboration with DWASA.

RECOMMENDATIONS

For the sustainable fresh water supply at the capital city, following recommendations are made:

a. Water has to be officially considered as scarce, valuable and vital element of people's essential need, accordingly aware them about their right.

b. The water management at the capital has to be undertaken with due priority, under a master plan as sustainable programme by integrating all stake holders like RAJUK, PWD, DCC, DWASA, DMDP etc.

c. DWASA must be fully dependent on use of surface water so as to maintain the balanced ground water table (Equal annual recharge).

d. Preserve and create artificial reservoirs/catchment points, wet lands, lakes and ponds in-and-around Dhaka city to hold rain/flood water and use that surface water after necessary treatment.

e. Vigorously observe International Water Day (March 22) every year in the offices, residences and educational institutions for judicious use of water and to reduce wastage. A chapter on water issue may be introduced in the school syllabus of environmental science subject.

f. Utilize government's land as well as acquire/lease/purchase low lands to use as water reservoirs/water bodies either for treatment or to recharge aquifers. Re excavate existing water bodies as needed.

g. Recover natural drains and canals from illegal occupation under a pilot project; assistance of Army Engineering Corps may be sought.

h. Modernize waste management through scientific methods; recycling, converting to composite fertilizer, reverse treatment etc are to be prioritized.

j. Production, marketing and use of plastic and polythene bags must be officially band in Bangladesh considering its poor decompose quality which restricts water infiltration to aquifers.

k. Introduce and enforce law for mandatory rainwater harvesting system for all major constructions including its full compliance for government buildings.

l. Make mandatory provision of minimum 5-10% land to be converted as water bodies within land development projects of private and government urbanization agencies.

m. Establish exclusive chemical processing zones similar to export processing zones to reduce indiscriminate water pollution in and around Dhaka city.

n. Enforce 100% compliance of establishing Effluent Treatment Plants for different water polluting factories.

p. Enforce law against indiscriminate earth filling by land developers, specially to preserve the designated wet lands, natural canals and rivers banks.

CONCLUSION

After Dhaka has been established as the capital of Bangladesh, its population is increased in manifolds standing now over 15 millions. The population of Dhaka city is still increasing at a faster rate, specially due to internal migration and fortunate seekers arrival. The demand of supply water is also increasing at a parallel rate. But the production and supply of fresh water could not be kept at pace with the demand, specially during the hot and dry season. Because of the pollution, DWASA is unable to treat surface water from nearby surrounding rivers

like Buriganga, Turag, Balu or Shitalkha. Therefore, DWASA remained dependent on groundwater extracting 78% of its total water supply, and only rest 18% comes from surface source of water. Due to excessive withdrawal, the decline of ground water level of upper aquifer by 8-10 ft every year, and the pollution of river water, are threatening the production of required water for the dwellers of Dhaka city. In addition to excessive abstraction, the other causes of decline of ground water level is insufficient recharge due to illegal filling of wetlands, low lying areas, canals and river banks. The main causes of pollution of river are industrial pollution and inadequate sewerage treatment capacity of Dhaka city. The solid waste and the plastic material disposal at the rivers surrounding Dhaka are severely hampering the recharge of aquifers, threatening the sustainable water supply.

DWASA has taken a turn around project in hand with few development actions, some of which have already started giving the dividends. But it's turning to surface water projects are going too slow and some technical and financial impediments are threatening the implementation of the project. On the other hand, DWASAs project of shifting extraction of ground water from Dhaka to Savar and Singair, may be a temporary relief to its central aquifers, but questions remain how far it will be sustainable and/or what will be side effect to continue relying on ground water and from so nearby aquifers?

During last 50 years, Dhaka city has experienced significant urban growth and the city had excellent natural drainage system even 40 years ago. After the devastating flood of 1998, the government realized the exigency of the problem and undertook Dhaka city flood protection project with high priority. Accordingly, the western embankment (Mirpur-Tongi Beribadh) is constructed and the western Dhaka city is positively relieved from moderate flood; but unfortunately, the construction of Dhaka city eastern embankment (Demra-Tongi Beribadh) has not yet been prioritized by the government causing frequent flood in east Dhaka.

As development of any one sector would not solve the problem of water management in totality, there is a need to have an integrated master plan for water supply, sewerage disposal and storm-water drainage. The above plan needs to be integrated with DMDP of RAJUK to keep pace with the city development. The water short fall is likely to continue further and lead to a continued crisis in future urban life of Dhaka city dwellers unless multiple stern actions are implemented under the master plan.

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Author

Group Captain M Yousuf Ali was commissioned in Bangladesh Air Force on December 30, 1985. He subsequently underwent all essential career courses including Flying Instructor course. He has a long career of flying instructor duties at BAF Academy and in two fighter squadrons. He is a graduate of DSCSC, Mirpur. He also has been trained from Pakistan and Turkey. He held various staff, command and instructional appointments in his long career. He commanded a BAF fighter Squadron and three wings of BAF Bases and officers training school. He served in inter service level at AFD and DSCSC. He participated in UN mission as UNMO and Contingent Commanders. His hobbies include map reading, sports & games, listening songs and reading.

PERFORMANCE APPRAISAL SYSTEM AND CAPACITY BUILDING: A CASE STUDY OF BANGLADESH CIVIL SERVICES

Joint Secretary (Now Additional Secretary) Abu Taz Md Zakir Hossain, ndc

INTRODUCTION

The efficiency of civil service is the first and foremost condition to fulfill reasonable aspirations of the citizens of Bangladesh. Sound management of civil service is a top priority for ensuring good governance and enhances development. But the civil service of Bangladesh is still revolving around its traditional virtues; modern HRM techniques like competence based human resource development, competence-based appraisal and mentoring system are not entirely specified.

Each employee is entitled to a thoughtful and careful appraisal. Performance appraisal provides a way to help identify areas for performance enhancement and to help promote professional growth (Manasa, K. & Reddy, N. (2009).On the other hand, ineffective appraisal system can bring many problems including low morale, decreased productivity and enthusiasm of employees and support for the organization (Somerick, 1993).

At present, performance of the officers of BCS is evaluated by their superiors through a system known as Annual Confidential Report (ACR). It is the only process through which ability and productivity of a civil servant is judged in the service. Candidates are not allowed to see their ACR, leaving them in the dark without the opportunity to understand and improve their limitations. Therefore, it is criticized for very subjective, not competence based and not being logical. There is no incentive package that encourages initiative and award excellence. Training is neither linked to career planning, nor related to other dimensions of personnel management. Many studies have revealed that illogical promotion, rampant transfer and posting, politicization, no scope for innovation, no recognition/ punishment, no career planning create dissatisfaction and de-motivation among the civil servants and that affect their efficiency and efficacy.

A major restructuring and qualitative change in BCS is a crucial need of time. Introduction of PAS can develop the capacity of BCS and transmit a positive change for meeting the challenges of the 21st century administration as well as ensure

good governance through implementation of national vision 2021.Therefore, the purpose of the study was to recommend practical measures on the way to design, develop and introduce an effective PAS for capacity building of BCS.

BANGLADESH CIVIL SERVICE AND ITS CAPACITY BUILDING

Overview of BCS

After the independence of Bangladesh in 1971, Central Superior Services of Pakistan has been accredited as Bangladesh Civil Service (BCS). The BCS is structured horizontally into four classes. Class 1 officers are also classified as cadre and non-cadre. At present, BCS has 28 cadres and all members of the cadre services are class I officers. About 70% of class 1 officers are recruited as cadres; whilst the rest work in functional areas that are not in cadres. More than 1.29 million employees including cadre officials are working in 65 divisions under 44 ministries and its attached departments and field offices.

Bangladesh has a unitary form of government and it has a two-tier administrative system. The upper tier is the central secretariat at the national level consisting of the ministries and divisions to provide policies and to perform clearinghouse functions. The other tier consists of line departments/directorates attached to each ministry/division, which determine the blueprint for implementing various decisions taken by the ministry/division; and field level offices that are mainly responsible for general administration, service delivery to citizens and implementation of various government development programs at the sub-national level (Ahmed, 2002: 327).

The ministry, under the charge of a minister, consists of at least one division. A secretary as the administrative head of the ministry looks after the duties of a division, which includes routine business, supervision of its staffing and organizational processes. S/he is also the adviser to the minister (Zafarullah, 1998: 83-87; Jahan: 2006). A division can further be divided into wings, wings into branches and branch into sections. The head of a wing is a joint secretary or in some cases additional secretary who supervises the activities of the branches within his wing. Each branch is under the charge of a deputy secretary. Section is the basic working unit of a division and headed by an assistant secretary or senior assistant secretary, who disposes all cases based on clear precedents. Below the level of assistant secretary there are a considerable number of office personnel.

For the convenience of administration, the country is alienated into seven Administrative Divisions[1]: (Dhaka, Chittagong, Khulna, Rajshahi, Barisal Sylhet and Rangpur), 64 districts[2], and 482 upazilas. The Divisional Commissioner as the head of the divisional administration plays a supervisory role over all the departments and agencies operational in the division as well as coordinates the functions of the district administration under the division.

The District has been the focal point in the administrative system of Bangladesh. Various government departments or agencies have their own offices in the district level through which government policies or projects are implemented. The head of the district administration is known as the Deputy Commissioner (DC). Each district is further divided into sub-districts or upazilas, with the latter being the lowest level of administrative management. Below the level of upazila, there are rural micro areas known as Unions and each union is divided as ward or Villages.

Upazila administration is headed by a civil servant designated as Upazila Nirbahi Officer (UNO) having the rank of Senior Assistant Secretary and serves as the Chief Executive Officer representing the central government. Several functional departments of the central government have offices at upazila headquarters. These representatives are appointed and controlled directly by the higher authorities of their respective departments at the national headquarters.

Capacity Building and its Importance for BCS

The compound word 'capacity building' entails the ability to identify and analyze problems, make rational choices, formulate solutions, and implement actions designed to achieve set objectives (World Bank, 1996). Michelle Maiese (2005) viewed that in the most general terms, capacity consists of a party's ability to solve its problems and achieve its objectives. Capacity building aims to strengthen parties' ability to work together for their mutual benefit by providing them with the skills and tools they need to define problems and issues and formulate solutions. Ani (1997) compared capacity building to the supply side of an equation while capacity utilization represent the demand side, and pointed out that both must be seen as equally important element in the overall development process.

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1. Division is the highest tier in field administration in Bangladesh and is headed by a commissioner who belongs to the administration cadre and a rank of joint secretary.
2. The district is the second upper tier of field administration from the top, headed by a Deputy Commissioner (popularly known as DC) who belongs to the administration cadre of Bangladesh Civil Service and is entitled to have a rank of Deputy Secretary of the government.

Civil services of Bangladesh conduct policies, regulate the economy, supplies critical public goods and deliver services. Its effectiveness is crucial to the development of Bangladesh. As an institution, capacity of BCS is often used as shorthand for administrative and management aptitude, particularly with respect to implementing economic policies. Theobjectives of preparation and implementation of Annual Development Program (ADP) are accelerating economic growth, reducing poverty and generating employment. Poor implementation of ADP leads to lower growth rate with limited scope for employment generation. Since allocation, implementation, monitoring and evaluation of any ADP of the national government are the responsibility of the civil services; therefore, capacities developments of BCS are utmost important intended for implementation of government policies, regulate the economy, supplies critical public goods and deliver services to the citizens.

Factors Relating to Capacity Building

Capacity development is considered an endogenous dynamic process that relies on one's motivation, effort, and perseverance to learn and progress (Lopes and Theisohn, 2003) which enables organizations to change, flourish and grow. New skills, competencies, and training are important features to be acquired in an organization for capacity development; material resources such as equipment and capital assets are also imperative for this purpose (Fowler and Ubels, 2010).

Training and workshop are usually indispensable for building human capacities at an awareness raising level. Motivation on the other hand depends greatly on the person's attitude and principles, as well as the behavior and beliefs of the people who are interacting with him/her (Analoui, 1997; Newell, 2006). The task culture is mostly incorporated in modern management organizations which sponsor change and adaptation. Professionalism, respect and good relationships flourish this type of culture (Handy, 1999). Effective supervision and monitoring, communication, identifying weakness and mentoring for improvement from the senior to subordinates can promote knowledge sharing, organizational learning, and effective capacity building. Continuous feedback and performance appraisal by senior managers are important for the employees' performance enhancement and motivation (Keegan and Den Hartog, 2004).

Reward systems ensure the accomplishment of fundamental Human Resource Management (HRM) goals such as commitment and quality, and aim at creating high performance organizational cultures (Armstrong, 2010). Capacity

development and its impacts should be assessed continuously in an organization, so that existing gaps could be filled to ensure constant progress. Disregarding capacity building programs would probably lead to lack of growth and possible failure.

Scope and Manner of Capacity Building

The UNDP outlines that capacity building takes place at three different levels: (i) the individual level, (ii) the organizational level and (iii) the systemic/societal level. Individuals, as the components of organizations and societies, represent the first layer of capacity. For societies and organizations to transform and grow, they need individuals with skills, knowledge and experience.

At the individual level capacity development takes place through demand-driven processes of learning and knowledge attainment and sharing, participation and practicing, learning initiatives, on-the-job training, mentoring and coaching and other learning techniques that empower and place the individual in a central and active position. Sharing of skills, knowledge, experience and values amongst individuals belonging to the organization ultimately transforms into the organization's capacity that consisting of procedures, systems, policies and culture.

These three different levels of capacity development are equally important and strictly interdependent. Capacity development interventions at one level are likely to have an impact on other levels as well. The core cross-cutting capacities to dialogue and negotiate, to plan and design, to manage and implement, to monitor and evaluate are linked to the innovative and extended responses required in matching the complex development realities.

PERFORMANCE APPRAISAL SYSTEM (PAS) IN BANGLADESH

Performance management is a process by which managers and employees work together to plan, monitor and review employees' work objectives and overall contribution to the organization. The process of performance management starts with the joining of a new incumbent in a system and ends when an employee quits the organization. The term performance appraisal has been synonymous with performance management, performance review and performance evaluation. Performance appraisal is used as a means of establishing future goals, monitoring employees' progress based on specified job description, and measuring

performance, teamwork and achievements that can be linked with organizational goals and objectives. Furthermore, performance appraisal is used to formally determine employees' effectiveness and contribution (Ikramullah et al, 2011).

Performance evaluation of BCS officers is carried out through ACR is a prescribed form, which contain some factors of personal attributes and functional efficiencies. For rating the attributes the required parameters or indicators are not documented properly. ACR is classified as confidential and important record which is required to be consulted for promotion, to clear efficiency baretc.ACR is to be countersigned by Countersigning Officer (CSO) immediately superior to Report Initiating Officer (RIO) who writes the report on his immediate subordinate. Performance evaluation through ACR is made annually and adverse remarks if it is written by the RIO are communicated to the officer who may be affected, otherwise he has no right to see the evaluation. The latter has a right to reply to the adverse remarks. Based on the reply the head of office decides whether or not to expunge the adverse remarks[3].

Objectives of Performance Appraisal

The main objective of performance appraisals is to measure and improve the performance of employees and increase their future potential and value to the organization. Other objectives of PAS are mentioned below:[4]

1. Setting and measuring goals;

2. Counseling poor performers;

3. Supporting manpower planning;

4. Encouraging coaching and mentoring for performance improvement;

5. Motivating superior performance;

6. Determining individual and organizational training and development needs;

7. Providing feedback;

8. Facilitating promotion and layoff or downsizing decisions;

9. Determining compensation changes;

10. Providing legal defensibility for personnel decisions; and

11. Improving overall organizational performance.

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3. Civil service management in Bangladesh: an agenda for policy reform. AuthorA.M.M. Shawkat Ali, Published by Dhaka: Univ. Press, 2007.

4. Available at .www.whatishumanresource.com

Performance Measurement Tools

The performance management tools are organized according to the core functions of the planning and review process; jointly developing performance objectives and action plans, and scheduling of meetings to review performance and plan for the next designated period. University of California, Barkley developed a performance management toolkit. This toolkit is designed to give an overview of guidelines, tools, and resources available to support supervisors in this important aspect of people management.

Guiding Principles on Performance Measurement

1. The individual's goals should be aligned with the unit goals;
2. Ratings should be given based solely on performance;
3. Supervisors should be able to articulate to employees at all levels what it takes to achieve excellence, to accomplish major goals, and to make unique contributions worthy of the highest level ratings;
4. Goals and expectations can be modified during the evaluation period as long as they are communicated to, and discussed with, the employee in advance of the annual assessment; changes should be made in writing;
5. Performance expectations include all job outcomes:
   a. Impact of employee interactions on clients;
   b. Services and products delivered by the employee;
   c. Processes used and policies followed;
   d. Organizational values demonstrated on-the-job.

Key Performance Indicators (KPI)

KPI can be defined as providing the most important performance information that enables organizations or their stakeholders to understand whether the organization is on track or not. Whatever KPIs are selected, it must reflect the organization's goals, it must be a key to its success, and must be quantifiable. This is the same approach normally used in our daily lives. For example, when we go to our doctor he might measure our blood pressure, cholesterol levels, heart rate and our body mass index as key indicators of health.KPI always differ depending on the organization.

Performance Level or Rating Scale

Greater weight should be given to the ratings that assigned to high priority expectations. The following performance evaluation rating scale may be the standard rating scale for the performance management cycle:

Rating	Individual Goal (What)	Individual Competency (How)
Consider results against each goal or objective, assigned to the individual independently.	This scale is used to assign a rating for each competency. Assessment to be made on how this employee demonstrates each competency, as described in the target behaviors.	
Level 5 (O): Outstanding	Results exceeded all performance expectations regarding this goal.	Always demonstrated this competency at a superior level. May use as an internal expert with this competency, teaching or coaching others, in addition to serving as a role model.
Level 4 (EE): Exceeds expectations	Results exceeded most performance expectations regarding this goal.	Consistently demonstrated this competency at a high level. May have been viewed as a role model and clearly stood out among peers.
Level 3 (ME): Meets expectations	Results met all expectations regarding this goal.	Consistently demonstrated this competency at the expected level without assistance or direction from others.
Level 2 (I): Improvement needed	Results met some, but not all, expectations regarding this goal.	Inconsistently demonstrated this competency at the expected level. Sometimes required assistance or direction from others.
Level 1 (U): Unsatisfactory	Results unexpected regarding this goal.	Did not demonstrate this competency at the expected level.

To achieve consistency in assigning overall ratings, supervisor shall convert the ratings to numbers and the priorities to numeric weights and then compute the overall ratings. Supervisor should provide a key for interpreting the computed averages.

Performance Appraisal Processes

The performance is measured against KSAOs (Knowledge, Skill, Abilities and Other characteristics) such factors as job knowledge, quality and quantity of output, initiative, leadership abilities, supervision, dependability, co-operation, judgment, adaptability and health. It is essential to find out how to establish performance goal setting and performance measurement systems in the organization. Performance management is the systematic process of (1) planning work and setting expectations, (2) continually monitoring performance, (3) developing the capacity to perform, (4) periodically rating performance in a summary fashion and (5) Rewarding good performance[5].

Ronald Kartz (2001) recognized six steps approach for successful performance appraisals (use the acronym PARADE to remember it). In short PARADE approach as following:

1. Prepare to manage performance by carefully setting objectives;

2. Assess and give feedback on performance throughout the year;

3. Review all pertinent documentation before meeting with the employee;

4. Appropriate place to deliver the appraisal away from interruptions or distractions;

5. Deliver the appraisal clearly, allowing employee to respond in a dialogue; and

6. Encourage employees to do more of what they do well and improve where they can. Make them feel valued.

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5. Office of the Personnel Management of USA developed a Handbook *for Measuring Employee Performance*.

Performance Appraisal Interview

Performance appraisal interview provides the employee with a chance to defend himself or herself against poor evaluation by the manager and also gives the manager a chance to explain what s/he thinks about the employee's performance. In order for both supervisors and employees to achieve maximum benefit from the appraisal interview shall agree on action plan; specific objectives; necessary support; record main points; and opening informal performance reviews.

Feedback

To help employees perform their best, appropriatefeedback should be providedat the right time. It may benot only during the performance appraisal but also on-going and/or year-round basis. Ongoing feedback and coaching are used to communicate about and correct performance deficiencies, to reinforce appropriate behavior, to demonstrate the employee new skills, to motivate high performance, and to mentor employees so that they understand their role in the organization.[6]

Performance Rewards

Reward includes both financial and non-financial, which are also called as extrinsic and intrinsic. Financial rewards are salary increase, bonus system, incentive etc. On the other hand, non-financial rewards are promotion and title, authority and responsibility, education, appreciation and praise, certification, participation to decisions, vacation time, comfort of working place, social activities, feedback, flexible working hours, design of work, recognition, social rights etc.[7]

For charismatic and holistic rewarding the organization must understand the seven key steps to successful performance-based rewards programs (Don McDermott)[8]:

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6. UNH Performance Management Toolkit - Ongoing Feedback And Performance Management Page 2 of 6 9/07
7. Yang, H. (2008), "Efficiency Wages and Subjective Performance Pay", Economic Inquiry, 46(2), pp. 179–196.
8. This article is an excerpt of a case study that originally appeared on dgm.com and was co-authored by Thomas J. Hackett.

1. Develop clear expectations;
2. Create a clear line of sight;
3. Set achievable goals;
4. Establish a credible management system;
5. Empower employees to achieve goals;
6. Make rewards meaningful; and
7. Make payouts immediate.

These seven steps should guide every performance-based rewards program. No matter what type of plan an organization adopts, these steps must be completed and reviewed periodically to ensure that the program is achieving its objectives.

COMPARATIVE ANALYSIS ON EFFECTIVENESS OF ACR WITH PAS

The hypothesis of this study was that the existing performance evaluation system through ACR is outdated and not effective. If the ACR is replaced by PAS that will be helping for developing performance and promoting capacity building of theBCS. Based on the above assumption this study sought to find answers to the following research questions:

1. Whether the present ACRis effective for performance management in order to building capacity of BCS?

2. What are the strengths, weaknesses, opportunities and threats (SWOT) of the present ACR comparing to the proposed PAS?

3. Will the PAS be effective for meaningful management of performance with a view to capacity building of BCS in order to overall development of Bangladesh?

To obtain SMART answer of the questions the researcher collected information both from primary and secondary sources. Primary data were collected through a structured questionnaire and then processed in response to the research questions. The key stakeholders of PAS are the officers of BCS, therefore, respondents were randomly selected from the levels of Senior Assistant Secretary to Additional Secretary or equivalent status.The questionnaire was sent to 60 officers, out of which only 25 officers responded the questions. Most of the respondents were functional managers and have higher education and foreign training, but limited scope to use the training knowledge at work place.Moreover, the researcher also talked to 5 secretaries including Cabinet Secretary to know their perception about PAS.

Aimed at obtaining the answer of research question 1, six questions were designed. From the findings it is evidenced that performance evaluation through ACR is done without setting any objectives. Though, ACR contain some variables of personal attributes and functional efficiencies, but for rating the required parameters or indicators are not documented properly. Therefore,present ACRsystem is not effective in order to building capacity of BCS.On the other hand, important characteristics of modern performance appraisal are absent in this ACR system.

In respect to research question 2, SWOT analysis was done and made a Comparison of ACR with PAS. From the analysis, it is observed that ACR writing isa very easy process and less time consuming, but it is highly subjective and confidential. Communication gaps, personal biasness, lack of employees' participation are some of the negative aspects of ACR system which makes it an outdated and ineffective that does not help in employees' learning and development. On the other hand, performance appraisal helps to evaluate the actual performance of employees against the expected performance. It helps to identify the training and development needs for employees who do not meet the set standards. It recognizes and rewards potential employees and motivates them to excel further. Supervisors can identify the strengths, weaknesses, job knowledge, skills and commitment of an employee. PAS is a viable tool for establishing and maintaining open communication between supervisors and employees, and enhances employee's commitment and productivity.

For obtaining the result of research question 3, nine questions were designed. From the analysis it is observed that 84% of the respondents believe that employees want to be recognized and feel their contributions are noticed and valued. Almost all the respondents (92%) settled that performance appraisal is an analysis of an employee's recent successes and failures, personal strengths and weaknesses, and suitability for promotion or further training; 96% thought that PAS is a tool that can assess and suggest improvements in employee's productivity. Almost all (80%) respondents thought that PAS is needed to take smart decisions regarding salary increases, promotions, demotions, terminations, and transfers as well as increasing the performance of the employee. Practically, all (88%) the respondents thought that PAS is important for organizations, as it mainly focuses on employees to develop their capabilities; 92% believed that giving more responsibility and increasing the authorization for employees are effective to increase their performance. Moreover, 68% respondents believed that PAS is essential for capacity building, and 96% said that challenging or new work

assignments are another mechanism that can provide employee's opportunities to develop new skills, expand their knowledge, and/or increase their visibility within the organization. Therefore, the hypothesis of the study is proved.

What to be done for Capacity Building of BCS through PAS?

With a view to overall capacity building every organization must establish a separate administrative unit with representation from expert of all major units. The unit shall analyze the organization's needs and culture, and recommend transition steps. For that to happen following approaches shall be considered:

a. **Development of a program:** Whereby supervisors and employees negotiate individual written work contracts and suggest frequent reviews and discussions throughout the year focusing on-

1. what efforts and actions the employee is undertaking to fulfill the agreement,

2. what difficulties the employee is encountering,

3. how the supervisor can assist the employeeso that the employee can be more effective in accomplishing the agreement, and

4. clarifying what actions the employee plans to undertake in the near future.

b. **Establishment of separate administrative systems:** For efficient operation of performance appraisal system every ministry/division shall establish a separate Human Resources Management (HRM) wing. Each ministry/division shall also take steps to establish separate HRM unit in each office subordinate to them so that every organization shall follow the same techniques for efficient management of PAS, which can be further developed and made effective in the following ways:

1. Clarifying organizational goals, objectives, and degrees of achievement (numerically where possible), along with individual accomplishments.

2. Building an organizational culture of openness, honesty, and impartiality to facilitate good communication.

3. Ongoing training of supervisors and employees for development of coaching, listening, and communication skills.

4. Praise and recognition from supervisors, verbally and/or in writing for their specific contributions.

5. In considering challenging new work assignments, supervisors should consult employees about the types of assignments that would be most valued.

6. When evaluating performance, always consider the impact of their accomplishments. If performance is going worse coaching can help increase profitability and productivity, improve morale, increase employee engagement, and enhance team working.

7. Motivations could include preparing for a new role, improving self-esteem, managing stress, finding a better work-life balance, improving relationships, or simply wanting to take development to the next level.

8. Supervisors shall assess needs, strength and weakness of their subordinate and arrange to provide supports for expanding their skills, knowledge, and develop professionalism.

9. Individual special recognition for outstanding achievements and accomplishments should be separately documented for feedback and promote essential motivation.

10. Promotion should be based on solely multiple judgments of the requirements (skills, knowledge, attitudes, culture) of the position.

11. Authority may award recreation leave for a certain period, or performance bonus as a one-time reward in recognition of meritorious job performance.

12. Situational factors may not be the poor performance. Competent people may not perform well due to erroneous jobs or organizational setting. If the organization feels that the employee is not sincere to his duties despite valid and repeated supports provided for training and improvement, in this case disciplinary action shall be considered.

(c) Focus should be given on the system: Engagement of employees in a collaborative network focusing on improving the systems of production can bring desired outcome. Major efficiencies and production activated primarily through systems improvements, where everybody wins.

RECOMMENDATIONS

Engagement of employees in a collaborative network focusing on improving the systems of production can bring desired outcome. A transparent PAS can bring positive impact in the development processes and ensure good governance

in line with the expectation of the Vision 2021. Therefore, for instituting a capable and efficient civil service thegovernment may consider the following recommendations:

1. The Government of Bangladesh shall promote strategic goals of each ministry/division/organization and link the performance of individuals with the goals of Vision 2021;

2. The Ministry of Public Administration (MoPA) shall incorporates all information regarding education, training, skill, existing capacities and performances of the BCS officers into database so that posting, training and promotion will be considered on the basis of the information;

3. For development of professionalism of the officers MoPA can take initiatives intended for grouping the ministries and associated bodies into various clusters considering primary nature of business. An officer, in any capacity, will serve in each cluster at least for two years and should not be allowed to remain without assignment for more than six months. Within this period, the core competences of the officer would be identified considering education attainments and discipline of studies, performance of the previous and ongoing jobs, performance in required training programs, etc.and thentheir subsequent career would be cherished in that cluster;

4. The Ministry of Public Administration (MoPA) shall introduce PASthroughout the BCS and that PAS shall be effectively related with training,transfer, placement, promotion, rewards (both financial and non-financial) and punishments;

5. MoPA shall make arrangements for establishment a separate HRM wing in every ministry/division. Each ministry/division shall also take steps to establish separate HRM unit of their subordinate departments and field level offices so that every organization shall follow the same techniques for efficient management of PAS.

6. MoPA shall arrange training program to provide training to the officers for efficient exercise of PAS. ToT may simplify the purposes and reduce the costs of the training programs.

7. To avoid any complexity piloting of PAS for one year in every organization may be encouraged.

CONCLUSION

The necessity of capable and efficient civil service is a top priority for Bangladesh in ensuring good governance and enhances development. But the realities are that modern techniquesof HRM like competencebased appraisal, performance based reward or punishment; need based training for capacity development, placement and posting for developing professionalism, and mentoring system are not exclusively identified. Although at present, performance evaluation of BCS officers is carried out through a prescribed form known as ACR and it is the only process through which civil servants ability and productivity is judged in the service. Candidates are not allowed to see their ACR written by superior asRIO and CSO, leaving them ambiguous and without the opportunity to understand and improve their limitations.

ACR is believed to be very subjective and not performance based, as a result it is widely criticized for not being very logical. For rating the attributes, required parameters or indicators are not documented properly, consequentlyevaluation is done based on the choices of RIO and CSO. There is no incentive package at present in place that encourages initiative and award excellence. Training is neither linked to appropriate posting for developing professionalism, nor related to other dimensions of personnel management. Hence, discontent among officers prevails due to imprudent decision in placement, non-existence of any predictable mechanism for future postings and promotions. This trend poses a great threat to capacity development of BCS that resulted in poor service delivery as well as creates impairment for overall development.

The hypothesis of the study was that the existing performance evaluation system through ACR is outdated and not effective. If the ACR is replaced by the PAS, that will help in developing performance and promoting capacity building of the BCS officials. To test the hypothesis the researcher has set three questions and to obtain SMART answers of the questions the researcher collected information both from primary and secondary sources.From the findings, the hypothesis of the study is proved.

From this research it is concluded that ACR as a tool of performance management is now outdated and ineffective. To perform well, officials need to be confident about their future, certainly to the point that they can see the relationship between their efforts and eventual outcome. The institutional environment within which they are working can shape these expectations. If the rules and systems

are not credible, with little prospect of enforcement, if they think policies are contradicted, then they cannot envision any relationship between their effort and organizational performance.

In order to keep effective processes on track, the government shall safeguard activities that are productive. For that to happen, importance should be positioned on overall performance management issues so that eligible candidates can be recruited, developed, retained and rewarded. The performance appraisal system helps both the employees and the organization in increasing their productivity. Once the employees realized that they are satisfied with their job, they will engage themselves towards the work until they find targeted ending. As a result they will be motivated and more capable eventually perform promising in delivering services.

Concurrently, throughout the HRM systems, focus should be given more on integrity, capacity and sincerity. If these approaches are taken, the HRM system in Bangladesh will adjust in positive direction in order to ensure good governance, which is a precondition for overall development.

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Author

Joint Secretary (Now Additional Secretary) Abu Taz Md. Zakir Hossain is a Course Member of NDC-2015. He was born on 01 January 1960. He joined in Bangladesh Civil Service Administration cadre in 15 February 1988. Before joining in NDC 2015 he was working as Joint Secretary in the Ministry of Primary and Mass Education, as Deputy Secretary in the same ministry and in the Ministry of Public Administration, and Economic Relations Division under Ministry of Finance. He also worked as Senior Assistant Secretary in the Ministry of Women and Children Affairs. In the Field Administration he worked as Additional Deputy Commissioner, Tangail; Upazilla Nirbahi Officer, Tanore, Rajshahi; Metropolitan Magistrate, Dhaka, Revenue Deputy Collector, Bogra, Senior Assistant Commissioner Rajshahi and Dinajpur Collectorate. He was Upazilla Magistrate, Kaharole and Birganj upazilla under Dinajpur district. He was also Nezarat Deputy Collector and Assistant Commissioner in Narail district.

He attended number of courses at home and abroad. His foreign course includes MATT-2 Stage-1 and Stage-2, Education Administration and Finance, Middle Manager's Course and Strengthening of Administrative Course held in Singapore, UK, Japan, South Korea, Thailand and Malaysia. He obtained another Master Degree namely Master of Public Affairs (International Economic Relations) from Civil Service College, Dhaka under Dhaka University. .Joint Secretary Zakir Hossain is a proud father of 3 (three) sons, two of which already graduated from Engineering University and another one is a student of Engineering University. His wife Mrs Tahmina Sultana is a teacher of a private secondary school. Joint Secretary Zakir is an author of two law books. He wrote number of articles. His hobby is playing football, volleyball, and watching documentary, travelling and listening to music.

NETWORK CENTRIC WARFARE: A PERSPECTIVE AND ITS STATUS IN SOUTH ASIAN MILITARIES

Air Commodore Surat Singh, AVSM, VM, VSM, F(P), ndc

INTRODUCTION

War is a product of its age. The tools and tactics of how we fight have always evolved along with technology. We are poised to continue this trend. Warfare in the Information Age will inevitably embody the characteristics that distinguish this age from previous ones. These characteristics affect the capabilities that are brought to battle as well as the nature of the environment in which conflicts occur.

Last decade of 20th century saw a major change in the way we communicated, IT (Information Technology), which spearheaded the Information Revolution, made it possible to communicate faster, easier and over large spectrum. This virtual world also impacted the Militaries and the IT related RMA revolutionised the way war was planned, organized, executed and managed. These developments further moved on during the first decade of 21st century. Today it is not possible to even imagine undertaking, peace time small scale, operations without solid backing by the IT support services. Yes, NCW, (Network Centric Warfare) is the future of any Operations whether it is War or OOTW (Operations Other Than War). Developments in technologies have brought revolutionary changes in the conduct of warfare. With the worldwide expansion of IT, the military warfare is now digitized particularly in the command, control and decision making. The challenges of military commanders are as complex and demanding as ever. Speed and flexibility of response are of increasing importance and the range of activity, security forces are expected to undertake is ever expanding. At the same time the range of technology available to support the commanders is also increasing. All commanders desire to connect each individual soldier on the frontline with the command area on a real time basis. It is in this context that armed forces need to be networked not only at higher levels but also in the battle field. To support operation of this kind, the new dimension of warfare, NCW, has evolved.

Technology has introduced radical changes in the composition and structure of the modern day battlefield and has had a profound impact on the nature and conduct of modern warfare. A look at the sophisticated gadgetry and the automated battle space today gives us the feeling of going through the pages of a

space fiction novel or the "Star Wars" scenario of the yester years. Thus, it would not be wrong to say that contemporary technology has been the key contributor towards the ongoing Revolution in Military Affairs and the main force driving the dynamics of modern warfare. This new dimension of warfare has given rise to various theories and concepts of war fighting aimed at exploiting the capabilities of the contemporary sophisticated technology. NCW is one such Concept which aims to establish the centrality of technology driven networks as compared to the erstwhile weapon platforms. This has found universal applicability and acceptance and is equally relevant in the South Asian context.

NCW is a concept which derives its strength from seamless flow and exploitation of information by geographically dispersed entities and their ability to produce massed effects at the points of decision to create a definitive war winning edge for a fully or even partially networked force. However, as we introduce more sophisticated equipment and lethal weapon systems into the battlefield milieu and evolve new doctrines and strategies to deal with the NCW phenomenon, we should not lose sight of the fact that technology alone is no guarantee to success – it has to be backed up with equally adaptive and responsive leadership, force structures and procedures. Therefore, the full potential of the transformation will only be realised once it is wholesome and complete.

NCW is a logical by product of the information age. It is the new military doctrine or theory of war pioneered by the United States Department of Defense. United Kingdom used Network Enabled Capability (NEC) for similar doctrine. In Sweden, this was translated as Network Based Defense. It can be broadly described as deriving power from the rapid and robust networking of well-informed, geographically dispersed war fighters. At the most fundamental level networking aims to accelerate engagement cycles and operational tempo at all levels of a war fighting system. In a very simple term NCW can be explained as a means of quick flow of information that assist in making a faster decision to execute a mission. A high speed network permits error free transmission in a fraction of the time required for voice transmission, and permits transfer of a wide range of data formats.

In modern warfare none of the battles can be successfully fought by single service in isolation. The planning and conduct of campaigns and major operations will involve all the services to take part as a cohesive single entity. There is a need to integrate the planning and prosecution of operations during war. NCW is an emerging solution to do this in a better way. It needs lots of infrastructural development to fulfill its requirement. In the developed countries, NCW is based

on sensors, satellite and modern communication equipment. Many countries in South Asia, eg. India, Pakistan and China have introduced NCW to enhance overall military capabilities. Present economical, COTS (Commercially off the Shelf) Information Technology (IT) systems and communication equipment are able to make this technology accessible to the Militaries of this region.

The Fog of war has always been a great constraint to commanders in decision making. This phenomenon has existed throughout the evolution of warfare. Many military philosophers have suggested numerous ways to ease the fog of war, thus helping commanders to take the most appropriate decision at the appropriate time. Great military thinkers, such as Sun Tzu and Carl von Clausewitz, brought to light the requirement of taking bold decision in winning any war. Many mechanisms have been introduced since then and evaluated, tested; some were negated and some have rolled on through the history of warfare. It is felt that the most appropriate mechanism to be adopted till date is the Decision Making Process (DMP). DMP is a dynamic and logical way of solving problems of military significance. It is considered the single most established and proven analytical process.

The Process of Information Processing in NCW Decision loop
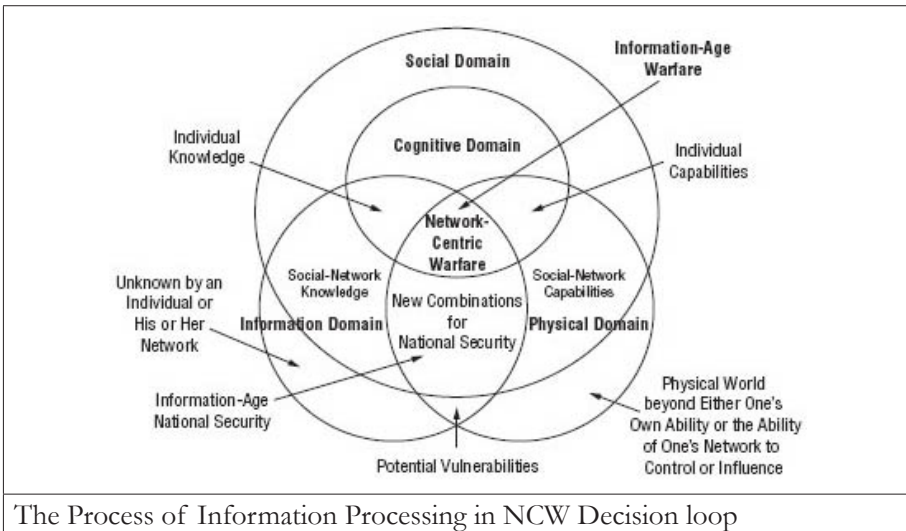
Still, the DMP is a time consuming affair and needs accurate inputs for the resulting decisions to be of some value. As military decisions are time bound in their relevance, the time factor becomes one of the most important factors affecting such decisions. Superior technology is a significant advantage that can change the total outcome of a battle, as war always demands the use of

the most sophisticated technological skills. Advances in telecommunication technology have contributed to the swift transmission of information. Network Centric Warfare (NCW) is the best term developed to date to describe the way to organize to fight in today's Information Age. Introduction of satellite technology and subsequently the Remote Sensing (RS) phenomenon has swiftly taken the battlefield into precision accuracy.

But the prime question is "What are the options open for Militaries of South Asian region to adopt the concept of NCW?" In view of obtaining suitable answer, this paper has emphasized on the exploration of the existing status of NCW capabilities of regional Armed Forces. While doing so at first, endeavor will be made to introduce the concept of NCW briefly and the prospect of NCW in the Militaries of South Asia will be analyzed. At the end, the paper has put forward few recommendations on NCW in Armed Forces perspective. The research was conducted as an 'Exploratory Study', which examined NCW- as a new phenomenon from Armed Forces perspective. The research is the outcome of consulting a number of secondary sources of information and personal knowledge and experience on the subject.

EVOLUTION OF NCW AS A MILITARY CAPABILITY
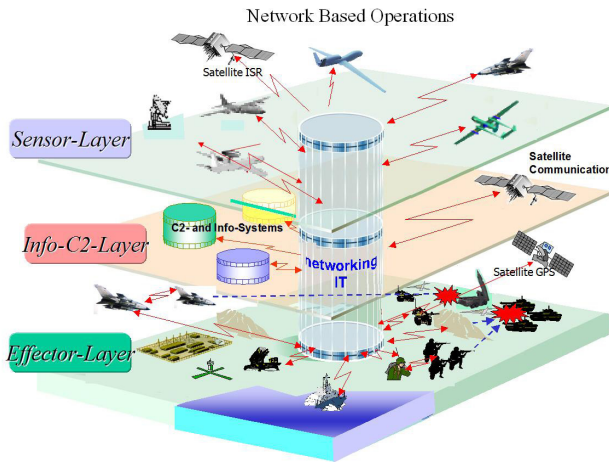
The Revolution in Military Affairs (RMA) moves by ideas of military thinkers and on the wheels of Technology, Doctrine and Organisation, however, the main support structure, which gives it the predominant strength, is undoubtedly the technology. The changing concepts of warfare are driven by the available

technology of the times. While sophisticated weapons and sensors have greatly enhanced combat potential and efficiency, developments in Information and Communication Technology (lCT) have enabled greater connectivity and information sharing among widely spread force components. The concept of networking in business enterprises has found an equivalent in warfare and what is now referred to as 'Network Centric Warfare (NCW). NCW rests on the premise that the power of a force grows proportionate to the extent of networking among the weapons, sensors and the command and control (C2) elements, quite akin to Metcalfs Law, which is applicable to any network. NCW not only enhances situational awareness, but drastically reduces the time for decision-making at higher levels of command.

In view of the changing battlefield environment, modern warfare is characterized by rapid mobility, efficient command and control apparatus and joint man-ship. Threat from weapons of mass destruction and precision guided weapons makes it imperative to have an increased stress on surveillance. Information and electronic warfare, transfer and exchange of digitized maps and terrain features are also of equal importance. The operational and conceptual base line for effective conduct of integrated operations in the future battlefield milieu, therefore, will demand enhanced situational awareness at all levels and the capability to react on information faster than the enemy. Rapid processing and transfer of information would be an absolute requirement to synchronise direct and indirect fires i.e. effective control of weapon systems; both strategic and tactical. The key component of the future battlefield milieu will be an accurate or near accurate battlefield visualization by commanders at all levels, from the lowest to the highest. Digital communication and info technology will enable commanders to visualize the operations, analyze and formulate the potential courses of action, develop and communicate their intent, and monitor the operations to ensure conformance.

Communication is all pervasive and is a decisive factor in planning and executing any military operation. These are absolutely essential to exercise effective command and control and to support both the force multipliers and IT applications. Communication by themselves, are a potent force multiplier and perhaps least expensive. The rapid technological convergence between communication, computers and the media due to digitization, has added a new dimension both to the exploitation of communication technology and management of facilities. *"Communications have to be network centric, special multimedia applications and provide global connectivity and numerous value added services"*. This will bring in the much needed

synergy between various resources at the disposal of a commander and facilitate their optimum and timely application/exploitation.

Network Centric Warfare is the product of convergence of computers and communications. NCW is information superiority enabled, concept of operations, that generates enhanced combat power by networking the sensors, shooters, decision makers and soldiers in the field. Thereby we translate the information superiority and assurance into the combat power. The concept of NCW is premised on three hypotheses:

(a) Information sharing promotes shared awareness across the networked force,

(b) Shared awareness improves collaboration and synchronization,

(c) Improved synchronization yields greater mission effectiveness, due to:

    (i)   A Greater Speed of Command

    (ii) Resource Sharing

    (iii) Increased Lethality, Survivability and Responsiveness.

Networking of sensors, shooters and decision makers will thus be able to generate increased combat power by better synchronized effects in the battle space, achieving greater speed of command and by increasing lethality and responsiveness. Structurally, the network centric warfare involves an operational architecture with three critical elements:

    (a) Network Grid for Sensors (Sensor Grid)
    (b) Network Grid for Shooters (Engagement Grid)
    (c) Command and Control Grid (C2 Grid)

Defining NCW

A US Department of Defense release in 2005, entitled 'The Implementation of Network- Centric Warfare', defined NCW as "the combination of emerging tactics, techniques and procedures that a fully or even partially networked force can employ to create a decisive war-fighting advantage." The document highlighted three characteristics:

    (a) NCW is first of all about human behavior as opposed to information technology. The focus is on the verb 'to network' rather than on the noun 'network', which is just an enabler;

(b) NCW is a concept that, at the highest level, constitutes the military's response to the information age;

(c) NCW is an emerging theory of war because it identifies new sources of power (information sharing, information access, speed), how those sources relate to each other, how they are brought to bear to achieve the desired outcome, and how they link to political objectives.

NCW is an information superiority-enabled concept of operations that generates increased combat power by networking sensors, decision makers, and shooters. It focuses on the tactical and operational level of warfare, but they impact all levels of military activity from the tactical to the strategic. At operation level it provides commanders with the capability to generate precise warfighting effects. In brief, NCW is not narrowly about technology, but broadly about an emerging military response to the Information Age. It is the emerging theory of war for information age. NCW is often associated with advanced command and control systems, information technology and superiority and computer networking. This is achieved by providing a mechanism to rapidly gather and distribute targeting information, and rapidly issue directives.

The term network-centric warfare provides a useful shorthand for describing a broad class of approach to military operations that are enabled by networking of the force. "Networking the Force" entails much more than providing connectivity among force components. It involves the development of distributed collaboration processes designed to ensure that all pertinent available information is shared and that all appropriate assets can be brought to bear by the enemy by employing dominant manoeuvre, precision engagement, full-dimensional protection, and focused logistics. Network Centric Warfare takes place simultaneously in various Domains of the existing war fighting environment. These domains are as given below:

(a) **Physical Domain.** Physical domain is the traditional domain of warfare. It is the domain where physical platforms and the communication networks that physically connect them reside. All elements of the force are robustly networked achieving secure and seamless connectivity. The elements of this domain are the easiest to measure, and the important metrics for measuring combat power in this domain are lethality and survivability.

(b) **Information Domain.** This is the domain where information is created, manipulated, shared and resides. It is the domain that facilitates the communication of information among war fighters. It is the domain

where command and control of modem military forces is communicated, where commander's intent is conveyed. This domain must be protected and defended to enable a force to generate combat power in the face of offensive actions taken by an adversary.

(c) **Cognitive Domain.** Cognitive domain is the domain of the mind of the warfighter and the support populous. This is the domain of intangibles: leadership, morale, unit cohesion, level of training and experience, situation awareness, and public opinion. The attributes of this domain are extremely difficult to measure, and each sub-domain (each individual mind) is unique.

The Technological Dimension. The technology supporting NCW is inherently complex. A basic prerequisite for an NCW capability is the digitization of combat platforms. A fighter plane, tank or warship with a digital weapon system can be seamlessly integrated in an NCW environment by providing digital wireless connections to other platforms. Without the digital weapon system, and its internal computers, NCW is not implementable. Key issues of the technological dimension are:

(a) Security of Transmission.
(b) Robustness of Transmission.
(c) Transmission Capacity.
(d) Message and Signal Routing.

Benefits of NCW

The concept of NCW offers many benefits as opposed to the traditional platform centric approach of warfare. The situational awareness answers the questions which hovers in mind during the battle- '*where am I?*', '*Where is my friend?*' and '*where my enemy is?*'. With these answers, commanders can shape the battle space and control the various missions effectively. The benefits are:

(a) Force Multiplier.
(b) Faster and easier Integrated Mission Planning.
(c) Synchronization of All Available Fire Support Elements in Battle Field.
(d) Integrated Intelligence Network.
(e) Archiving of Track Record.

Disadvantages of NCW

While undertaking NW operations there are some aspects that we need to keep track of. Yes the technology provides a big force multiplier effect it also has some attributes that we need to factor while undertaking the operations in an NCW scenario. Some of these are enumerated below:

(a) The entry fee is reasonably higher.

(b) Software and hardware are susceptible to cyber attack.

(c) Secrecy may be compromised as open architecture and commercial interface standards of networking and software are used.

(d) Wireless networking technology uses known electromagnetic spectrum. As such, disruption and eavesdropping of data are likely to be frequent.

NETWORK-CENTRIC WARFARE IN MILITARIES OF SOUTH ASIA

The militaries of the Asia-Pacific region continue to invest heavily in strategic communications systems. According to Gordon Arthur (Hong Kong Based Defence writer), this all points to one thing – they are getting serious about enhancing their Network-Centric Warfare (NCW) capabilities. Because NCW encompasses many intangibles that are difficult to gauge, much of the assessment of NCW capability will focus on new hardware being employed. In theory, such acquisitions should reflect more deep-seated NCW changes occurring within militaries. Let us now look at the Militaries of South Asia with respect to the

capability in NCW environment. While analysing this we will concentrate on four of the major Militaries of the region, namely China, Pakistan, Bangladesh and India. Other smaller nations though do possess Military capabilities but have not progressed much in the field of NCW.

NCW in China's Defence Forces

The People's Republic of China (PRC) may be a global power economically but its military lacks force projection beyond the Asia Pacific region. Its traditional military hardware is one to three generations behind the US and Russia. In light of these deficiencies it is probable that cyber warfare will provide China with an asymmetric advantage to deter aggression from stronger military powers as they catch up in traditional military capabilities. In the last two decades the PLA has tried to transform itself from a land based power, to a smaller, mobile, high tech power that is capable of reaching beyond its borders (China's National Defense in 2006). China is seeking to modernize this force. The size of China's traditional force will shrink, as fewer numbers are needed when new technology is introduced (Cordesman and Kleiber 2006;Corpus 2006; Moore 2000).

China's 2006 white paper on national defence places an emphasis on the informationization of the military. "Informationization" (xinxihua) means improving the PLA's ability to use the latest technologies in command, intelligence, training, and weapon systems. New automatic command systems linked by fibre-optic internet, satellite and new high-frequency digital radio systems, allow for more efficient joint-service planning and command, while also enabling a reduction in layers of command. The PLA's move towards information technology can be seen with the use of new space-based surveillance and intelligence gathering systems, ASATs, anti-radar, infrared decoys, and false target generators. PLA soldiers are using decision simulators, a low-light automatic tracking system for helicopters, and a battlefield artillery/mortar fuse jamming system derived from Russian technology. "Priority is given to R&D of new and high-tech weaponry and equipment, and endeavors to achieve breakthroughs in a number of key technologies and leapfrogging technological progress, thus speeding up weaponry and equipment modernization" (China's National Defense 2006). Informationization includes increased education of soldiers in cyber warfare and NCW, a reorganization of military branches and command system, and integrating joint operations. The PLA is improving the information network for military training, and has built more virtual laboratories, digital libraries and

digital campuses to provide distance learning and online teaching and training. University courses have emerged for cyber attack and defence, a study of hacker methods, computer virus design and application, and network security protocols (Annual Report to Congress 2008).

Chinese military doctrine places an emphasis on asymmetric attack. Cyber warfare epitomizes this, a low cost means of levelling the playing field. Though there is no official published paper on the latest NCW capability of the Chinese armed forces. But the white papers on Defence Preparedness do indicate large amount of emphasis being put towards digitisation of the data processing and integrating of its armed forces.

NCW in Pakistan's Armed Forces

Since 2010 the MoD of Pakistan has laid great emphasis on developing the NCW capabilities in her Armed Forces. It has laid emphasis on using NCW as a basis for strategic planning decisions. The PAF is the lead service in this aspect. Its old system of SILLACS is getting upgraded for better flow of information and also getting integrated with other two services. JF-17 operation, new batch of F-16, inclusion of Saab 2000 erieye, and ZDK 03 AWACS aircrafts are all part of steps taken by Pakistan Air Force, to meet the NCW and Electronic Warfare requirements.

More emphasis by all three services on EW and secure integrated communication is a step towards enhancing the NCW capability in the Armed Forces of Pakistan. The civil communication infrastructure is being utilized along with dedicated network of the armed forces towards enhancing NCW infrastructure and capability.

NCW in Bangladesh Armed Forces

The concept of NCW is not very familiar in Bangladesh Armed Forces. But they are definitely towards enhancing this capability in a phased manner, keeping in mind the resources and technology availability. However, the research analyses that the potentialities of present system automation, fiber optics link plan of BAF, recent initiative of ICT (Information and Communication Technology) directorate and above all, plan of own satellite launching project of BTRC (Bangladesh Telecommunication Regulatory Commission) are very much

promising to achieve NCW capability. Integration of all the surveillance sensors of BAF, Bangladesh Navy (BN) and Bangladesh Army (BA) are being looked at as the first step of sensor integration.

National data backbone of Bangladesh which is available to 41 district head quarters through telephone cables is being utilized to connect the military bases across the country. At service level BAF has digital MW communication between all bases and radar stations. Under project 'Falcon Eye', all BAF bases are also connected with the BA and BN sharing the same communication infrastructure.

NCW in Indian Armed Forces

NCW has recently been introduced as a war fighting concept in the Indian Armed Forces and various projects, procurements and doctrinal innovations are being undertaken to ensure that they are not found stranded at the wrong end of the revolution. However, almost all these initiatives pertain primarily to operations in the conventional spectrum. While building NCW capabilities for conventional operations, due priority is also being extended to meet the challenges of NCW in sub-conventional operations.

The existing communication networks in Army are based on ASCON Phase 1 and II, Army Intranet, AREN, Satellite and other zonal access networks. The proposed networks are, ASCON Phase III and IV, A WAN, a No of satellite networks and upgraded zonal access networks. The Air Force information dissemination system is known as IACCS. This is a network of radar and communication links for providing surveillance to various air defence elements, and assists in the command and control of deployed resources. For logistics, the Air Force has evolved Integrated Material Management On-line system (IMMOLS).For its administrative communication requirement it has a dedicated AFNET (Air Force Net Work. This system can be exploited for add-ons like e-mail, fax and video-conferencing. In The Indian Navy networking is through Local Area Networks (LANs) within the establishments, Metropolitan Area Networks (MANs) within the metropolises and Wide Area Networks (WANs) providing connectivity over the continental landmass of India, including island territories. Navy Enterprise Wide Network, LINK II project, development of encryption algorithms for multiple use, Computer Aided Decision Support systems (EMCCA, SADL, development and integration of IBW systems etc. are efforts in this direction.

As a part of national level *C4e* system, the Army has already made some headway in evolving its operational information system with the acronym ASTROIDS. Earlier the tactical command, control, communication systems (Tactical C3I) and its sub compo nets have been developed independently without adequate emphasis or inter-services integration and at times even without intra-service integration. In the realm of inter-Services integration, the most essential components of Tactical C3I systems amenable to joint development are Air Defence Control and Reporting System (ADC & RS), Air Space Control System (ASCS), joint Electronic Warfare (EW) and integration of sensors of all kinds at various levels. All these systems when properly enmeshed together would enable a joint commander to achieve real time battlefield transparency. All these systems would be spokes connected to a Decision Support System (DSS), providing inputs enabling the commander to reduce elements of fog, frication and uncertainty in the digitized battlefield.

RECOMMENDATIONS

Network-centric operations will deliver to the three armed services of any country a very powerful dynamism in terms RMA and act as a big Force Multiplier. At the strategic level, the critical element is a detailed understanding of the appropriate competitive space-all elements of battle space and battle time. Operationally, the close linkage among actors in business ecosystems is mirrored in the military by the linkages and interactions among units and the operating environment. Tactically, speed is critical. At the structural level, network-centric warfare requires an operational architecture with three critical elements: sensor grids and transaction (or engagement) grids hosted by a high-quality information back plane. They are supported by value adding command-and-control processes, many of which must be automated to get required speed.

Network-centric warfare enables a shift from attrition-style warfare to a much faster and more effective war fighting style characterised by the new concepts of speed of command and self-synchronization.

For the Militaries to enhance their NCW capability the force planners will have to look at certain changes and objectives to be achieved. These are as enumerated below:

(a) A robustly networked information structure system to support information sharing and collaboration.

(b) An appropriate technology base and an improved understanding of related issues.

(c) Adoption of COTS approach by customization of commercial technologies.

(d) Integrated development of informatisation and weaponisation.

(e) Dominance of space and EM spectrum.

(f) Educating and training people in the service on NCW.

(g) Development of Core Group to monitor the progress of NCW and suggest timely changes to be abreast in the field of ICT.

CONCLUSION

"Societies That Want to Live in Peace, Should be Always Prepared for War"

Kautilya

Network Centric Warfare (NCW) is the best term developed to date to describe the way we will organize and fight in the Information Age. It is also called "a fundamental shift from Platform-Centric Warfare to Integrated Systems Centric Warfare." NCW is an information superiority-enabled concept of operations that generates increased combat power by *networking sensors, decision makers, and shooters* to achieve shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability, and a degree of self synchronization. In essence, NCW translates information superiority into combat power by effectively linking knowledgeable entities in the battle space.

To reach its full potential, Network Centric Warfare must be deeply rooted in operational art. As such, it is not possible to simply apply new technologies to the current platforms, organizations, and doctrine of warfare. There is ample historical precedence for the co-evolution of organization, doctrine and technology in the war fighting ecosystem. For example, performance advantages at the platform level have often led to the emergence of new doctrine, tactics, techniques, or procedures. During World War II, Army Air Corps commanders increased the survivability and lethality of daylight bombing operations by co-evolving tactics to exploit the improved range and endurance capabilities of the P-51 and the improved capabilities of the Norden Bombsight to conduct daylight precision bombing with fighter protection for the otherwise more vulnerable bombers.

Till date several national, theatre and access networks have been established, some of them are still unconnected with each other. But the future shall bring about the convergence and interconnection of all such networks on a common fabric. The IT workforce (civil and military) has been pioneer in the field of computers, communication and convergence and has got infrastructure, vision and will to achieve today's platform centric forces to Network Centric Forces and is leading the way on behalf of defence forces to achieve the same. The all-pervasive influence of information technology also creates overlap between strategic, operational and tactical levels of warfare and conflict. A perfected inter-Services communication network and an integrated C4e system would logically promote joint operational, joint doctrine, joint planning, joint intelligence, joint staffing and procedures. The RMA and the nature of war dictate to us that our armed forces fight as an integrated force. The new tools of IT would help the defence forces to fuse together in reinforcing and complementing each other. A streamlined Inter-Service Network, C4e system supported by ISR and precision platforms would enable defence forces to truly become Network Centric Forces of the twenty first century.

NCW is an emerging theory of war in the Information Age. It is also a concept that, at the highest level, constitutes the military's response to the Information Age. It is the high-tech defence concept for the future, based on open but highly secured internet-type network architecture. It is characterized by the ability of geographically dispersed forces to attain a high level of shared battle space awareness that is exploited to achieve strategic, operational and tactical objectives. This linking of people, platforms, weapons, sensors and decision aids into a single network creates a seamless, joint and coalition warfighting force.

The concept of NCW is relatively new to the Armed Forces of South Asia. Present system of flow of information is inadequate for NCW and is complex and lengthy. A minimum level of information technology infrastructure is very essential to start evolving NCW processes. Most of the Armed Forces of this region do have modern telecommunication facilities, as well as national communication sector is also modernizing very fast. Integration both the national and armed forces resources, a robust network can be established which will enable the armed forces to enhance and build towards NCW capability.

NCW is a buzzword for the 21st century's military thinkers. This is an emerging theory of war in this digital age. Today, internet pages and recent defence publications are now flooded to promote this concept. The temperature of

today's stupendous development in ICT sector is felt through the evolution of the real time shared batlle space picture. Driven by the prescription of Boyd's OODA loop, now military commanders pursue for information dominance to achieve the operational effectiveness in war.

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Author

Air Commodore Surat Singh was commissioned in the Indian Air Force (IAF) on 06 Dec 1986 as a fighter pilot. He has close to 3000 Hrs of fighter flying on Mig-21, Mig-29 and Su 30 aircrafts. During his service career he has held the appointments of Flight Commander and Commanding Officer of a Mig 29 Sqn. He has also been an instructor in the tactics school of the IAF. Besides commanding the Fighter Sqn, he also commanded a Radar Station, The prestigious Tactics School of the IAF. He has been an Inspector for Flying Operations of the IAF for three years. Before joining NDC he was commanding the premier Su 30 fighter base of IAF at Pune.

He is a graduate of Australian Command and Staff Course, Canberra. During the course he did his Masters in Management and Defence Studies from University of Canberra. He also holds an M. Sc degree from University of Madras in Mil Studies. He has been commended twice by the Air Officer Commanding in Chief, and has been awarded three medals for distinguished service by the President of India. A keen sportsperson, he plays Squash, Volleyball and Golf. He is married to Mrs Nisha Singh, a home maker, and is blessed with a daughter and son.

CORRELATION BETWEEN DEMOGRAPHY AND NATIONAL SECURITY: A BANGLADESH-NIGERIA PERSPECTIVE

Captain OA Bankole, ndc

INTRODUCTION

Population attributes are essential for national planning and development. This is because a nation's economic capability and strategic purpose as well as the will to pursue national strategy are primarily based on the population of the state, which is one fundamental element of national power (Alli 2005). Consequently, the goal of grand strategy of a country is the wellbeing of its people and this is the social dimension of strategy as well as an aspect of national security (NS) (Muniruzzaman 2014). The greatest threat to NS outside external aggression lies in the insecurity of the individual, family and the community (Annan 2008). National Security, therefore, connotes a situation of peace and safety. It also includes freedom from non-traditional security threats such as narcotics and human trafficking; poverty as well as environmental hazards.

Demography refers to the composition of the population of a place including its size, growth, density, distribution and statistics as it relates to birth rate, death rate and age profile as well as ethnic and religious groups (Merriam Webster Dictionary). Demography could either be a source of conflict leading to insecurity or a source of strength and security depending on how the population is managed by the state (Weiner and Russel 2001). It therefore, implies that a well-composed demography constitutes a qualitative human resource base required for National Development (ND) and NS. Conversely, a dysfunctional demography could lead to population explosion and its associated problems thereby threatening NS. Consequently, the level of security and development enjoyed by a country is linked to the quality and distribution of national demography.

The world population, currently estimated at 7.1 billion people is projected to hit 7.6 billion by 2020. This rising trend could lead to conflicts over scarce resources and control of territories. This may result in forced migration, displacements and refugee problems which have far reaching consequences on global peace and security. Recent events of human trafficking and loss of lives in the Mediterranean Sea and Bay of Bengal have raised global humanitarian and security concerns. As

a result, many countries, including Bangladesh and Nigeria have evolved policies to control population growth and improve the quality of their population.

Nigeria and Bangladesh with estimated populations of 172 million and 162 million respectively face similar challenges of finding a balance between a manageable demography and NS. Although, Bangladesh is listed amongst 18 countries making the fastest progress in human development, the UNDP (2014) Human Development report rated Nigeria and Bangladesh low with Human Development Index (HDI) rankings of 152 and 143 respectively out of 187 countries. Additionally, the disparity between population and economic growth as well as inequity in resource re-distribution has led to massive unemployment; rural-urban drift and social insecurity which have generated several conflicts in which youths are used as tools to perpetrate violence. These phenomena have continued to impact negatively on NS. It is based on this backdrop and the not too impressive performance indicators of population management strategies in both countries that informed the motivation for this research.

Relationship between Demography and National Security

Demography encompasses the analytical study of human population in a defined space taking cognizance of size, structure, quality and distribution in relation to changes resulting from birth, migration, aging, and death. It is studied in relation to economic, social, cultural, and political processes in a population. NS on the other hand, is the security of human and material resources, economic resources, food and the general well-being, the preservation of societal values and national integrity of the people in a defined geographical space. When a nation's population is adequately managed and channeled towards productive venture, its demography is harnessed for NS and development. Conversely, when a nation's demography is not properly harnessed for the benefit of society, human resources would undermine NS through crime and conflicts. Therefore, there is a direct positive relationship between demography and NS.

DEMOGRAPHIC TRENDS IN NIGERIA AND BANGLADESH

An evaluation of the demographic trend in both countries reveal that a burgeoning growth of working-age population coupled with rising life expectancy would put serious strains on socio-economic infrastructure in both countries. Consequently, capacity must be created for citizens ready to work internally or as migrant workers.

Otherwise social and political equilibrium might be in danger. Secondly, with life expectancy now at 69 years in Bangladesh, coupled with declining mortality due to improved healthcare, this chunk of workforce will grow old to claim compensation in old age. There is therefore an urgent need for a comprehensive social security progamme for retirees and the aged. Furthermore, climatic and other ecological factors are threatening food security and livelihood, particularly in the Southern part of Bangladesh and Northern Nigeria hence the need to mitigate the effects of climate variability. Finally, although, the National population policies in both countries are well articulated, the problem with most policies in Bangladesh and Nigeria is inconsistency and corruption in the implementation process. It is important to promote family planning through strong advocacy especially, in the rural areas. It is equally instructive, to implement realistic focused policies aimed at population control, human capital development, economic growth and environmental conservation; even as the political will and commitment to pursue them cannot be over emphasized.

EFFECTS OF DEMOGRAPHY ON NATIONAL SECURITY IN NIGERIA AND BANGLADESH

Increased Social Vices

Bangladesh and Nigeria have a large youth population totaling over 60%. In the absence of legitimate employment, some of these youths engage in criminal activities such as robbery, drug addiction and trafficking amongst others. Also, some of the youths get recruited by disgruntled politicians and religious extremists as tools for social unrest. According to the Bangladesh Police Headquarters, these crimes are further compounded by the grossly inadequate police to population ratio of 1:1026 in Bangladesh, while in Nigeria it is 1:540. Both figures fall below the UN standards of 1: 400. Research findings show an increasing trend in criminal activities due to effect of rising population and the inability of the FGN and GoB to constructively utilize the huge populations. These vices constitute a threat to lives and property thereby threatening NS.

Rising Unemployment Rate

Rising unemployment rates in both countries remains prevalent despite significant economic growth in recent years. Nigeria became the largest economy in Africa

in 2014 with economic growth rate averaging about 6.9% over the last decade (Economist Magazine, Feb 2015). Similarly, Bangladesh has made significant improvements in its economy with an average economic growth rate of 6% in the last 6 years and a graduation to a low middle income country in July 2015(WB 2015). In spite of, rapid economic growth, both countries have a corresponding large unemployed population. For instance, at about 2% growth rate, Nigeria adds a population of approximately 4.3 million people yearly, while Bangladesh, adds a population of about 2.2 million people yearly. These figures presents additional burden on developmental and public expenditure. It also puts pressure on Governments to create employments which are not readily available. Figure 1 shows unemployment rate from 2007 - 2012 across demographic distribution of age grade in Nigeria. It shows that the unemployment rate in Nigeria is high and has been increasing since 2008. A major recipe for national insecurity is a mass of unemployed and uneducated population. It is important that Nigeria and Bangladesh develops the capacity of the largely youthful population through qualitative skill development and diversification. Efforts should also be improved towards exploring job opportunities in the local and international labour market.

Figure 1: Nigeria's Employment Rate

Source: www.tradingeconomics.com | National Bureau Of Statistic, Nigeria

International Migration

One of the immediate consequences of unemployment is migration. Whenever the population rose to such an extent that people could no longer secure a livelihood, they migrated elsewhere (Siddiqui, 2005). According to the World Bank, employment to population ratio, which is the proportion of a country's economically active population that is employed, was 53.50 in Bangladesh as at 2012 (Figure 2). The unavailability of gainful employment and the search for greener pasture for the teeming youthful population is thus the motivating factor for international migration in Bangladesh and Nigeria.

Figure 2: Employment to Population Ratio of Bangladesh

Source: Trading Economics

According to International Organisation for Migration, Dhaka, about 8 million Bangladeshis migrated overseas for employment between 1976 and Jan 2015. 51.5% of the migrants are low-skilled, 14.81% are semi-skilled, 31.3% are categorised as skilled and professional constitute only 2.38%. It was further observed that some of the skilled expatriates such as nurses are not adequately remunerated due to their inability to speak the English Language.

According to the World Bank, the remittances from the migrant workers from June 2014 – June 2015 was about 15.1 billion dollars for Bangladesh while Nigeria recorded about 21 billion dollars during the same period. The Nigerian advantage was as a result of sending more skilled labour and the ability to correspond in the English Language.

Despite the laudable socioeconomic benefits of international migration, the social cost of separating families cannot be quantified. Another potential danger is the possible exposure of the migrant workers to maltreatment, international crime and extreme cultural and religious values that may degenerate into importation of terrorism and other trans-national crimes thereby threatening NS. It is important that the respective embassies follow up on the progress and welfare of expatriate workers.

Human Trafficking and Refugee Issues

The UNHCR posited that between Jan- Mar 2015, about 25000 Rhoyinga and Bangladeshi migrants were smuggled to various countries in Asia. Similarly, the plight of migrants from war torn countries in Africa and Asia smuggled to Europe and Latin America is also distressing. These has raised both humanitarian and security concerns. There is, therefore, a need to urgently address these human trafficking and refugee issues through regional collaboration in order to enhance NS in both countries, while it is imperative of a strong navy and coastguard to patrol the Bay of Bengal to discourage trafficking and other trans-national crimes. It is also important for both countries to strengthen and effectively implement their immigration laws to reduce cross-border crimes.

Proliferation of Urban Slums

The effects of unplanned urbanization manifest in the form of traffic congestion, slums, accumulation of waste, pollution and poverty pervading major cities like Dhaka and Lagos. For instance, the population of Lagos grew from 28,518 in 1871 to 19.113 million in 2014. While the growth of the population in Lagos has assumed a geometrical proportion, the provision of urban infrastructure and housing to meet this demand is not at a commensurate level.

The scenario in Bangladesh is further complicated by the acute shortage of land for arable and socio-economic developments. The rural population increases by about 1.3 million annually and large part of this number is drawn to the urban areas in search of greener pastures (Streatfield and Karar, 2008). Slum mapping shows that the urban population density averages 23,378 persons per sq km nationwide varying from 7,152 per sq km in Barisal City Corporation to 29,857 per sq km in Dhaka metropolitan (Angeles et al, 2005). The slums, however, at 205,415 persons per sq km, are almost 300 times more densely populated than the rural averages of 755 persons per sq km. Figure 3 and Figure 4 illustrates the point that most slum housing is single-story, not high-rise and, thus, very crowded. To enhance even rural-urban development, Government needs to develop non- agricultural activities within the rural areas through the growth of viable commercial ventures. The policy of mass rural electrification by the GoB and the policy of one house- one farm are steps in the right direction.

Figure 3: Aerial View of Slum in Dhaka

Source: Streatfield and Karar, 2008.

Figure 4: Slum in Lagos- Nigeria

Impact on Public Health

Nigeria and a large part of West Africa recently defeated the scourge of Ebola virus after losing about 11,399 lives and massive effects on the economy (WHO, March 2015). Recently, South Korea suffered the Middle East Respiratory Virus (MERS) resulting in about 33 deaths and huge losses to tourism and the economy.

These indices are instructive to Bangladesh with its high population density and many people living in slums. More than half of the slum area is poorly drained (52.7%). About 55.7% of the slum dwellers have no fixed place for the disposal of garbage. Similarly, 52.8% of the population use a pit latrine for sanitation, and in many households, these must be shared. In one in eight slums, one latrine was shared, on average, by 11 or more families (Streatfield 2008). The absence of sanitation and sewerage systems causes waterborne and airborne diseases to become prevalent. Although the GoB has made great improvements over the last decade in medical care, more efforts need to be put in public and preventive health, and environmental sanitation.

Food and Environmental Insecurity

Large populations pose a threat to environmental security through forest degradation and destruction of green areas for housing and other industrial developments. Also the issue of depleting arable land raises concern for sustainable food security. Bangladesh had 9 million hectares of farmland in 1980 which has constantly been depleted by erosion and other non-agricultural uses (Muniruzzaman, 2013). The BRRI also predicts that net cultivable land will further shrink to about 7.89 million hectares by 2025 when the population is projected at about 184 million. According to Prof Abul Barkat, the net available farmlands could be maximized for gross production through R and D to produce improved seeds, multi-cropping and the use of Biotech otherwise land and environmental factors would negatively impact on security. While agreeing to a large extent with the Professor's assertion, the researcher however believes that there is still the need to strictly reduce population growth on the long run before Bangladesh's natural balance reaches a saturation point.

Analysis

Population dynamics in Nigeria and Bangladesh influence environmental stability, socio-economic infrastructure, food and water security, energy and sanitation. It also determines government objectives to ensure access to health, education and other essential services. Population, if properly utilized and developed could be a great strength in the form of human resource capital and enhance the development and NS of a state. Conversely, it could be a threat to the survival of the State through increased social vices and rising unemployment. However, there is an urgent need for Nigeria and Bangladesh to build quality human capital

through focused education, entrepreneurial development and the growth of small and medium enterprises particularly in the rural areas. The need for even infrastructural development and equitable and proper implementation of social safety net programmes as practiced in Bangladesh will significantly reduce the adverse effects of demography on NS.

CHALLENGES OF DEMOGRAPHY FOR ENHANCED NATIONAL SECURITY

Political Instability

Since independence, political instability has grossly affected the development of both countries. For instance, the political crises following the 2014 general elections in Bangladesh and the unresolved impasse between the governing Awami League and the opposition Bangladesh Nationalist Party has led to loss of lives, investor apathy and may present a risk to NS. Parties in Bangladesh should show patriotism and refrain from violent and subversive acts. The Ruling Awami League could stretch out an olive branch to the opposition in the spirit of national reconciliation to enable participatory democracy. This will foster inclusive growth, security and development.

Corruption and Lack of Transparency in the Implementation of Population Programmes and Projects

Corruption and lack of transparency in the implementation of population management and social safety net programmes have a severe effect on NS. The problem of corruption in Nigeria and Bangladesh is pertinent and manifest in various dimensions ranging from poor implementation, project substitution, mis-application of project funds and diversion of resources in both countries. Nigeria and Bangladesh are ranked 136th and 145th respectively out of 174 countries in Transparency's International 2014 Corruption Perception Index. Furthermore, there had been several cases of high ranked public officers involved in monumental corruption of public funds and huge deposits in Swiss Banks. These are indicators of high level corruption and lack of transparency in the implementation of national projects and programmes. This causes further marginalization and impoverishment of the people and a threat to NS.

Poor Implementation of National Population Policy

The National Population Policy in both countries was aimed at reducing total fertility rates and ensuring the effective delivery of population control and reproductive health services. Although the programme recorded initial successes, the follow- up was poorly implemented due to religious and cultural impediments. Moreover, the Policy adopted an optional clause for voluntary fertility regulations and birth control (NPC Baseline Report). Therefore, relevant enforcement agencies could not enforce the provisions of the policy, hence its poor implementation. In view of the poor implementation of the population policy, significant reduction in growth rate is yet to be achieved particularly in the remote areas. As a result, the present population of both countries is projected to increase farther than a commensurate increase in economic development thereby putting severe strain on resources and infrastructure.

Low Literacy Rate and Falling Educational Standards

Low literacy rate is one of the major challenges to demography for enhanced NS. A nation can only take advantage of its population for development and prosperity if her workforce is educated, trained and productive (Khan and Khan 2010). There is a low literacy rate in Nigeria's population which negatively affects the quality of the population. However, Bangladesh has made steady progress in increasing equitable access to education, reducing dropouts and has achieved gender parity in primary and secondary enrolment but, the quality of education in most rural areas is questionable. Hence the need to improve on the quality of education is urgent.

Inaccurate Census Data

Census is a very sensitive issue that has remained intractable, particularly in Nigeria. Political and economic factors influence the result of census exercises. Higher population figures lend credence to the demand for more funds and seats in parliament and states by various Geo-political zones. Based on these factors, census figures are inflated to gain political advantage. It is even more disturbing that the validity of the census result cannot be proved due to lack of credible empirical data. However, if transparent methods of conducting censuses are devised, the validity of the results could be proved to minimize controversies over the results.

Ecological Impacts and Manmade Disasters

If global warming continues as predicted, rise in sea levels will bring further insecurity to the approximately 30 million Bangladeshis living in vulnerable coastal areas leading to food shortages and forced migration. There is also a need for further investments in meteorological research and equipment to give early warnings of natural disasters. It is imperative to strictly upgrade the disaster management plan and enforce strict building and town planning regulations to reduce the effects of these disasters. The GoB and FGN needs to take urgent and proactive steps to mitigate the effects of climate variability.

MEASURES TO MITIGATE IDENTIFIED CHALLENGES OF DEMOGRAPHY

Good Governance

Good governance entails: strategic vision, voice and accountability, rule of law, political stability, equity and inclusiveness. If government could meet basic human needs of food, shelter, health and safety, it would promote NS. Furthermore the ability of the FGN and GOB to curb corruption and reduce waste will further enhance development. According to Mr Farooq Sobhan, Bangladesh's NS is contingent on the government's implementation of good governance in the public domain and the ability of state and non state actors to effectively address human rights issues. He opined that good governance guarantees political security, which is the foundation for NS.

Development of Human Capital through Sustainable Youth Empowerment Policies and Programmes

Considering the huge populations of both countries, enhanced human resource development and youth capacity building is vital to a knowledge based economy and gaining access to the competitive global market. Investment in capacity development must be substantially boosted by engaging the youths through qualitative education and development of skills that lead to employment. This could be achieved by expansion of vocational training and technical education through increased budgetary allocation. The establishment of more nursing, midwifery and technical schools in Bangladesh will further promote skilled manpower for domestic and overseas employment.

Application of Modern Technology for Census

The use of modern technology to conduct census could mitigate the inaccurate census data. The application of optical satellite imagery for population estimation is a technology that is used to enhance accuracy of census data. If Nigeria and Bangladesh can adopt this technology in administering her population census, the credibility of census would be enhanced thereby eliminating the disputation arising from the use of the traditional and in-accurate method which is open to manipulation and error. Another modern means of population census is use of biometric data. Unique identifiers include fingerprints, hand geometry, earlobe geometry, retina and iris patterns, voice waves, DNA, and signatures. The introduction of this technology into the population census would preserve individual identities and eliminate double counting thereby improving the validity of census figures. It would also be useful as a national data bank for elections, birth registrations, migrations etc.

Food and Water Security

With decreasing cultivable land due to erosion, salinity and other factors, efforts need to be put in place to make sure Bangladesh does not reach the limits of its agricultural production. The GoB needs to actively engage the neighboring countries and put a sustainable sub-regional water management program in place. This should be vigorously pursued to ensure adequate water provision for the agriculture sector. In the longer-term, the shift to genetically-engineered or modified crops might be the solution for food security in Bangladesh, just as the introduction of high-yielding rice varieties did in the 1970s and 1980s. The agricultural research institutes should therefore focus more on this area to improve on the gains made in the last 4 decade. Finally, Bangladesh needs to explore the potentials of the Blue economy inherent in the Bay of Bengal through technical research and exploration to augment land resources.

Infrastructure Development

The FGN and GoB have to be committed to providing the population with access to social services through the development of good infrastructure. Safe water, electricity and good roads are areas of infrastructure, which need massive investment particularly, in the rural areas. For example, Nigeria and Bangladesh are currently generating a daily average of about 4000MW and 7000MW

respectively, which are still far below the national power requirements of both countries that stand at a daily average of about 10,000MW (Muktadir 2014). This is an important area where the two countries could leverage on PPP and sub-regional collaborations (India-Bangladesh) to further generate power, which is so fundamental to industrialisation at micro and macro levels to provide employment opportunities for the people. The PPP/sub-regional collaboration arrangement for power could also be replicated in provision of other infrastructure like railways, storage facilities and road networks to mention just a few.

Strengthening Internal Security Agencies and the Promotion of Rule of Law

There is an urgent need to empower internal security agencies. This is to ensure that social vices and crimes are substantially reduced. The police to population ratio in both countries could also be enhanced to meet international standards. The Bangladesh Police, Coast Guard and the Border Guard Bangladesh needs to be more proactive in tackling human and narcotics trafficking and other trans-border crimes while a regional diplomatic initiative is pursued towards resolving the migrant crises. Finally, anti-corruption agencies could be strengthened in both countries to curb financial crimes, bureaucratic corruption and encourage prudence in project implementation.

WAY FORWARD

It will be difficult to propose a single way forward to mitigate the challenges of enhancing demography for NS that will fit Nigeria and Bangladesh due to their cultural, political and socio-economic diversity. The research however proposes a comprehensive plan using Bangladesh has a focal point. Some highlights of the plan are discussed subsequently:

Developing a National Security Strategy. In 2013, the GoB developed a National Social Protection Strategy based on a vision of inclusive social protection system that addresses rising inequality, poverty and the human development deficit. This research posits that in furtherance of this strategy, the GoB should set up a committee of technocrats involving politicians, military, academia, private sector and other relevant stakeholders to draw up a national security and development strategy for Bangladesh. This strategy will harmonize military and developmental elements of National Power as well as incorporate the National Disaster Management Strategy and the National Social Protection Strategy in line with the 7th Five Year Plan (2016-20) and the vision 2021. This strategy will drive the foreign and domestic policies towards achieving Bangladesh's wider National Interest.

Building Political Harmony. The GoB should encourage political harmony between the ruling Awami League and the opposition parties particularly, the BNP. This would promote political stability, investor confidence and enhance participatory democracy. It would also discourage insecurity and the rise of extremist and criminal networks benefiting from political chaos. Democratic institutions should be furthered strengthened through professionalism and internal party democracy with a view to ensuring peaceful continuity or harmonious transition of power.

Improving Meteorological Research. The World Risk Report 2012 considered that Bangladesh's combination of extreme exposure and high vulnerability to the impact of climate change makes it the fifth most natural disaster prone country in the world. Also the Bangladesh Climate Change Strategy and Action Plan estimate that about 30 million people face the threat of displacement as sea level rises. In view of this, although Bangladesh has a well articulated disaster response plan; more needs to be done towards meteorological research and environmental conservation.

Regional Collaborative Efforts against Trafficking. The failure of the system to provide a minimum standard of decent livelihood to a large majority of its people promotes issues of illegal migration, human trafficking and other trans-border crimes. These issues need to be addressed by both countries through sub-regional or regional collaborative efforts and strengthening counter trafficking initiatives.

Efficient Data Bank for National Planning. The use of biometric technology for census will ensure that every Bangladeshi or Nigerian is counted and given a unique identity number. It will also serve as a basis for government planning, infrastructural spread and resource distribution.

Vibrant Economic Policies. There is the need to evolve vibrant economic policies that would encourage active involvement of the private sector to foster development of infrastructure which would help to reduce poverty and enhance NS. The GoB should also diversify its economy to other productive sectors like the tourism and ship building industry. This would generate wealth and create employment. It would also reduce economic shocks as witnessed in the RMG sector after the collapse of the Rana plaza.

Implementing the National Population Policy. For sustainable prosperity and development of Bangladesh and Nigeria, it is pertinent to reduce population

growth rate to below 1% in both countries. The recent trend in climate change and other ecological factors makes this decision imperative. This research does not compulsorily advocate a one-child policy; it however, encourages Government to give incentives to families that have maximum of two children. Simultaneously, efforts should be intensified on promoting family planning and education of the girl child, through strong advocacy progammes, particularly in the remote areas.

RECOMMENDATIONS

It is recommended that:

a.   The FGN and GoB should develop a National Security Strategy Framework. This framework should be in place by 2017.

b.   The FGN and GoB should gradually increase its education and social welfare budget to at least 40 percent of the total annual budget in the next 10 years starting from 2016

c.   The GoB and FGN should employ satellite imagery technology and biometric data for subsequent population census.

d.   The FGN and GoB should intensify war against corruption by strengthening various anti-graft agencies with the objective of granting the agencies autonomy to be free from political manipulations and interference.

e.   The GoB should plan a phased decentralization and relocation of vital government agencies and departments to other divisions in other to stimulate growth.

f.   The FGN should prioritize defeating the Boko Haram insurgency and integrating all ethnic nationalities towards national development.

CONCLUSION

The paper discussed the relationship between demography and NS in Nigeria and Bangladesh. It reviewed demographic trends in both countries evaluating their impact on NS. The research identified social vices, rising unemployment rate and proliferation of urban slums as some of the effects of demography on NS in both countries. The study noted some key challenges militating against demography for enhanced NS. The key challenges for both countries include political instability, deficit human capital development, corruption and lack

of transparency; inadequate and poor state of infrastructural facilities amongst several others.

Some strategies were proffered for the effective management of population growth in Bangladesh and Nigeria. These were good governance with political will to effectively execute all outlined policies and effective implementation of the NPP. For the improvement of human capital, it was opined that there could be a gradual increment in education and social development funding over the next 10 years. Lastly, the GoB is enjoined to engage the neighboring countries for effective water management arrangements and encourage research into genetically-engineered or modified crops to ensure food security.

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Author

Navy Captain Bankole is a Course Member of NDC 2015. He was born on 29 March 1970 and was commissioned into the Nigerian Navy on 16 September 1991. The officer has held watch keeping appointments onboard various Nigerian Navy Ships. He served as signal communication officer and Executive Officer onboard a few sea-going ships and the Naval Air Base. He also had a stint as the Commanding Officer of Nigerian Navy Ship YOLA. Captain Bankole served across several training and operational establishments in the Nigerian Navy. The officer was the Assistant Director Drafting Coordination at the Naval Headquarters before his appointment as the Military Assistant, and subsequently the Principal Staff Officer to Nigeria's Chief of Defense Staff prior to joining NDC Bangladesh 2015.

Captain Bankole underwent the sub lieutenants' technical and the long communication courses at NNS QUORRA, Lagos. He completed the junior and senior staff courses at the prestigious Armed Forces Command and Staff College, Nigeria. He holds a Bachelors degree in Chemistry from the Nigerian Defense Academy and a Masters in Public Administration from the Lagos State University. In addition, the officer obtained a Masters in Maritime Strategy from the Australian National Centre for Ocean Resources and Security. He also holds a certificate in Strategic Leadership from the School of Defence and Security, Cranfield University, United Kingdom. Captain Bankole is a member of the International Federation of Protection Officers and an alumnus of the prestigious Lagos Business School.

Captain Bankole has a number of awards and decorations including the Meritorious Service Star. He is married to Bukola Bankole with whom he has a son and twin girls. His hobbies include reading, travelling and singing inspirational songs. The officer jogs to keep fit.

IMPROVISED EXPLOSIVE DEVICE AS A NATIONAL SECURITY THREAT: SELECTED OPERATIONAL RESPONSE MEASURES

Lieutenant Colonel Abdullah Tafhimul Islam, afwc, psc, Ord

INTRODUCTION

### Understanding the Research Environment: Setting the Context

In present world order, the threat of improvised explosive device (IED) is contemporary and seemingly unavoidable. It has sufficiently drawn the attention of world community where Bangladesh (BD) is no exception. Recently Bangladesh has experienced wide spread IED related incidents both at public and private places. IEDs, in the form of Cocktail/ Handmade Bombs, Improvised Bombs, Grenades and Petrol Bombs, were indiscriminately used against innocent civilians throughout the country. Being actuated, IEDs generate monstrous effect and brutality beyond one's imagination. Under present circumstances there is no denying a fact that IED is a national security threat and it demands a comprehensive response from appropriate authority. Apart from its local use, IED is also an effective weapon used in the wide range of asymmetric warfare across the world. Fathoming the vividness of the issue, it is necessary to address the threat holistically and in a pragmatic manner. At this backdrop, it is time worthy to study the improvised explosive device as a national security threat and ascertain the selected operational response measures.

IED and Its Journey

The term IED originated from the British Army in the 1970s, after the Provisional Irish Republican Army (IRA) used bombs made from agricultural fertilizer and Semtex (general-purpose plastic explosive similar to C4 explosive). In short, IED may be defined as, *A device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals and designed to destroy, disrupt, delay, distract, incapacitate, or harass. It may incorporate military stores, but is normally devised from non-military components.* They are unique in nature because the IED builder has to improvise with the materials at hand.

Global Perspective of IED: Drawing the Trend

To fathom the global perspective of IED, let us have a look at some IED incidents in the year 2013 (Barbero, 2013: Slide 5) from February to May only. It will be clear from the following figure that IED has become an endemic issue throughout the world:

Figure 1: Map showing some IED incidents in 2013 (February to May)
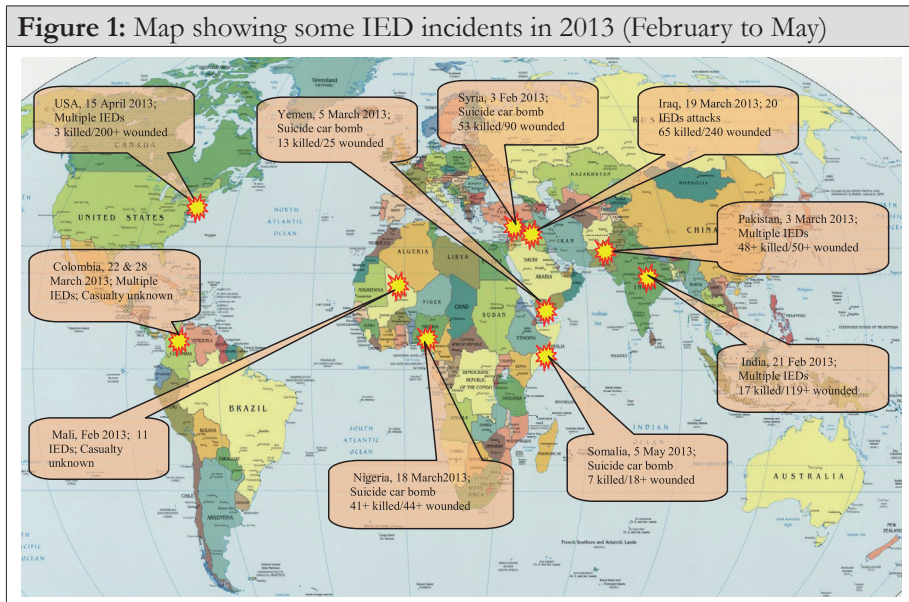
Present, IEDs have become a strategic weapon to draw attention. Politically unstable and Muslim countries suffer most from IEDs.

IED IN BANGLADESH

Factors Contributing IED Attack

Various factors that influenced the IED attack in Bangladesh are:

a. Greed for power.
b. Poor administration and spread of corruption.
c. Ideological inspiration.
d. Availability of explosive substances at a lower price.
e. Access to technical know-how
f. Poor surveillance/intelligence failure

g. Vulnerability of Madrassa education

h. Situation across the world

j. Socio- Political situation

The Nature and Extent of Threat

Analyzing the recent incidents, one can say that IED threat is enduring in BD. Availability of raw materials locally, at a lower price and access to technical know-how for its preparation has made its use popular. Nature and extent of the threat can be summarized as (*extracts from Case Study (attached as Annex A) is also considered*):

a. Bangladeshi people are generally peace loving and soft hearted. Threat of IED exerts serious effect on their physical and cognitive domain.

b. Currently IED threat mostly revolves around political issues. It has been seen that when the opposition parties find no other alternative to protest/draw attention/fulfill their demand, they resort to violent actions like IED attack.

c. Use of petrol/hand bombs is frequent, particularly during political turmoil. Alike recent months, IEDs might again be indiscriminately used across the country to create panic and deterrence.

d. Although the threat is still at manageable level, but if it is not restricted, the perpetrators might go beyond control and start undermining the capability of the state.

e. Due to the presence and increased activities of AQ and ISIS in the South Asia region, the nature of IED threat might range into a wide spectrum of threats.

Analysis

IEDs are gaining traction not only worldwide but also in BD. In BD, evaluation of recent attacks shows that politically embedded issues are the prime causes of IED attacks. Most of the attacks were evidently aimed at creating panic/deterrence by which attention of native and world community can be drawn. Recently the nature and style of threat has greatly changed. Unlike previous attempt of successful mass protest (like 1990), now the opposing parties quickly resort to subversion as they fail to motivate mass people. But it was evident that subversive use of IED cannot win people's support, rather it loses people's confidence and ultimately ends as nose head aspiration.

Effect of IED Attack in Different Sectors

On Economy

IED incidents have serious negative impact on the economy of the country. On 19 February, Daily *Kaler Kantha* reported the loss of One Lac Twenty Thousand Crore taka in last forty four days due to strike and violence where the main reason of public panic was IED (particularly petrol bomb and cocktail) attack. In such situation, no entrepreneur want to invest; rather they try to pull out their investment. To understand the effect more vividly let us have a look at the inflow and outflow of FDI during 2001-2005, it is the period when IED attacks were maximum in the country (less recent months). The following table and graph shows that FDI outflow were more than inflow in the year 2001-2004 during which IED threat was maximum (Islam, 2008:11):

Figure 2: FDI inflow-outflow in the years when IED threat was maximum
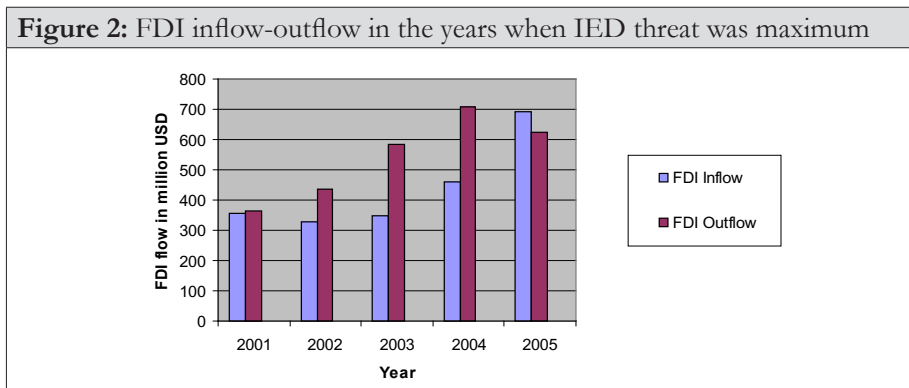
On Socio-Cultural Sectors

Socio-cultural effects of IED attacks are deep-rooted and will have a lasting effect. Some of those are:

a.   Education sector has suffered badly in recent months. IED has become a very easy means to stop or close an educational institute or even cessation of a public exam. This year the exam schedule of Higher Secondary examination was upset time and again. Students were badly affected by the fear of petrol bombs and cocktails. The episode badly affected the cognitive behavior of minors, particularly who were victim. Besides, the most dangerous part could be that some may even be inspired by the negative thrill.

b. Public health was another sector which suffered immensely during last turmoil. Many people were deprived of the medical facility owing to not venturing the risk of going to hospitals. Moreover, the influx of burnt victims created a suffocated and fearful environment in some places.

c. Employment of mass people was also affected. Daily labours, construction workers, drivers of different transports, garment workers, street sellers etc could not earn their living properly. Furthermore, employment by the foreign investment was curbed.

d. Subversion activities like IED attack also breed the uprising of different opposing groups, Mukto Mona Bloggers, internet news portals etc. Some of them at times get indulged with anti religious and sensitive comments which later on create another issue for violence.

On Politics

Although most of the IED attacks in Bangladesh are motivated by unholy political agenda, yet it has far reaching bad effects on the overall political image and practices. Any political party being defamed with branding extremism will surely suffer people's choice. In general, use of IED in politics undermines the human quality, creativity, public relation/communication, respect for others' view etc. Political leaders, if they get subjugated/attracted by the temporary benefit of IEDs, the state craft will corrupt and the nation will suffer badly.

Major Challenges and Selected Operational Response Measures

The threat of IED is contemporary, enduring and a big challenge. Although we are yet to experience worse situations like Iraq, Afghanistan or even Pakistan but the Geo-Strategic Location, Demography (mainly illiteracy, religious sentiment and emotional aspect of BD people), Internal Power Dynamics and Expansion of AQ and ISIS in South Asia particularly makes BD vulnerable to IED threat. Hence, to counter the threat we need to identify the related challenges at different levels and ascertain the response measures.

Initial Challenge – The Way BD Look at It

There is no denying a fact that in BD we are yet to perceive the IED threat to its full spectrum. To visualize the magnitude and dimensions of IED threat one has see it being within a big canvas, accommodating both domestic and international affairs. Terrorists today are no longer confined to their national boundary; they operate from foreign bases with a wide and complex web of international linkage. Combating IED threat can no more remain isolated government action programs; it requires a concerted and well coordinated national and international plan and response. Here lies BD's initial challenge; we are yet to recognize the threat from a greater perspective as such our preparation and response measures are also inadequate. The *Survey Results* have further confirmed the weaknesses:

a.   To counter the IED threat, present standard of operational response measures by law enforcing/ other government agencies:
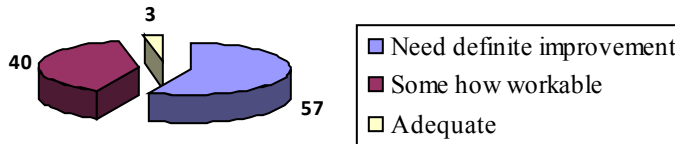
b.   The level of our preparation to face the IED threat is:
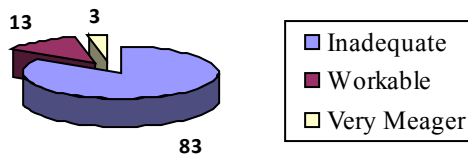
Government/Strategic Level

To deal with the threat it requires a national effort based on a whole-of-government approach that addresses the device, the network and the socio-political aspects of the operational environment. Challenges and proposed response measures at this level are:

a.   **Challenges** (related to)

  •   Outlook of the Government regarding IED threat.

  •   Perceiving IED as a Threat System.

- Conceptual preparation and inter Ministerial coordination.

- Resource limitation.

- Addressing AQ and ISIS issue.

- Effective diplomacy to prevent and deter IED threat.

- Implementation of laws/acts to curb IED attack and stop illegal use of hazardous (explosives, flammable items etc) material.

- Developing effective Lines of Operation (LOO), integrating all concerned.

b. **Selected Response Measures**

- First and foremost thing we need to do at national level is to perceive IED as a threat system and focus on whole-of-government approach to address the threat.

- Bringing stakeholders of all strata and build a consensus to stop use/ supply of hazardous substances that are ultimately used for making different high explosive IEDs, petrol bombs, cocktails etc.

- Banning terrorist/militant groups or parties, who so ever demonstrate slightest threat to human security as well as national security.

- Constantly monitoring the activities of extremist parties.

- Money Laundering Prevention Act (MLPA), enacted in 2002 should be strictly adhered to.

- Proper implementation of Speedy Trial Tribunal 2002.

- Anti Terrorism Act-2008 must be firmly enforced.

- Introducing the system of awarding Corporal Punishment for any kind of involvement in IED matters/attack.

- An Executive Committee, comprising representatives from concerned ministries and related government agencies, may be formed to manage anti/counter terrorism activities within the country. As and when necessary, the Committee will assemble and coordinate the function of different government organizations. Through this integration we will get better result and can avoid duplication of effort. Here, point to note is - the Committee should be allowed to work independently and freely, being under no ministry or government office. Again, government has to ensure that its organs do render every possible support asked by the Committee.

- **Establishing LOO for countering IED threat.** Some suggested lines are set out below:

- LOO 1 : **Diplomatic**

Military or paramilitary forces perhaps cannot bring an end to a threat like IED unless it is diplomatically/politically agreed upon/resolved. With this connotation BD should make all endeavors to settle the IED related problems both at home and abroad (if deployed anytime) through diplomatic efforts, in addition to other efforts.

- LOO 2 : **Military and Paramilitary**

This LOO will include all activities of Armed forces, Police, BGB, RAB etc. Training, neutralization of devices, attacking the network etc are some of mentionable operations. Most of these operations will be conducted in civilian environment, hence, a close tie with civil administration and off-course local people will be needed.

- LOO 3 : **Psychological**

This LOO is to ensure comprehensive psychological warfare against the IED network and local activities. It will encompass the intimate support of electronic and print media, social leaders, celebrities etc. Trained forces will also contribute their bit in psychological operation.

- We might activate a Data Center, either with Police/RAB/DGFI, which will be the primary source of information and intelligence relating to the illegal use of explosives and hazardous material. Their role will be to collect data from all concerned, collate, interpret and disseminate those. Data center will maintain records of all bomb-related incidents, regardless of design, target, party or motive. These records will be used to shape the IED trend and method of use that ultimately will be invaluable information to the tactical operators. Besides, this center will also collect and process information on IED/terrorist matters outside BD that might prove useful for BD's interest. For efficient functioning of the Center, less the support staff, most of the members of this center should be preferably qualified bomb technicians and some should have intelligence training.

- Finally, we need to allot adequate funds for the acquisition of resources and establishing facilities.

Agencies/Operational Level Challenges and Selected Response Measures

a. Environment and IED Threat

Political, social and economic environment are closely related to IED attack. At agency level we need to carry out comparative case studies and social science researches, taking the incidents of both domestic and international arena, to ascertain the effect of environment and the response measures. In this regard, agencies may utilize the intellect of civil society/scholars/professors to understand the variety of human behavior.

b. Acquisition, Synthesis and Analysis of IED related Data

There is a need to detect the activities that precede IED activation/detonation. It requires a wide variety of information including data from both human and technical sources, and the systematic inference of actionable knowledge from the fusion of the data. In BD, our agencies badly lack in processing data and making them into viable intelligence. Moreover we have gaps in coordination and integration between agencies. As such, proposed Committee and Data center may (as suggested in strategic level) be useful in coordinating the activities of related agencies. In this regard, RAB and DGFI officers proposed (during focused group discussion) to carry out Case studies/Research on IED matters and trend. Outputs of the researches will be very useful in formulating the action plan.

c. Analytical Techniques for Assessing IED Countermeasures

This is an operational level tool, like the *After Action Review,* to assess own action. It is mostly an action of law enforcing agencies/ military forces. In BD we need analytical methods that quantitatively assess the effectiveness of IED countermeasures. To do this we will require base information to answer the questions like: *Which all agencies have taken what all measures? What is the rate of success? Why did we fail? etc.* Perhaps, once activated, our proposed Committee can address the issue.

d. Detection and Disruption throughout the IED Threat Chain

There are various points in the chain of events leading up to an IED attack at which improved detection and disruption technologies might be usefully applied. For each detection opportunity, there are basic issues regarding the particular signatures, methods, and limits of detection. This detection and disruption

technology is yet a challenge for BD. Initially, we may plan to strengthen our existing intelligence network with a comprehensive plan for future development. Since the environment surrounding this action (i.e. detection and disruption) is dynamic and ever changing (as perpetrators always change their technique) so our operational level response should also be dynamic.

e. **Ensuring Resource Availability**

At operational level we lack in resources like, funds, facilities, gadgets/devices, training establishment etc. Resources have direct relation with finance and it mostly rolls down from top, as such, at agency level we need to: firstly think and act jointly to minimize the resource constraints and secondly to coordinate activities like exercises/training/operations in a manner that economy of effort is maintained.

f. **Implementation of Laws/Acts at Different Courts/Levels**

In BD we have laws/rules/acts to guard against IED attack, but we profusely lack in their implementation. Anti Money Laundering act 2002, Speedy Trail Tribunal 2002, Anti Terrorism Act 2008 etc which are already in vogue should be pursued vigorously. Despite having these laws some culprits are still escaping the punishment, for example- according to a news paper, Md Khairul Bashar, the so called operation leader of Harkat-Ul-Jihad-al Islami of BD (HUJI-B) got bailed out from one of our esteemed Court (Daily Jugantar, 18 January 2015:2). How can this happen? It is a big backlash. We should be adequately skilled to be able to keep the perpetrators under lock. Introduction of Corporal punishment may also be considered seriously.

g. **Establishing LOO at Agency/Operation level**

We need to establish operational level LOO for countering IED threat. Some suggested lines are mentioned below:

• LOO 1 : **Attack the Network**

This LOO will consist of lethal and nonlethal actions and operations targeting IED networks. It can be conducted simultaneously at multiple levels (from street to the masterminds). In this line, orchestration of intelligence, political, media and other efforts along with field level operation is vital to the success.

- LOO 2 : **Defeat the Device**

This LOO will consist of activities to detect and neutralize IEDs. These will be mostly tactical level actions having operational level impact. To perform these, we will need trained manpower and devices/equipments. The team/group might also be requiring support of local people.

- LOO 3 : **Train the Force**

This LOO is to ensure comprehensive training of BD forces. Selected personnel from Armed forces, Police, BGB, RAB will undergo a systematic program. Training should ensure that deployed troops are aware of the IED threat in their operational area and have an understanding of their missions, functions, and responsibilities, as well as the capabilities of their equipment. This type of training may be conducted in some military institution like Ordnance Center and School of BD Army.

Field/ Tactical Level Challenges and Selected Response Measures

a.   **Knowing How to Deal with Modern/Latest IEDs**

We are yet to know, at ground level, as to how we deal with a latest IED. It must be remembered that petrol bombs or cocktail situations are primitive kind. Currently, across the world or even in our region very powerful IEDs with huge destruction ability have been used. As BD has not experienced such devastating attack (less grenade attack of 21 August 2001), we are yet to prepare ourselves both physically and conceptually.

b.   **Lack of Techniques, Tactics and Procedure (TTP) and Concept of Operation**

At tactical level, the Counter-IED (C-IED) plan provides guidance for isolation and attacking elements of the IED network, mitigating the effects of an IED blast, training the force in C-IED TTP, and developing a comprehensive concept of operation. In BD we have limitation on most of the above mentioned activities. We are yet to formalize the *Concept of Operation* to C-IED. A suggested theme (Author formulated) is appended below:

Concept of Operation can be a verbal or graphical representation that clearly expresses what the field commander intends to accomplish and how it will be done using available resources. The concept is designed to give an overall picture of the operation. It will describe how the actions of the force components and supporting organizations will be integrated, synchronized, and phased to

accomplish the mission, including potential branches and sequels. The staff officer will write (or graphically portrays) the concept in sufficient detail so that subordinate and supporting elements understand their mission, tasks, and other requirements and can develop their plans accordingly. The concept should be consistent with the approved course of action (by higher level).

c.   **Lack of Modern Equipment**

We have serious lack in IEDD equipment (during discussion, most of the Resourced Personnel and other Interviewees also opined same). At the moment 57 Engineer Company of BD Army and Bomb Squad of RAB Headquarter are primarily doing the disposal work of IEDs. Many of their equipments are old and not up to the mark (in line with international standard). However, Bomb squad of RAB has some workable items but again their quantity is meager. To enhance our C-IED capability we need to buy some modern gadgets.

d.   **Inadequacy in Training**

Our existing training system is not adequate. Shortfalls are:

• It is not modern, as we do not have modern gadgets, technologies, concept and adequate facilities.

• We lack in integrated training among units/teams of involved agencies.

• Even in Army, our training is not coordinated. Although the Corps of Engineers is primarily responsible for bomb disposal, however their men undergo bomb disposal training for only two months or less time in ECSME. But in Corps of Ordnance, men under go ammunition technician course (covering the Explosive Ordnance Disposal) for almost nine months including physical demolition of munitions and explosives. Moreover, Ordnance School imparts workable knowledge on a lot of conventional munitions. From both technical and economic point of view and to maintain similar standard, it is therefore suggested that a single institution be given the responsibility to train the men on IED matters.

• If we consider IED as a system, then we must train our men on intelligence aspects as well. At the moment our training covers some aspects on disposing the device but not covering training on preventive intelligence measures.

• To enhance our capability the paper also suggests inclusion of adequate foreign training on IED matters.

Integration of Efforts

To deal with IED threat integration of effort is a must. BD has a number of ministries and agencies who share the responsibility to guard against terrorism and IED attack. Given the limitations it is assumed that they try to do their part judiciously. But the weakness is, their efforts are not integrated. We know, *Unity is Strength*. If we can combine our potency, perhaps we will be able to do better against terrorism and IED. The suggested Committee could bring the synergy through coordinating the action plan and integrating the resources. In so doing their working agenda may include:

a. Identifying the causes of terrorism and proffered tactics in the country.

b. Advising the government for taking pragmatic steps to eliminate the root causes.

c. Remain updated with global scenario on terrorism and suggest methods to block entries of terrorists, their means and methods into Bangladesh.

d. Coordinate all proactive/preventive/reactive steps against terrorism in the country.

e. Visualize future developments in the terrorism tactics and suggest ways to prevent those.

f. Conduct constant surveillance on the likely breeding pockets of terrorism and advice steps for prevention.

Proffered Actions by Media, Business Sector and General Mass

Media Response Measures

a. **Anti Extremism Campaign**

    Usually, the rise of radicalism and intolerance is rejected by general mass. Ordinary people have always condemned the heinous acts by the extremists. Through skillful media campaign (both electronic and print) we can subdue the rise of terrorism and use of IED to a great extent. Celebrities (sports stars, movie stars etc) and eminent personalities can also take part in such campaign.

b.   **Awareness Building**

Government can use the media to grow awareness among the people about IED threat. A list of Do's and Don'ts, during a IED situation, may also be broadcasted using television, radio and news papers.

c.   **Exposing the Perpetrators**

Media should expose the culprits and their deeds in front of the mass. Their consequences and regrets should also be highlighted.

d.   **Information Collection**

Media has strong intelligence collection network. We can use their capability in collecting information about terrorism.

Response of Business Sector

a.   **Rejection**

Finance is a prime pre-requisite for terrorism. Businessmen at all levels should reject the business entity which overtly or covertly support, promote and finance the extremist groups.

b.   **Assist in Monitoring**

Although BD is a small country but a large portion of population (almost a crore) is directly involved in business sector. If the business personalities assist government and other agencies by involving their employees to monitor/protest against IED use, the C-IED measures will be greatly enhanced. But this will only be possible once the owners enjoy the confidence of their workers. Besides, the Banking sector in particular can assist in monitoring illegal/unusual transaction of currency.

c.   **Remaining out of Terrorism Sphere**

For illegal profit or to avoid loss, businessmen should not get involved in terrorist activities.

d.   **Controlling the Storage and Supply of Hazardous Items**

Businesses which deal with hazardous items including liquid fuel should carefully maintain the storage and supply accountability. They should strictly monitor that poisonous and explosive ingredients/chemicals are not sold to unauthorized/doubtful customers.

Response from General Mass

The biggest strength of BD is its population. If the people of BD sincerely want, we can eradicate the IED threat. It is a well known fact that without the help of native people no terrorist group, either local or outsider, can sustain. As such if we can inspire our people and make them aware, probably they can contribute the most against IED threat. General mass in this regard may assist by (the list is not exhaustive):

a. Creating a social voice against IED. They can be a part of public awareness building programs.

b. Introducing Community Policing to guard against IED.

c. Preventing friends and family from getting involved into extremism/ terrorism.

d. Boycotting the personnel and groups/parties that promote/support terrorism.

e. In extreme situation, stand and resist the perpetrators in respective community.

f. Assist C-IED operations by giving valuable information.

g. Imams of different mosques can play an active role by preaching the correct explanation of 'Jihad' and enumerating the consequences of heinous acts like IED attack.

RECOMMENDATIONS

The paper floats following recommendations:

To address the menace effectively, BD needs to bring necessary amendments in the Constitution, keeping the provision of forming Special Tribunal for IED matters, empowered with speedy trial and quick execution. The paper also recommends introducing Corporal punishment for any kind of involvement in IED attack keeping no scope to appeal.

To invigorate public awareness building programs at all levels. It should aim to sensitize people about the perils of IED and promote Community Policing, involving people from all strata of the society specially the youth and the social elites.

CONCLUSION

In present world order, the threat of IED is contemporary and almost unavoidable. Recently BD has experienced widespread IED related incidents. IEDs, in the form of Cocktail/ Handmade Bombs, Improvised Bombs, Grenades and Petrol Bombs, were indiscriminately used against innocent civilians. Apparently, most of the recent attacks were directed due to political reason. Apart from local IED threat, BD is also vulnerable to international/regional threat (of IED) due to its Geo-Political and Geo-Strategic position. In addition, threat of AQ and ISIS linking through JMB, HUJI-B or Hijbut Tahrir etc cannot be ruled out as well. Moreover, in conventional arena IED is an effective weapon used in the wide range of asymmetric warfare across the world.

Under the present circumstances, IED is surely a national security concern. Although the threat is still at manageable level, but if it is not restricted, the perpetrators might go beyond control and start undermining the capability of the state. Hence, it is time for BD to take pragmatic and methodical steps to counter the threat. The paper has identified some of the challenges at government/strategic level, agency/operational level and field/tactical level. Besides, it has also suggested few operational response measures to counter the threat. Some mentionable measures are: To build the public awareness and consensus against IED; Introduce and implement laws/acts/rules/punishments quickly and properly; Form national level Committee to coordinate and guide the C-IED matters; Activate data center; Define lines of operation at different levels; Improve resource base including equipments, develop integrated training; Conduct research; Develop and improve the TTP etc. A holistic approach to C-IED will also require integration of efforts by concerned offices/organizations, response from business personnel, politicians, media and above all the support of general mass.

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Author

Lieutenant Colonel Abdullah Tafhimul Islam, afwc, psc, Ord was born on December 6th, 1975 in Chandpur. He was commissioned on 29 November, 1995 from Bangladesh Military Academy with 33rd BMA Long Course. He served in various Ordnance units in different appointments. As an Instructor he served Ordnance Center and School several times. He was also an Instructor to the Unit Command and Staff Course-24 at School of Infantry and Tactics. Lt Col Tafhim was appointed as Deputy Assistant Military Secretary in Army Headquarters for more than two years. For a short duration he served in Rapid Action Battalion. Besides the courses at home he has done a course on Defence Acquisition Management in USA. Lt Col Tafhim is an Ammunition and Explosive expert and he is a graduate on Computer Science and Engineering from Dhaka University. He is also a graduate from Defence Services Command and Staff College and National Defence College (AFWC), Mirpur. In his illustrious career, he participated in United Nations Mission in Cote d'Ivoire (ONUCI) and D R Congo (MONUSCO). He also participated in a Command Post Exercise in Kuwait. Currently Lt Col Tafhim is serving as Chief Ordnance Officer of Ordnance Depot Jessore.

CLIMATE CHANGE AND INTERNAL MIGRATION: AN ANALYSIS ON SECURITY CHALLENGE FOR BANGLADESH

Lieutenant Colonel Abu Rubel Md Shahabuddin, afwc, psc, G, Arty

"For my country, Bangladesh, the goal of combating climate change and its impacts is crucial, as we are on the frontline of this global threat…This can create millions of environmental refugees, though Bangladesh's contribution to climate change is negligible". - Sheikh Hasina, UN's 'Champion of the Earth' award laureate and the Honourable Prime Minister(PM) of Bangladesh.

INTRODUCTION

Climate change is commonly defined as a long-term change in the earth's climate, especially a change due to an increase in the average atmospheric temperature. Climate change poses a grave threat to Bangladesh. The adverse effects of climate change in the form of natural calamities undermining livelihoods, reducing basic human security and creating tension in the society. It has been estimated that there is the impending threat of displacement of more than 20 million people in the near future (BCCSAP 2009). This may turn in to a major non-traditional security threat where sea level rise, possibility of loss of huge land mass, food shortage, internal chaos and unrest due to fierce competition for existing scarce resources, mass displacement and internal migration, etc may pose existential threats for the country.

The growth centres are saturated already and the cities are expanding rapidly due to intense urbanization. More and more people are leaving their lands and moving to Dhaka and other growth centres as effects of climate changes are becoming phenomenal. Nearly half a million people move to Dhaka every year (Sach2007).A one meter sea level rise will inundate one-third of the country, and by 2050 about 20 million people will be required to be relocated (IPCC 90). This could upset the existing delicate national and regional demographical and ethnic balance and provoke a repercussion that may stress internal and regional security. India has almost completed about 2,100 miles of fencing along its long and unstable border with Bangladesh. Isabel Hilton, a London based environment commentator forecasts, "Bangladesh is a country that could provide more climate refugees than anywhere else on earth. What that fence says to me is, wherever those people are going to go, they're not going to India"(Friedman 2009). India is not taking any chances.

If local and national government cannot develop measures to cope with the pressures of climate change and migration, then the risk of intense violence is very high. As warming temperatures continues altering land mass, already-vulnerable communities in Asia and Africa could descend into conflicts and even wars. Climate change is now an issue that has to be included in national security policy. The political sensitivity of migrants issue has led to a dearth of studies on environmental migration patterns in Bangladesh. "The country is not yet prepared to know how to deal with it. The prevailing attitude is that climate change is a big problem, migration is a big problem - let's not link it. Let it happen in the next generation" (ibid). Therefore, it is essential to identify what is needed at the national and regional level to respond to and prevent the risk of heightened insecurity and conflict in near future as a result of climate change.

CLIMATE CHANGE BRINGING ABOUT CHANGES IN THE SECURITY CONCEPT GLOBALLY

Climate Change and its Impact

There has been an increase in reported natural disasters over the last 30 years, especially hydro meteorological events, and an increase in the people affected, averaging more than 255 million people worldwide every year between 1994 and 2003. Desertification, reduction of soil fertility, coastal erosion, etc hampering existing livelihood patterns, disrupting food production and triggering different types of migration. The mass international migration from Syria and many African countries are the burning examples of grave impacts of climate change (Guardian 7 September 2015).

Global Security Scenario Due to Climate Change

Climate Change Intensifying Existing Crisis. Climate change impacts may intensify crisis situation and exacerbate existing conflicts like in Sudan and Somalia. State collapse and destabilizing internal conflicts are more likely outcomes of climate change. Climate change may add to tension even in stable world regions like in European Union (EU). There are greater potentials for failed states and political instability like Syria, Sudan, Eritrea, Pakistan and Somalia. (IDA 2009).

Creating New Tensions Globally. Coupled with rapid population growth, climate change may undermine the carrying capacity of many developed countries."Climate and vegetation zones are shifting, so the Mediterranean will likely keep getting drier this century, with knock-on negative social and economic impacts." In other words, the Mediterranean countries currently trying to cope with migrants from other parts of the world may eventually have a migrant crisis of their own (Guardian 18 August 2015).

Conditions Favoring Terrorism. In already-weakened states, climate change impacts will likely result in further instability. Violent extremists can use climate-exacerbated stresses to fuel existing causes. Osama Bin Laden has spoken several times on the inequities of climate change (Mabey 2008).Rise of Boko Haram, Syrian civil war and rise of Islamic States of Iraq and the Levant (ISIL) are far deeply rooted in the consequences of climate change effects and food crisis in those countries (Guardian 18 August 2015).

Climate Change and Internal Migration- Root Cause of Syrian Civil War and European Refugee Crisis. Syria gets almost all of its rain during its six-month winter, from November to April. In 2007-08, winter rainfall across Syria fell by a third, with some areas receiving no rain at all. Harvests of staple crops such as barley and wheat fell by 67 per cent and 47 per cent, respectively causing food prices to more than double. Around 1.5 million people migrated to Syrian cities during the drought, adding to the high population growth and recent arrival of 1.2 to 1.5 million Iraqi refugees. The growing urban populations resulted in overcrowding, unemployment and crime, but the worsening situation was neglected by the Syrian government. This growing unrest, the researchers say, was the trigger for the uprising (Carbon Brief 2015) as shown graphically below.

Figure 1: Timeline of events of Syrian crisis

Source: Kelley et al. (2015)
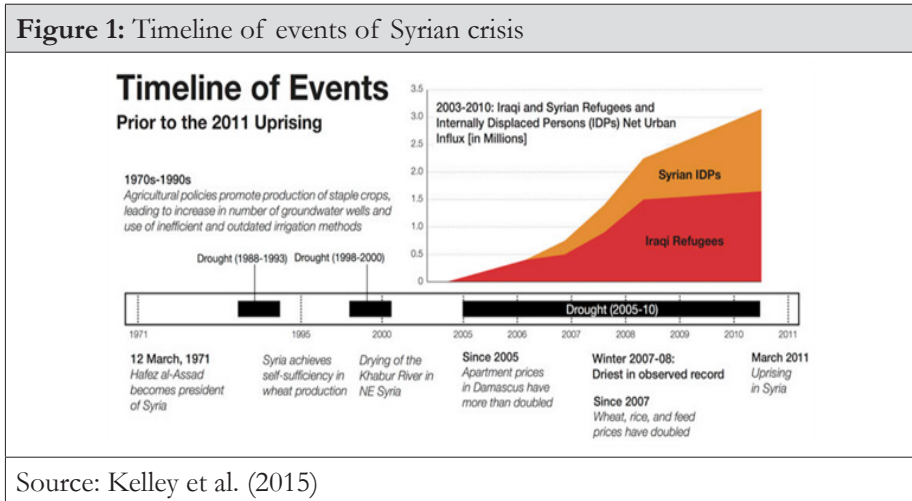
CLIMATE CHANGE, IDPS AND MIGRANTS- A COMPOUND SOCIO-POLITICAL ISSUE IN BANGLADESH

Climate Change in Bangladesh

Bangladesh Recognized as most Vulnerable Country to Climate Change Globally. Bangladesh is on the top of among 16 countries that are most vulnerable to climate change in next 30 year. Maple croft rates Bangladesh as the country most at risk due to extreme levels of poverty and a high dependency on agriculture, whilst its government has the lowest capacity of all countries to adapt to predicted changes in the climate. In addition, Bangladesh has a high risk of drought and the highest risk of flooding (CCVI 2011).
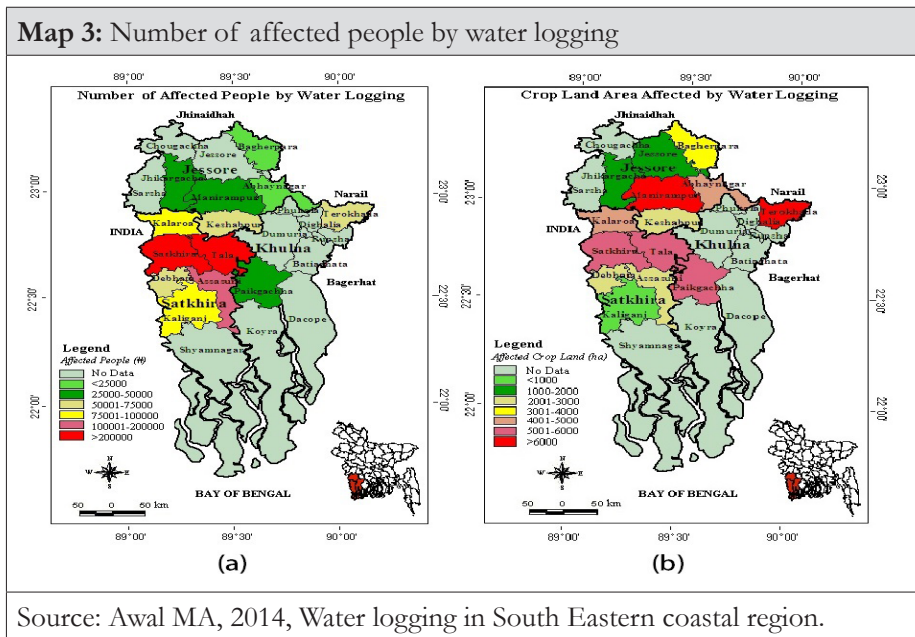
Trends of Climate Change. Projected temperature rise in Bangladesh predicted by U.S. Country Studies Program is 1.3°C by 2030 and 2.6°C by 2070. The central findings reveal that winter warming would be greater than summer warming. There would be little change in winter precipitation and enhancement in precipitation during the monsoon. Precipitation in Bangladesh in general was 30% more than as usual in September 2015 while in Rajshahi division, it was less by 40% in the same month. It indicates that there would be drier weather at places while other places would have excessive rainfall in monsoon (Prothom Alo 2 October 2015). The country would also be highly susceptible to increased flooding, salinity intrusion and increased drought (Mamun 2009).

## Mapping Climate Change Impacts in Bangladesh

Flooding. Monsoon rainfall increased in 18 out of 32 meteorological stations. There is an increase in the pre-monsoon rainfall as well (CEIGS 2014).The flood control dam of Jamuna at Sariakandi Upazilla of Bogra was washed away by early monsoon flood of first week of June 2015 (Prothom Alo13 June 2015). Climate models and hydrological studies suggest that flood will recur sooner and the range of flooded area will be approximately 50,000-57,000 sq km.

Water Logging. For more than last 15 years, massive water-logging has taken place in three coastal districts namely Satkhira, Jessore and Khulna. Satkhira being the most affected district was inundated by 5-7 feet of water that caused massive displacement in the population.(UNDP 2011). The Cyclone Sidr and Aila caused permanent water logging in the coastal districts of Bagerhat, Khulna and Satkhira (map 3).

Map 3: Number of affected people by water logging

(a)　　　　　　　　(b)

Source: Awal MA, 2014, Water logging in South Eastern coastal region.

Sea Level Rise (SLR). SLR is a threat to the existence of many people in Bangladesh. SLR of Bay of Bengal is the world highest, at 10 mm/year(CDMP 2014). If sea levels rise by one metre, one sixth of Bangladesh will be under water as shown in map 4. Already, in the Sundarban and Cox's Bazar part of Bay of Bengal, the mean SLR is identified as 5.05 mm and 7.4 mm/yr respectively (CEGIS 2011).

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Map 4: Potential Impact of SLR in Bangladesh
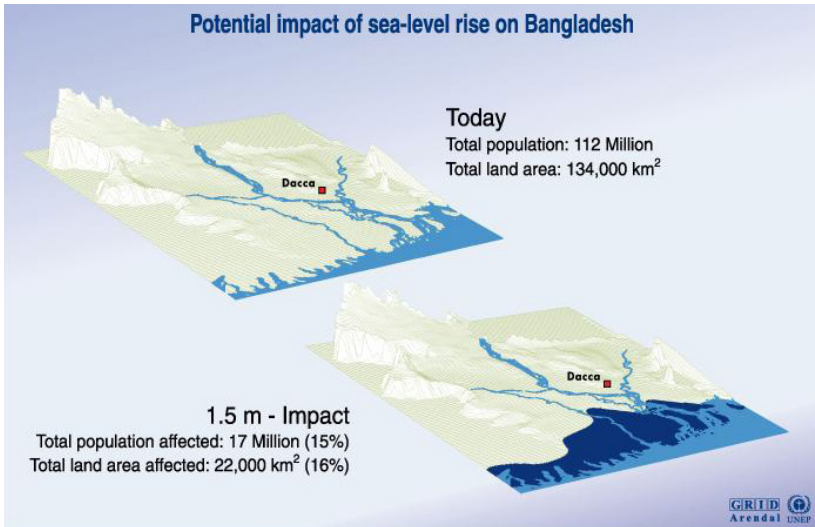
Source: German Watch, SLR in Denmark and Bangladesh

Tropical Storm and Tidal Surge. Super-cyclonic storms (with winds greater than 220 km/hr) damages averaging 2.4 percent of GDP. When combined with an expected rise in sea level, cyclone-induced storm surges are projected to inundate an additional 15 percent of the coastal area as shown in map 6 below. On 23 Mach 2015, a tidal surge overtook the existing dam and flooded 16 villages in Shamnagar Upazilla of Satkhira (Prothom Alo 24 March 2015).

Map 6: Projection of storm surge inundation in a changing climate-2050
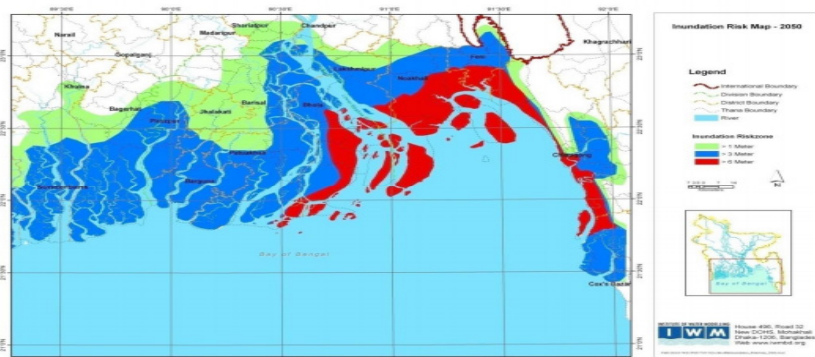

Source: World Development Report, 2010, World Bank

Socio-economic Impacts of Climate Change in Bangladesh

Impacts on Fisheries and Aquaculture. It is seen that coastal fisheries are affected by SLR in three ways: by salinity, by flooding and by increasing cyclone frequency and damage (CDMP 2014). During the Cyclone Sidr and Ila, coastal fisheries suffered huge damage (Mahfuzur 2015). If the coastal fisheries decrease, it will hinder country's inflow of foreign remittance as fisheries stands as the second largest remittance earning sector.

Impacts on Agriculture and Food Security. Salinity intrusion due to SLR would decrease agriculture production by unavailability of fresh water and soil degradation. The rice production in Koyra and Paikgacha Upazilla of Khulna district has reduced 40% (Mahfuzur 2015) while another investigation revealed a reduction of 69% in some villages of Satkhira district (CDMP 2015).Besides, crops pattern cannot match with the changed rainfall and seasonal variations. Since the seasonal calendar perceived by the farmer (marked in blue in figure 2) becomes offset (marked in red), farmers suffer heavy loss and struggle to adopt to uncertainty of seasonal change. The production of rice and wheat in general could fall by eight per cent and 32 per cent respectively by 2050 (IPCC 1990).

Figure 2: Seasonal calendar as perceived by farmers
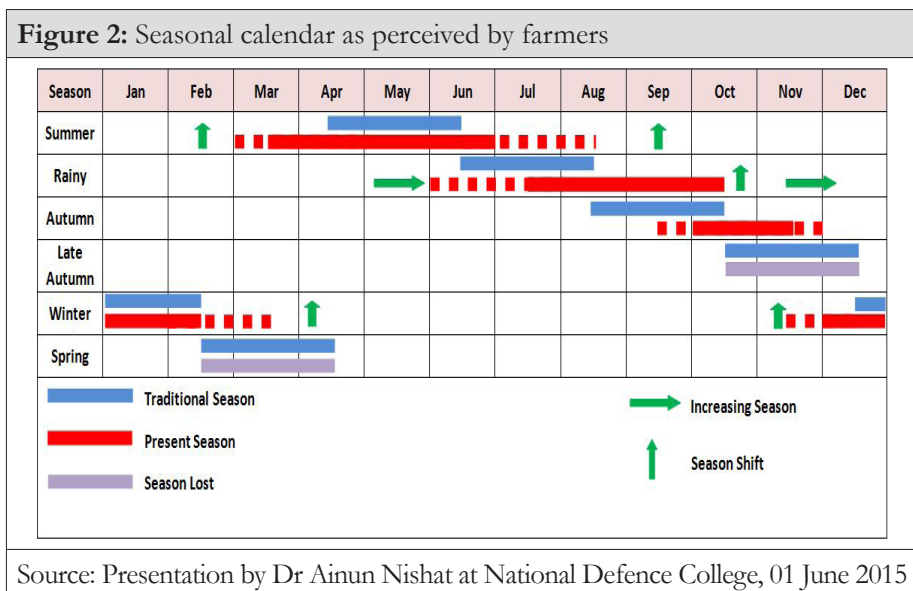
Source: Presentation by Dr Ainun Nishat at National Defence College, 01 June 2015

Territorial Loss, Impacts on Eco-system and Health. By river bank erosion, Hatiya has reduced from 100 sq km to only 21 sq km and Swandip has lost 180

km in last 100 yrs. Bhola Island has been reduced to 3400 sq km from 6400 sq km in 1960. With this rate, it is apprehended that Bhola may completely disappear from map by next 40 years and the total population of Bhola may need to relocate elsewhere (Patwary 2009). The Sundarbans would be completely lost with 1 meter SLR (WB 2000). Climate change is also a significant threat to coral reef health.

Economic Impacts of Climate Change. By 2050, total investments of $8,446 million and $112 million in annual recurrent costs will be needed to protect against storm surge risk and constructing cyclone shelters. Overall, climate change is expected to decrease agricultural GDP by 3.1 percent each year-a cumulative $36 billion in lost value added during 2005–50. Bangladesh invested over 10 billion USD for the last three decades to make the country more climate resilient. Implementation of BCCSAP will need 5 billion USD for the first five years (Rabbi 2012).

Climate Change, Internal Displacement and Migration

Primary Causes for Displacement. The primary causes of climate displacement in Bangladesh are increased tidal height in the coastal areas (leading to tidal flooding) and riverbank erosion in the mainland areas. The key secondary causes of displacement are tropical cyclones and storm surges in the coastal regions and river flooding in the mainland. Out of 64 districts, 24 coastal and mainland districts are already producing climate displaced people (Displacement Solution 2012).In a survey conducted among various walks of people including climate experts, it was found that 66% respondents (figure 3) agreed that climate change is causing forced migration in small scale at present.

Figure 3: Climate change is causing forced migration in small scale

Source: Prepared by author
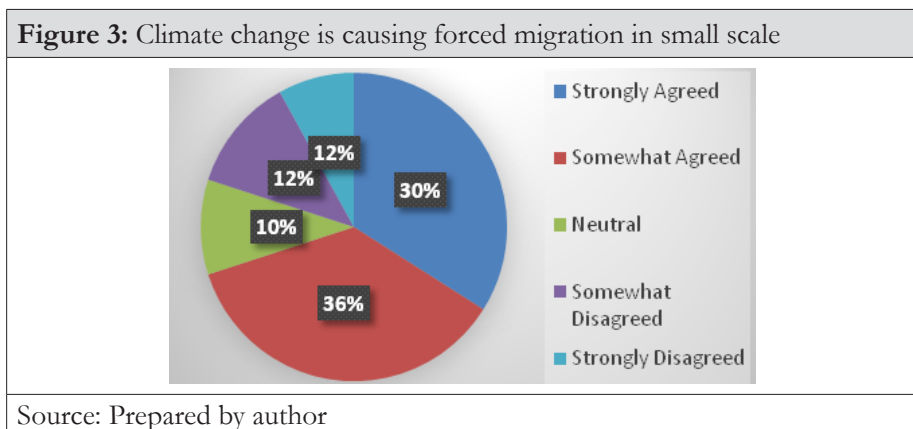
Cyclones and Displacement. In 2007, the country was ravaged by Cyclone Sidr, which displaced 650,000 people and killed 3,447 (official record). In the year 2009, two cyclones hit (cyclone BIJLI, April 2009, and cyclone Aila, May 2009) Bangladesh. About 200,000 people were displaced by cyclone BIJLI. In May 2009, cyclone Aila crushed the coastal area and nearly 4.82 million people were affected (ibid).

Water Logging and Displacement. A survey conducted in the cyclone Aila affected district of Khulna depicted that coastal water logging resulted in a huge population movement to nearby safer elevated places. Approximately 106,000 people were displaced from water logging in the area to nearby safer, dry places and other distant districts and in some cases, even to India (Kushol 2009).

Future Prediction of Displacement. In addition, Bangladesh is expected to have massive environmental displacement, which is calculated to be about 49 million, 63 million and 78 million in 2010, 2015 and 2020 respectively (CDMP II 2014). Project Director of CDMP II, Mr Abdul Kayum mentioned, "In 19 coastal districts of Bangladesh, 2-2.5 million people are in a risk of becoming homeless for climate change effects…by 2050 there will be one homeless person out of 7 in the country" (Janokantha 29 January 2015).

Destination within and Outside the Country. UNDP suggests that part of causes for rapid urbanization in Bangladesh is internal migration caused by climate change. More than half of poor migrants live in private slums and 44 % squat on public land. Many victims continue to relocate themselves either directly to India, or to overcrowded city slums in Dhaka (Afsar 2010). Not only that, recent studies confirmed that a substantial fraction of illegal immigrants to Malaysia, Thailand and EU countries are from the coastal areas of Bangladesh (Prothom Alo, 23 May 2015).

## CLIMATE INDUCED INTERNALLY DISPLACED PERSONS (IDP) AND MIGRANTS-A SECURITY CONCERN FOR BANGLADESH

Migration Posing Traditional and Non-traditional Security Threats

Migration and Human Security. Disaster induced displacement is associated with a number of socio-economic issues. Most of the IDPs particularly women

and children, become victims of human rights abuses. They also become the prime targets of human traffickers and a number of women are forced to get involved in prostitution for survival. Displaced people also become indebted as they move to new places. And even when they find a place in slums of major cities, they are in constant risk of eviction by the authority. "Climate induced migrants of Paikgacha, Koyra, Dakope, etc upazillas are crowding in already congested slums of Khulna city. Finding not many suitable livelihood options, many have chosen the path of crime and drugs, even some forcing their daughters and wives to prostitution"- mentions the panel Mayor of Khulna City Corporation (KCC), Mr. Anisur Rahman Biswas in a recent interview (Biswas 2015).
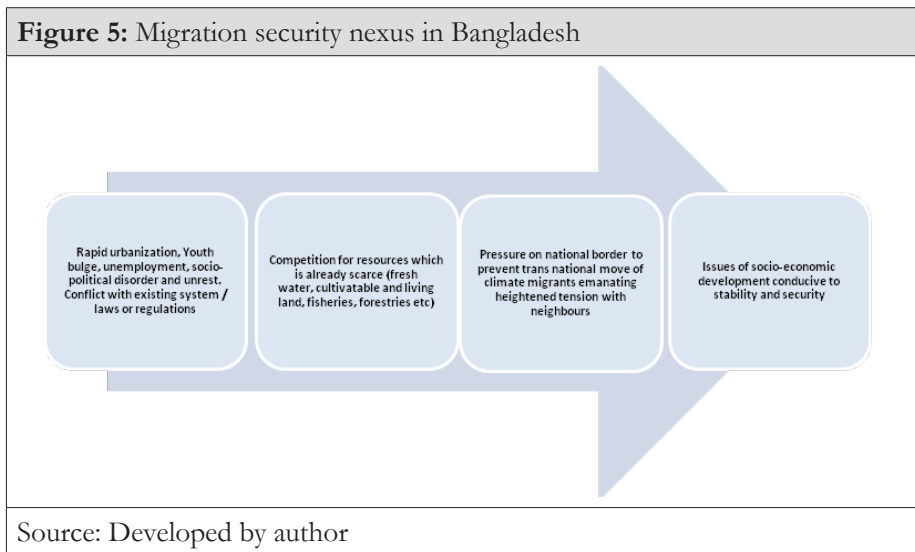
Migration and Traditional Security. These internal migrants and IDPs would cause rapid urbanization, youth bulge, unemployment, socio-political disorder and unrest. They would dare to challenge existing rules and regulations for survival and entangle into conflict for securing scarce resources. 68% of respondents agreed that there may be chances of violent movement by the displaced population in particular by the unemployed youth demanding for food, shelter and access to other resources as shown in figure 4.They may also attempt for transnational migration illegally emanating heightened tension with neighbours and defaming national image.

Figure 4: Migration and fierce competition for resources
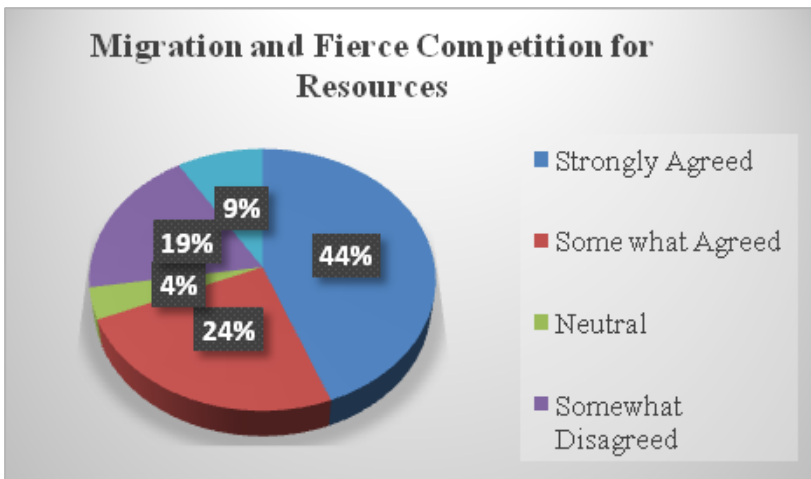
Source: Prepared by author

Climate Migrants and Social Stability. The migrants are mostly illiterate or half educated capable male with meager savings to sustain a new settlement. Many of them have a loan to repay. They do not possess enough skill to make a dignified living in the new destination. KCC Panel mayor refers that the migrants from distressed area are the main habitants of many slums and are the major player in different illegal activities(ibid).They are susceptible to be trapped in to the vicious cycle of poverty and adopt any means, fair or unfair, to make a living. They, therefore, become the major catalyst for creating a severe security situation in the rapidly urbanized destination. Graphical elaboration of migration and security nexus is shown in figure 5 below.

Figure 5: Migration security nexus in Bangladesh

Rapid urbanization, Youth bulge, unemployment, socio-political disorder and unrest. Conflict with existing system / laws or regulations

Competition for resources which is already scarce (fresh water, cultivatable and living land, fisheries, forestries etc)

Pressure on national border to prevent trans national move of climate migrants emanating heightened tension with neighbours

Issues of socio-economic development conducive to stability and security

Source: Developed by author

Migration Posing Challenges to the State

Migration Posing Operational Challenges to the State. Dhaka's population is projected to increase to 22.9 million by 2025 (Maxmillan 2013). There could be increased demands for housing, water, land-use, sanitation, waste disposal and social needs of people.

Migration Posing Geopolitical Challenges. Certain climate change scenarios could involve 'unplanned, unpredictable and concentrated movements of people' and crossing of sensitive borders could pose challenges. Migration to India could be a case in point.

Migration and Regional Security Situation in light of 'State Versus State Conflict'

Climate Change and Illegal Migration. The prospect of international migration is a touchy subject in Bangladesh. Air Commodore J Chalapati narrates, "Bangladesh does not recognize irregular migration as a problem and has denied its existence. At the head of states, irregular migration is probably discussed behind closed doors, but not recorded as an agenda point"(Chalapati2013). But for national security experts, it is the most feared global consequence of climate change(Friedman2009).

India Views Climate Change and Migration as a National Security Issue. For India, climate change is a serious concern. Many in India argue that India should not have to accept the victims of a problem caused by the industrialized world. A.K. Singh, the former commander of India's Air Force, mentioned," If one-third of Bangladesh is flooded, India can soak in some of the refugees, but not all." Cleo Paskal, an associate fellow at the Royal Institute of International Affairs in London, said the prospect of large-scale migration from Bangladesh represents a real threat to India. (Friedman 2009).One of the reasons that India went to war with Pakistan in 1971 was the refugee crisis (Ashok 1996).

Increased Tension in the Border. As the means of livelihood are shrinking, more and more people are going to India by illegal means. Some are going for a certain period for 3-4 months while others are trying to settle in India. From Uttar and Dakshin Betkhali villages of Koyra Upazilla of Khulna districts, 4000 peoples from 2000 families have already left to India. They are going for 3-6 months job options, falling back and again going to India (Rabbani 2015). Many of these migrants are also getting entangled with the cross border crime and smuggling. BSF has claimed that they have arrested 2, 823 illegal Bangladeshi migrants till September 2015 (Pothom Alo 19 September 2015).

Illegal Migration, National Image and Tension with Neighbour. The recent illegal migration through open sea is complicating Bangladesh's relations with Myanmar, Thailand and Malaysia. More than 150,000 Bangladeshis were illegally transported by sea to Thailand, Malaysia and Indonesia as reported by UNHCR in April 2015 (Prothom Alo 9 May 2015). Myanmar declared that she would deport any Bangladeshi migrants found in her territorial sea migrating to Thailand or Malaysia. It was revealed that, most of the Bangladehis kept in the detention camp of Thailand are from coastal area and climate change vulnerable

districts of Bangladesh (Prothom Alo 23 May 2015). Mr Tasnim Ahmed, head of an immigration research centre in Bangladesh mentions, "people from natural disaster prone areas, where crop production is not enough or beneficial, have become desperate to migrate at any cost" (Prothom Alo, 22 May 2015).

Migration and National Security Situation in light of 'State versus Group Conflict'

The climate–induced migrants are in a fierce competition for homestead land, food, water and other fundamental rights. There are many vested groups waiting to exploit them. The southern belt is always infested by the undergrounded leftist organization. Their presence, though not very significant in these days, still possesses a great risk of future ignition of armed leftist movement in the coastal and southern regions of Bangladesh (Zia 2015).The religion based extremists have also reasonable activities in the same area. They will definitely exploit this social chaos and poverty if adequate prevention and development measures are not adopted forthwith (ibid).

Besides, huge internal migration towards urban areas would bring unemployment, petty crimes and would cause degradation of social security. The ill motivated and unemployed youth bulge together with the mass poor migrants may demand equal distribution of land, food and even change of regime. The Sudan drought in 1985 in the countryside resulted mass migration to urban areas, and the cities exploded in violence leading to the collapse of the government. The abundance land of CHT is a lucrative option for the internal migrants. The survey at coastal areas (figure 6) suggest that a reasonable amount of migrants have already attempted to settle in CHT in the recent past.

Figure 6: Opinion survey on distressed persons attempting to settle in CHT


Source: Prepared by author
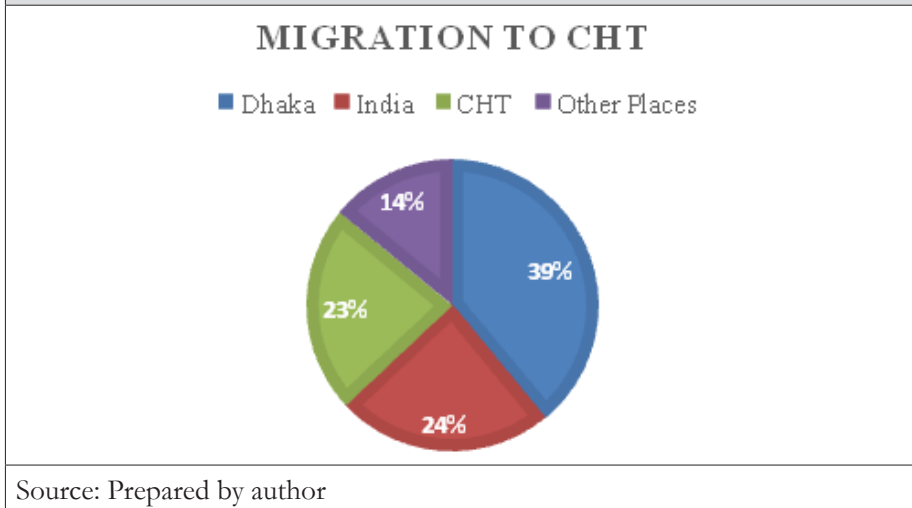
Yet, there is a legal restriction to settlement in the CHT. But how long these migrants could be stopped? The cities are saturated, the borders are sealed and the disasters are phenomenal. At some point, this issue may give raise to a national conflict scenario between migrants, CHT habitants and the state.

Migration and National Security Situation in light of 'Group versus Group Conflict'

Since, the migrants are not enough skilled to get a job opportunity in the already overpopulated urban areas, the city is not welcoming them any more. The other options are kidnapping, dacoity, hijacking etc (Rabbani 2015).The women are not spared as well. Many a times, they were forced to submit to the illicit desire of kidnappers to rescue their family members. (ibid). The survey in those area also reflected that a general sense of social instability and anxiety prevails in those area due to mass jobless desperate youth population as shown in figure 7 below.

Figure 7: Migrants causing social instability

Source: Prepared by author
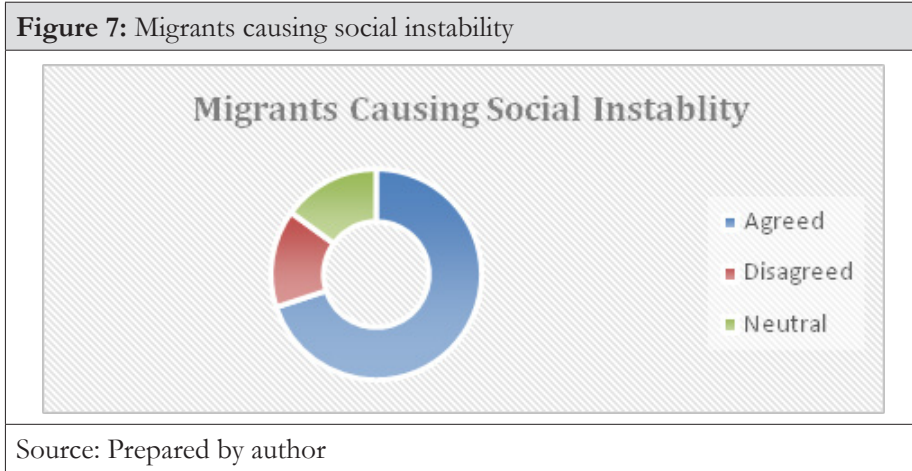
POLICY OPTIONS AND WAY FORWARD

Existing Policies, Policy Gaps and Options

Existing Policies and Policy Gaps. National Environment Policy (1992),The Coastal Zone Policy (2005), NAPA (2005), and Bangladesh Climate Change Strategy and Action Plan (2008) discuss about climate change phenomenon, but there is no clear indication about the problems of population displacement. For instance, it is written in coastal zone policy, 2005 that susceptibilities of coastal communities will be addressed. However, how will their sufferings in regards to displacement be addressed is not mentioned anywhere. National goals for Bangladesh as set by UN after reaching Millennium Development Goal (MDG) available at UN-BD website only highlighted the issue of climate migrants without any precise course of action.

Outline of Future Policy Options. Migration and human mobility due to climate change will require robust national policy decisions in the future. These may focus on the followings (IOM 2010):

- Raising policy and public awareness on the complex linkages between migration, the environment and climate change.

- Supporting the development of policy coherence at a national level in Bangladesh, including systematic mainstreaming of migration considerations, across all relevant sectors and in particular in development and humanitarian action.

- Working to minimize forced migration but also to facilitate the role of migration as a planned adaptation strategy.

Immediate Steps/ Short Term Measures

Proper Housing Facilities. It has been found that nearly 87% persons have kutcha and wood houses which are not healthy for a better life (CDMP 2014). The authority should designate a governmental agency responsible for addressing shelter and housing needs of displaced persons.

Creating Employment Opportunities. There should be certain policy options on technical and vocational guidance and training programs as well as opportunities to achieve full and productive employment. The policy should recognize the right to work and the right to social security for IDPs.

Ensuring Social Security and Access to Basic Needs. Slum dwellers cannot get land 'holding numbers' required for legal access to utility services such as water and electricity. Legal recognition of slums and provision of a legal identity for slum dwellers is an essential first step. Eviction of slums without an adequate resettlement policy should not be done.

Multistoried Abason Project. As Gucchogram, Adorshogram, etc require substantial lands for resettlement and rehabilitation, multistoried Abason project at Upazilla level in the distressed area may be undertaken forthwith. The flats may be sold to the migrants in minimal rate with long installments.

Political Awareness and Migration to India Political sensitivity has led to a dearth of studies on what climate change will mean for migration patterns in Bangladesh (Friedman 2009). The government may identify the issue of migration sincerely and take enough serious measure to avoid any further security consequences.

Coordinated Approach with India. Observer Research Foundation (ORF) of India, working on connectivity and reduction of border crisis proposed to introduce work permit in limited scale to have peaceful border and reduce trans-border crime and smuggling (Prothom Alo 5 June 2015). Bangladesh is the 5th remittance source of India. More than half a million of Indian works in Bangladesh in different capacities. A legitimate proposal for legal trans-border work permit for climate migrants may not be turned down by the Indian government.

Approaching International Communities. United Nations Climate Change Conference, Conference of Parties 21(COP21) will be held in Paris, from November 30, 2015. This is an important opportunity for Bangladesh to address climate change related migration complexities. As "Champion of the Earth" award laureate, the PM of Bangladesh may have a lead role in highlighting the sufferings of many distressed countries and ask appropriate compensation from the world communities. In this regard, climate induced population displacement, internal and international migration can be considered as one of the key negotiating topics among others.

Recognition of Climate Migrants as Climate Refugees. International refugee lawyers generally agree that persons displaced by climate change would not be the subject of protection under the 1951 'Refugee Convention' (Hodgking 2009). The international communities have no interest to accept any climate migrants as refugee in their countries as reiterated by the British High commissioner in an inter-active session at National Defence College (Gibson 2015).Therefore, a multilateral convention to address climate change displacement – an issue which is global in its causes, scope and consequences should immediately be formed.

Long Term Measures

Identifying Climate Migrants and Planned Relocation. The government may systemically identify the vulnerable people, specially those who are poor and ultra-poor and have not much support to relocate themselves. The divisional administration would identify the number of people could be rehabilitated within the available khas land and government infrastructures needed to support the resettlement. List of rest should be forwarded to the ministry to further redistribution in other divisions as per existing khas land and other facilities. Chittagong, Sylhet and northern districts may take major share in this regard.

Development and Public Awareness- a National Integral Approach to Reduce Climate Migrants. With the latest plan of making EZ in Mongla, Padma Bridge, Rampal Electric Generation Project (coal will be shipped in Rampal through Mongla port), connectivity with India, Nepal and Bhutan, etc would boost up the importance of Mongla port in near future. If government is sincerely implementing the model, the effect of development will reach the poor people of this region and would definitely discourage migration. Besides, mass public awareness programme on climate change and its effect on livelihood,
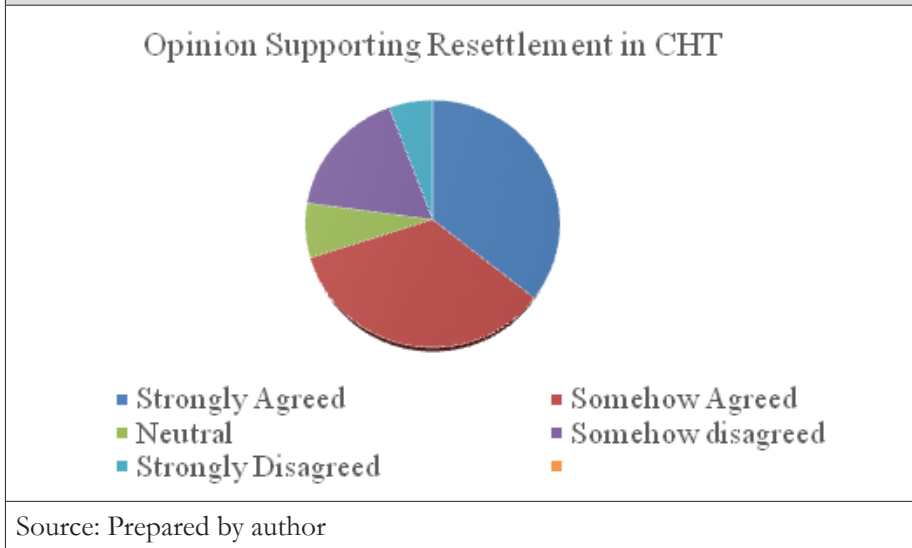
social and national security including adaptation strategy need to be undertaken forthwith. The effort is already on as the PM says, "we are not waiting for the international communities to look after the climate change issues in BD, we have started taking care of things with whatever means we have"(Huffington 2015).

Developing Climate Migrants as Skilled Labour Force. GoB may adopt a strategy to develop climate migrants in technical skills and turn them as human resource. More technical colleges and quota for climate migrants and separate cell at DoE in consultation with Ministry of Labour and Employment and Ministry of Expatriates Welfare and Overseas Employment may be introduced.

Land Acquisition, Land Raising and Land Set Aside Policy.   L a n d purchase, land acquisition, and land set-aside programmes should immediately be undertaken by the GoB. Such programme should identify and isolate land purchase for future use by climate migrants. GoB should review public land holding policy, select possible long term resettlement sites like cluster village that would be away from land market as land set-aside policy. Besides, efforts should be taken to raise new lands in the Bay of Bengal with technical and monetary support from the international communities.

Reforming Charter of MoCHTA. It is evident from different survey opinions, interview with experts and research (YPSA2014) that climate migrants have chosen CHT as a suitable destination for resettlement considering its vast abundance land and other resources. After Aila in 2010 a good number of people have moved to CHT. The settlement in CHT is going on already, but has not been identified or recognized by the government. It is there and likely to continue (Ali 2015).A large number of displaced people who had lost their homes and lands due to river erosion, drought and cyclone are living in the CHT much before the 1997 Peace Accord. However, provisions in the CHT Peace Accord now restrict the settlement of displaced people in the CHT. Considering the likely future crisis and national security interest, resettlement in CHT exclusively for climate migrants may be considered. Most of the respondents during an opinion survey also agreed the same as shown below.

Figure 8: Opinion supporting resettlement in CHT

Opinion Supporting Resettlement in CHT

- Strongly Agreed
- Neutral
- Strongly Disagreed
- Somehow Agreed
- Somehow disagreed

Source: Prepared by author

RECOMMENDATIONS

Based on the preceding discussions, following recommendations are brought forward:

- Massive development projects in the growth centres near the distressed areas including multistoried housing project for the climate IDPs may be undertaken by the government to facilitate settlement and job opportunity.

- Planned long term settlement should be introduced by identifying the victims and likely victims. This is to be planned at every Upazilla level by the Upazilla administration finally coordinated and executed by the government

- Government may consider reviewing the CHT Policy and allow re-settlement for exclusively climate migrants in CHT.

CONCLUSION

The IPCC has identified Bangladesh as one of the most vulnerable least developed countries and most vulnerable to climate change. Declining environmental conditions denying many millions of people their right to adequate housing and shelter. Where there is a direct and immediate threat to life or where environmental

pressures compound socio-economic stresses and households cannot adapt, families are being forced to abandon their homes and land. Over 35 million will be climate migrants in Bangladesh by 2050.

Climate–induced migration has the potentiality to trigger different kinds of conflict. There might be state versus state conflict; state versus group conflict and group versus group conflict. As the means of livelihood are shrinking, more and more people are going to neighbouring countries by illegal means. The border is getting restless and violent every day. The climate–induced migrants are reckless. The ill motivated and unemployed youth bulge together with the mass poor migrants may demand equal distribution of land, food and even change of regime. At some point, the demand to settle at CHT may give rise to a national conflict scenario between migrants, CHT habitants and the State. The IDPs are also getting involved in kidnapping, dacoity, hijacking etc. Considering the predicted scenario, the climate change induced migration undoubtedly has become a compounded issue for the national socio-political and security stability.

The country is not yet prepared to know how to deal with it. There is not much effort to reform land policy to accommodate this people. Developed countries are responsible for environmental degradation in developing countries like Bangladesh. As a result to such degradation of human life, it is the responsibility of the international community to provide enough assistance to these vulnerable people. COP21is an important opportunity for Bangladesh to address climate change related migration complexities.

To address the issue, an adequate development guideline is a pressing demand on decision makers. Besides, immediate steps and long term measures to be adopted by the state to overcome the likely challenges being posed by climate change and climate induced migrants. These should include planned resettlement, land reclaim, decentralization of government, multistoried Abason Project in the distressed area, massive development projects in the growth centres near the distressed areas, recognition of climate migrants as environmental refugee, etc.

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Author

Lieutenant Colonel Abu Rubel Md Shahabuddin, afwc, psc, G was commissioned on June 16, 1995 in the Corps of Artillery. He is a graduate from Defence Services Command and Staff College, Mirpur and also a graduate of School of Artillery, Halishahar, Chittagong. He has completed his Masters of Defence Studies and Masters of Science (Tech) from National University, Bangladesh. He is pursuing his Masters of Philosophy (M Phil) in Bangladesh University of Professionals (BUP).Besides various regimental appointments he has served as General Staff Officer Third Grade (Operations) in Infantry Brigade, General Staff Officer Second Grade (Operations) in Infantry Division and Second in Command of an Artillery Regiment. He has also served in a Mechanized Rifle Company in United Nations Mission in Liberia (UNMIL) and as Staff Officer (Operation and Training) in Forces Headquarters of United Nations Mission in Darfur (UNAMID). As an instructor he has served as Senior Instructor Gunnery (Field) in the School of Artillery. At present he is serving as General Staff Officer-1 at Army Headquarters, Military Intelligence Directorate. He can be reached at rshahabuddin@yahoo.com.

BANGLADESH-INDIA AND BANGLADESH-MYANMAR MARITIME VERDICT: IMPACT ON FUTURE MARITIME OPERATIONS IN THE REGION

Captain Atiqur Rahman, (G), afwc, psc, BN

INTRODUCTION

Bangladesh-Myanmar maritime verdict was declared on 14 March 2012 by International Tribunal on the Law of the Sea (ITLOS). The visit of United States president to Myanmar took place in November 2012 followed by 2nd visit in November 2014. Myanmar awarded 36 gas blocks for exploration to international companies in between 2013 and 2014. Contracts could earn Myanmar a total of $226.1 million in signing bonuses alone which is the highest suck lump bonus in Myanmar's recorded history (Sophie, 2014: 3). Offshore oil and gas industry earned for Myanmar government $1.5 billion in 2014 fiscal year and expects more than $5 billion foreign direct investment in fiscal year 2015 (Reuters, 2014: 1). The 2nd Myanmar gas week held in May 2015 where 61 international oil companies participated (IB Times, 2015: 4). Third bidding is due in 2016 to award more offshore gas blocks. The Bay of Bengal (BoB) potentiality has offered unprecedented development in Myanmar and maritime verdict paved the way.

Bangladesh is a maritime country with average Maritime Dependency Factor about 35% (Begum, 2004: 4). Maritime delimitation is regarded as 'Samudra Joy' for Bangladesh and now dreaming of pursuing 'Blue Economy' from maritime potentialities. Wave and wind of the bay has influenced land as well. Bangladesh and India has solved historic land boundary enclave issues and signed robust land and maritime communication agreement in 2015. Verdict has awarded opportunities to explore huge maritime economic potentialities for the nation.

The BoB gas is flowing from Myanmar to China since 2012. India has heavily invested in Myanmar gas exploration and is planning to import gas from Myanmar. Globalised maritime trade, international actors' power balance, scarcity of land resources, importance of energy and many other factors has attracted regional and extra regional powers to the BoB. Shift of global economic Centre of Gravity from west to east has further increased attraction of global powers to South East Asia. Long lasting maritime dispute amongst Bangladesh, India and Myanmar acted as major hindrance to venture the BoB.

Maritime disputes amongst Bangladesh, Myanmar and India are resolved through the verdict of ITLOS and PCA in 2012 and 2014 respectively. Present geo political scenario in the Indian Ocean Region (IOR) particularly in the BoB pursues an impetus in regional maritime operations where regional and extra regional power like USA, China, Russia, and EU have significant interests. Myanmar and India already have taken robust steps to explore maritime resources. Under such global and regional reality, Bangladesh needs to revamp maritime operations through organized applications of resources, knowledge and skills to gain maritime objectives in post verdict scenario.

MARITIME ENVIRONMENT IN THE BAY OF BENGAL REGION
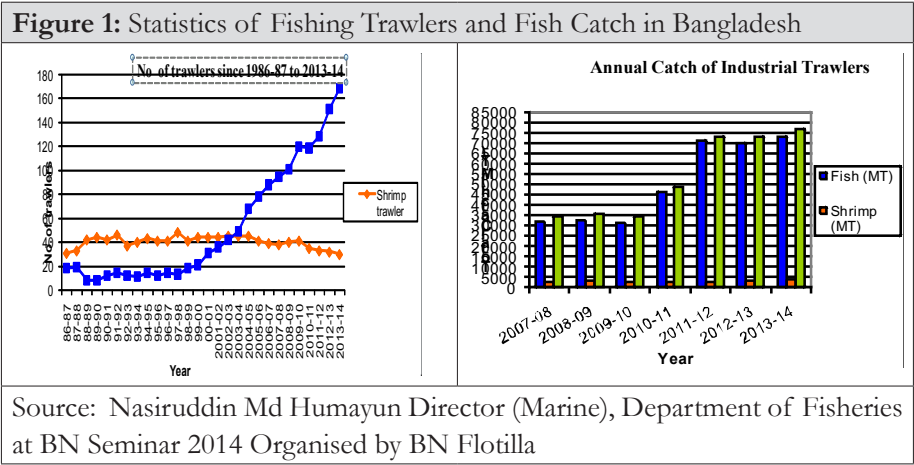
Economic Potentiality

Geostrategic Importance of the BoB. India as a littoral of the BoB has multidimensional interest in the BoB. USA and her allies have huge investment in the BoB in hydrocarbon exploration. China is ensuring presence in the BoB under String of Pearl action plan. This increases geostrategic importance of the BoB in global and regional power balance. China transfer offshore gas and oil through pipelines using Myanmar Coast. Singapore and Hambantota at Srilanka, two of the world's transnational sea port, are at the exit and entry of the BoB. Funnel shape of the BoB facilitates carrying goods up to apex in Bangladeshi ports and can serve Bangladesh as well as eastern part of India, Nepal, Bhutan and part of China. This region has only access to sea through the BoB. As such, Sea Lines of Communications (SLOC) can play key role for regional economic development.

Hydrocarbon in the BoB. United States Geological Survey (USGS) 2001 states that there are large reserves in western Bangladesh, West Bengal, Surma basin area, greater part of sub aerial delta and southern offshore regions of Bangladesh. Bangladesh's hydrocarbon reserve in the BoB was estimated as 33.5 TCF in 2001. India and Myanmar discovered large gas field in the BoB area. Natural gas reserve in the BoB littorals including neighbouring China are appended in Table 1 shows that Bangladesh has the highest density of gas considering the Gas vs Geographical Area ratio.

Table-1: Geostrategic Importance of the BoB - Proven Natural Gas in the BoB Littorals					
World Rank (a)	Country/ Region (b)	Natural gas Proven Reserves (m³) (est) (c)	Geographic Area in (km2) (d)	Gas Reserve vs Geographical Area Ratio, (e)= (c) / (d)	Date of Information (d)
13	China	3,100,000,000,000	9572900	323830	1 January 2012
26	India	1,075,000,000,000	3166414	339500	1 January 2010
38	Thailand	342,000,000,000	513120	666510	
42	Burma	283,200,000,000	676578	418577	
48	Bangladesh	195,400,000,000	147570	1324117	
Source: Author. (Data from List of Countries by Natural Gas Proven Reserves' and 'List of Countries and Dependencies by Area) [internet]					

Besides thermogenic gas, India, being the first Asian country outside USA and Canada to discover biogenic gas popularly known as 'Shale gases' in geothermal-gradient of the BoB. (Ahmed, 2014: 61). The Manganese nodules of 40 different materials including copper, aluminum, nickel, iron, cobalt and manganese are wide spread in the BoB (Hasan, 2014: 235).

Living Resources in the BoB. The BoB is said to be silver mine due to abandon reserve of living resources. In 2012-13, a quantity of 5,88,988 tons of sea fish was collected from Bangladesh sea area. Export of fish and fish product during 2012-13 fiscal years was worth of Tk 50,000 crore which is 2.01 percent of country's total export earnings and 5 percent of GDP. Yearly fish catch in the BoB is 6 mt, while Bangladesh catches only 0.29 mt (Hasan, 2014: 234). The BoB has special tropical marine eco system with incredible influence on productivity of near shore fish species. There are around 30 types of shrimps, 15 types of crabs, 300 types of mollusks and 13 varieties of corals in the BoB. Above all, the BoB is the major source of Hilsha fish for regional and global market supply. Fishing by Bangladesh in the BoB has increased significantly after the verdict as stated in the figure below:

Figure 1: Statistics of Fishing Trawlers and Fish Catch in Bangladesh

Source: Nasiruddin Md Humayun Director (Marine), Department of Fisheries at BN Seminar 2014 Organised by BN Flotilla

Maritime Trade in the BoB

Regional Maritime Trade. Since 1970, global seaborne trade has expanded on an average by 4 per cent every year (UNCTAD Review 2012, 22). At this pace, global seaborne trade is expected to increase by 36 per cent in 2020 and to double by 2033. In 2010, about three quarters of import growth of developing economies took place in East and South Asia. Developing countries contribute increasingly larger shares and growth to both world GDP and seaborne trade. The BoB encircled with countries of global production like Sri Lanka, Bangladesh, India, Myanmar, and Thailand. These countries play key role in regional as well as global maritime trade. Economic growth of China, India, Bangladesh, Myanmar, Thailand and other Asian countries has increasing demand of maritime trade through the BoB in the upcoming years.

Maritime Trade of Bangladesh. About 90 percent of export, 100 percent import of garment materials, 100 percent import of Petroleum and lubricant (POL) of Bangladesh are traded through the sea. Dhaka-Chittagong and Dhaka-Mongla corridor contributes 30 percent of GDP due to sea port. (Begum, 2004: 4). Forty percent of annual revenue comes in the form of export-import and value added tax. Maritime trade of Bangladesh is growing substantially.
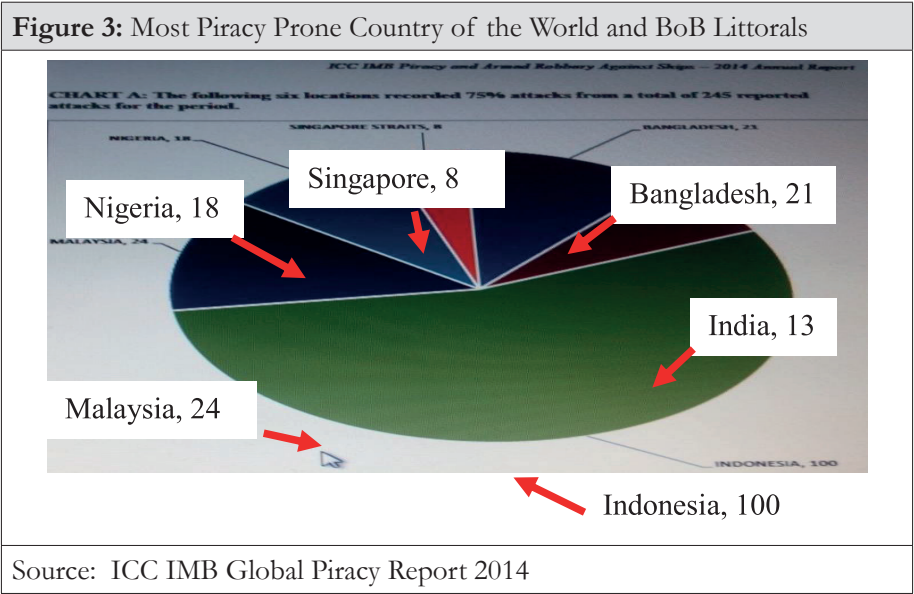
Security Issues in the BoB

Human Trafficking. Human Trafficking turned to be major crisis in the BoB in 2015 as Bangladeshi and Rohingya workers seeking work at South East Asian Countries like Malaysia, Thailand or Singapore and making dangerous venture from Bangladeshi coast following Myanmar coast (Figure 2). About 25,000 Bangladeshi and Rohingya boarded Smugglers boats from the BoB between January to March in 2015 which is almost double over same period in 2014.

Figure 2: Human Trafficking Route in the BoB

Source: The Daily Star (09 May 2015)
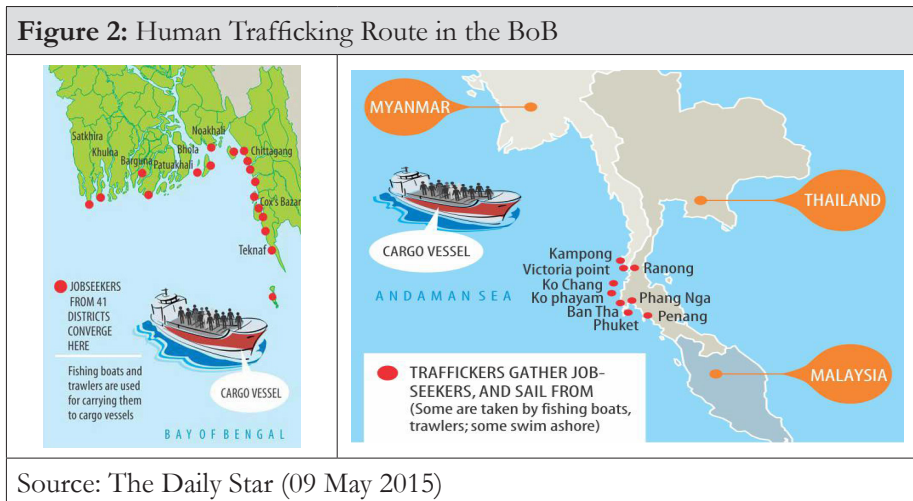
Trade Security. The BoB region was marked as 'Risk Zone' for mariners since long. ReCAAP reports that a total of 73 incidents of piracy and armed robbery were reported in Asia during January-June 2014. Among these 18 were piracy incidents and 55 were armed robberies against ships. Out of 18 piracy incidents two were in the BoB. Major piracy prone ports of the world as per IMB report 2014 are shown in Figure 3. (ICC, 2014: 2).

Figure 3: Most Piracy Prone Country of the World and BoB Littorals

Source: ICC IMB Global Piracy Report 2014

Smuggling/Drug Trafficking. The state of Yaba trafficking is increasing rapidly in Bangladesh. As per the United Nations Office on Drugs and Crimes report Myanmar and Afghanistan are two major sites of drug production (UNDOC, 2013: 12). Smugglers use the BoB as route for transporting Yaba and other narcotic drugs from Myanmar to Bangladesh.

Poaching. Regular poaching occurs in Bangladesh coast. Fishing boats from neighbouring countries enters into Bangladesh EEZ for illegal fishing. In October to November 2014, 13 illegal foreign boats were apprehended by Bangladesh Law Enforcing agencies. Maritime Professional opined that disputed claim of Bangladesh-India and Bangladesh-Myanmar was a major impediment to prevent poaching as overlapping claims created grey area for law enforcing.

Bangladesh-India and Bangladesh-Myanmar Maritime Delimitation

Bangladesh - India and Bangladesh - Myanmar Maritime Dispute. Maritime Dispute originated in 1974 with Bangladesh's claim on sea zones as per Territorial Water and Maritime Zones Act 1974. As per UNCLOS III of 1982, Law of the Sea Convention (LOSC) came into force in 1994 and became basis for delimitation of state's sea area. India ratified LOSC in 1995, Myanmar in 1996

and Bangladesh ratified the same in 27 July 2001 (Rahman,2003: 75). Myanmar and India submitted maritime claim on May 21 and June 29, 2009 respectively (Kumar, 2008: 1) to the United Nations. Claim of three countries created disputed area as shown in Figure 4.

Figure 4: Disputed Maritime Claim by Bangladesh, India and Myanmar
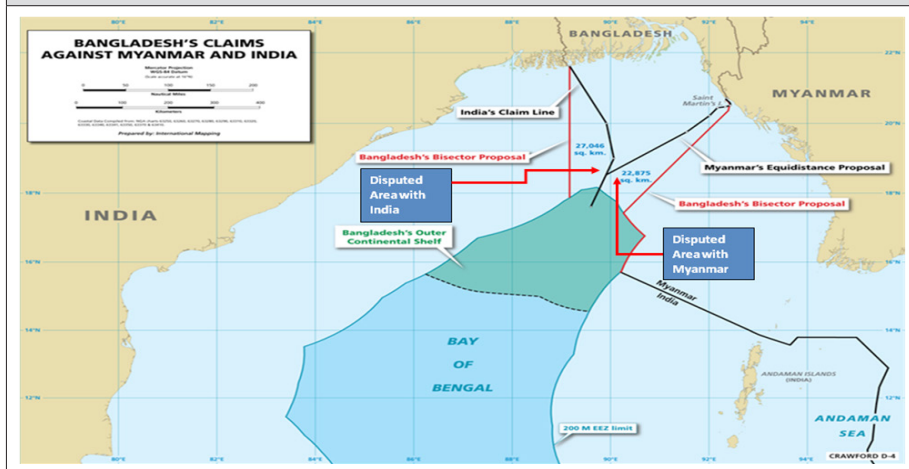
Source: Bangladesh Ministry of Foreign Affairs

Bangladesh – India and Bangladesh - Myanmar Maritime Dispute Resolution. In 2009, Bangladesh opted to resolve dispute through compulsory dispute settlement procedure under UNCLOS which was accepted by Myanmar. Dispute between Myanmar and Bangladesh was settled on 14 March 2012 by ITLOS verdict. Bangladesh's objections on India's claim were filed to Permanent Court in Hague. The court finally declared verdict on 7 July 2014 delimiting boundary between Bangladesh and India. The Final delimited maritime boundary of Bangladesh with India and Myanmar after verdict is as shown in Figure 5.

Figure 5: Settled Sea Area of Bangladesh after Verdicts

Source: PCA Verdict on Bangladesh-India and Bangladesh-Myanmar Maritime Dispute
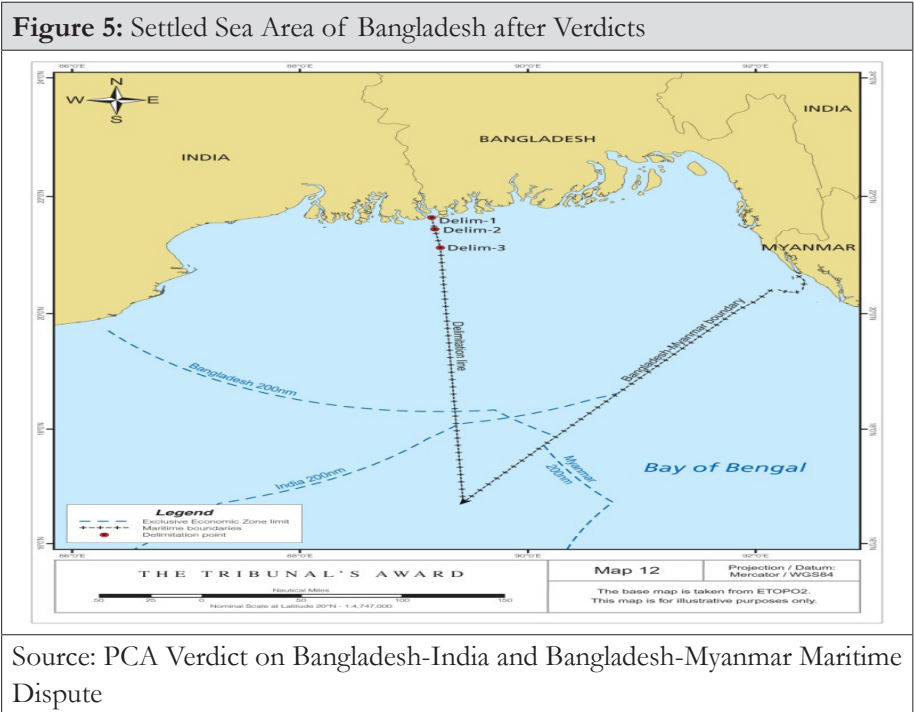
MARITIME INTERESTS OF ACTORS IN THE BAY OF BENGAL REGION

The BoB is influenced by regional and extra regional actors like USA, China, Russia, EU and other actors. Maritime Verdict has drawn world power actors to the BoB more than ever before. The driving forces of maritime operations mostly encircled with economic interests.

Maritime Interest of Bangladesh. Maritime interests of Bangladesh are mostly geopolitical and economic (Maritime, 2012:61). Geopolitical interests include maintenance of territorial integrity and sovereignty, improvement of social and cultural cohesion within country and economic enrichment of citizens utilizing enormous resources in the BoB. Economic interests include development and exploitation of EEZ potentialities, fostering maritime trade through regional connectivity. Bangladesh started exploring gas from offshore Sangu Gas field since 1994. In May 2015, Petrobangla, the state owned oil and gas corporation, has offered US-based Conoco-Phillips and Norway based Statoil ASA to sign final deal for exploring oil and gas in offshore blocks 12, 16 and 2. (Energy, 2015: 1).

Maritime Interests of Myanmar. Myanmar lies on the cross road of two Asian rising power India and China. Myanmar acts as strategic land bridge linking South and Southeast Asia. Various articles of Texas based Rigzone, Irrawaddy and Myanmar Oil-gas Home page reveals that after verdict Myanmar has significantly increased hydrocarbon exploration in the BoB. Sixty one international oil and gas firms pre-qualified in 2014 offshore bidding of Myanmar Oil and Gas. Awarding of 16 onshore and 20 offshore blocks in 2013 – 2014, Myanmar achieved rapid increase in investment in oil and gas sector. (Sophie, 2015: 1). Bidding has taken place in 2015 and next exhibition is due in January 2016. With new investment in 2016, Myanmar is expected to receive latest technologies and innovation to harness maximum potential out of oil and gas resources. (Global, 2015: 1). Shwe gas field in Rakhaine basin, the largest offshore gas reserves of Myanmar, started production in January 2014 (Figure 6). A combined natural gas reserve of the field is 4.53 trillion cubic feet (Offshore, 2015: 1). Companies like Daewoo International, Myanmar Oil and Gas Enterprise, Oil and Natural Gas Corporation Videsh, Gas Authority of India, Korean Gas Corporation and China National Petroleum Corporation are involved in exploration. Myanmar has finalized awarding of offshore block AD-03 in Rakhaine basin to UK based company Ophir Energy. (Offshore, 2015: 2).

Figure 6: Shwe Natural Gas Project of Myanmar
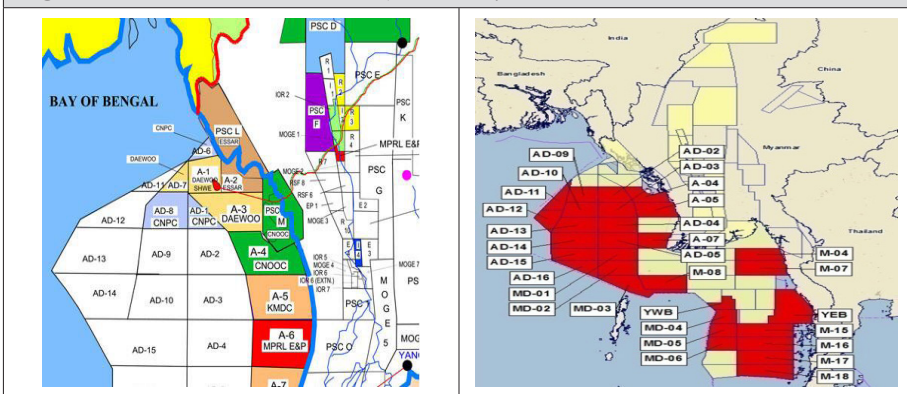
Source: Website (Offshore Technology.com)

Maritime Interests of India. The BoB is important to India for natural resources and connectivity with eastern states. India is engaged in hydrocarbon extraction from Myanmar Offshore fields. Being regional power, India sees certain diplomatic, economic and military interests in Asian waters particularly shipment of Middle-East oil, natural gas and raw materials. India's maritime

surroundings are intensely in geopolitical terms (Holmes, 2009: 37). India's primary economic interest in the BoB is related with extraction of hydrocarbon. India has concentrated on tapping gas reserves right from Tamil Nadu coast to Northeast. Number of reserves is discovered in Krishna-Godavari basin off Andhra coast, Mahanadi basin off Orissa coast and Sunderbans in West Bengal coast (People's Daily, 2004, 1). Proposal for gas pipeline from Myanmar to India through Bangladesh territory was first tabled in 1997 (Mirza, 2013:4).

Maritime Interests of China. China has three principle strategic interests in the BoB namely; energy procurement and energy security, access to the Indian Ocean and security of border areas including trade (Khan, 2014: 31). China aims to reduce SLOC vulnerability through Malacca Strait using Myanmar coast and land. As such, China has built 900 km pipeline from Myanmar.

A deep sea port is constructed in Myanmar's Mayday Island near Kyaukpyu in the BoB to transport crude oil carried from Middle East and Africa to Yunnan province. String of Pearls strategy of China includes series of ports along the Indian Ocean Northern seaboard (Figure 7). This includes an oil refinery at Hambantota of Sri Lanka and a container port in Bangladesh at Chittagong (Uddin, 2014:151).

Figure 7: China String of Pearl in the Indian Ocean

Source: https://upload.wikimedia.org/wikipedia/commons/8/86/ Collardeperlaschino.png

Maritime Interests of USA in the BoB. US Cooperative strategy for 21 Century states that United States seeks to strengthen cooperation with long-standing allies in the Indo-Asia-Pacific region and continues to cultivate partnerships with states in the BoB region (US, 2014:11). Assessment of US Senate Committee in 2012 on Myanmar reveals that, Myanmar is with 80 percent of the world's teak supply, 90 percent of its rubies and tenth-largest natural gas reserves in the world. US focus to the Indian Ocean Region particularly in the BoB is on hydrocarbon and trade chain with the South East Asian countries. Heavy engagement of US based oil companies in the BoB increases importance of Bangladesh and Myanmar in US security architecture. Maritime delimitation has changed US attitude towards Myanmar. Consecutive visit of US president to Myanmar testifies US focus on Myanmar.

Maritime Interests of Russia. Russia's strategic interests in the BoB littorals are mainly focused on military cooperation. Russia's Foreign minister during visit in 2012, declared to expand ties with Myanmar by investing in offshore energy and mining in the BoB. Russia has arms deal with major littorals of the BoB like India, Myanmar and Bangladesh. As stated by Khan, Russia struck secret nuclear deal with Myanmar in 2007 (Khan, 2014: 33).

Maritime Interests of EU. Heavy investment in hydrocarbon extraction of European Oil Companies in Myanmar and Bangladesh state that Interest of EU in the BoB is mostly based on energy exploration and security of maritime trade. Bangladesh supplies 98 percent export commodities mostly RMG, leather goods and sea foods through the BoB where EU and USA are primary destinations.

IMPACTS OF VERDICTS ON REGIONAL MARITIME OPERATIONS

Analysis on Actors Interests

Tabular analyses of actor's interests referring to the operations at BoB are appended below:

Table 2: Identification of Common Interests of the Actors		
Maritime Operations	**Actors Involved**	**Interests/Involvement**
Energy Explorations	USA, China, EU, Russia, South Korea, Myanmar, Bangladesh, India	• **USA, EU, South Korea, Russia** – Investment in gas exploration in the BoB • **China** – Investment in exploration as well as gas import from Myanmar • **India**- Investment in gas exploration and import of gas from Myanmar • **Myanmar**- Exploration of Gas from offshore blocks using international actors and export to neighbouring countries • **Bangladesh**- Exploration of offshore gas using international actors • Import of gas from Myanmar
Maritime Trade	USA, China, EU, Russia, South Korea, Myanmar, Bangladesh, India Singapore Sri Lanka	• **US, EU, China, Singapore** - Safe, secured and free flow of goods through the BoB • **India, Bangladesh, China, Myanmar, Thailand, Sri Lanka, Singapore -** Safe, secured and free flow of goods through BoB Regional connectivity for intra region trade development for economic emancipation
Regional Connectivity	India, Bangladesh, Myanmar, China, Thailand Sri Lanka	Safe, secured and free flow of goods through the BoB Regional connectivity for economic emancipation particularly transit from BD ports to India, Nepal, China and Bhutan

Table 2: Identification of Common Interests of the Actors		
Maritime Operations	**Actors Involved**	**Interests/Involvement**
Safety and Security of Mariners, SAR	Global Trade Community	Safety and security of maritime community will help all actors for maritime operations
Anti-Human Trafficking, Smuggling, Drug Trafficking	Bangladesh, Myanmar, Thailand, Indonesia, Singapore, Malaysia, Sri Lanka	Human and Drug Trafficking is a regional problem All actors can involve in cooperated operation to curve illegal trafficking
Source: Prepared by the Author		

Deduction. Analysis shows that actors have significant common interests to complement each other. In this backdrop, future maritime operations in the BoB can be revamped by actors with the spirit of regionalism for the benefits of all through Collective Security and Development (Rahman, 2014: 1). Under the 'South-South and Triangular Cooperation in the post MGD - 2015 of UN', the BoB littorals can be engaged in Triangle Cooperation in bilateral, regional and international cooperation for upcoming 'Sustainable Development Goal' of UN. (Debopryo, 2015).

Impact of Verdict on Bangladesh

Maritime scholars and professionals opined that maritime verdict has both direct and indirect impact on Bangladesh.

a. **Direct Impact**

(1) **Energy Security.** Maritime verdict has direct impact on energy security through exploration of hydrocarbon in the BoB region. After verdict, Bangladesh is at freedom to take all possible actions to explore maritime potentialities like Myanmar and India. So, Bangladesh needs to expedite survey in deep sea area to discover hydrocarbon.

(2) **Food Security.** The BoB can be a great source of food supply particularly by fishing. Admiral Khurshed stated that Bangladesh presently carries out fishing at shallow water up to 20 to 30 km from shore using 58000 boats (approx.) and 200 trawlers up to 60 km whereas Bangladesh has gained legal right to fish up to 660 km from shore. Total fish catch in the BoB in 2014 was 80 lac tons where Bangladesh could catch only 73 thousands ton.

(3) **Political Gain.** Impression and credibility of the government has increased manifold through the verdict. The government has also been able to maintain high level political affiliations with actors in own favour. The settlement has been done keeping relation with actor states intact.

(4) **Legal Side Impact in International Relation.** Bangladesh is the first country in Asia to resolve maritime boundary peacefully. Furthermore, this is the 1st case in the world where states could settle Continental Shelf. (Alam, 2015: Interview). Through the verdict Bangladesh could improve relation with international community significantly which facilitated addressing other important interests of government.

(5) **Maritime Domain Awareness.** After the verdict Maritime Domain gained recognition for economic importance to a great extent. Policy makers and the nation as a whole realized sea dependency and opportunities lie at sea. This has facilitated resource allocation in maritime capacity building. Bangladesh Navy and Coast guard has received phenomenal growth within short time. Government has opened special Desk at MOFA and formed Strategic Level committee to deal maritime issues. To cover scarcity of land resources Bangladesh is trying to foster Blue Economy.

b. **Indirect Impact.** Bangladesh can capitalise economic emancipation in various sectors through diversified use of sea in dispute free environment:

(1) **Sustainable Economic Growth.** Biotechnology can be applied in maritime sector for medicine and cosmetics production from fish and sea plants. Other economic use may be culturing sea weeds and pearl/ oyster, fostering maritime trade, shipping, island reclamation through forestation, firming agriculture and cattle in coastal area. At present 0.3 million people of Bangladesh are directly involved in Maritime sector adding overall value of $2.5 billion, foreign currency of $ 1.5 billion and corporate tax of $ 550 million (Begum, 2004: 5).

(2) **Food security.** Besides conventional fishing at sea through boats and trawlers, sea can be also used for Mere Culture by open sea fish cultivation. Thereby, sea can support additional protein supply through

natural fish. Besides, salt production, supply of milk from cattle firmed in islands can be originated through maritime sectors.

(3) **Diversified Energy Sources.** Bangladesh can use sea for energy production through tide, water and other polimetalic nodules, sulfide crust, marine gas hydrate, shale gas etc for additional energy support.

WAY FORWARD TO CAPITALISE OPPORTUNITIES FOR BANGLADESH
Maritime Operations Enhancement

Maritime Engagement of Bangladesh. Bangladesh needs to address certain issues to capitalise opportunities created by the verdict:

a. **Setting High Priority to Maritime Operation.** In the post verdict competitive maritime environment Bangladesh has to set high priority on maritime issues. In doing so Bangladesh may declare maritime sector as a Thrust Sector for exploring maritime potentiality. In this aspect, Bangladesh govt may also form special division to deal maritime affairs. This will reduce bureaucracy and bring resilience in maritime operations.

b. **Improving Functionality of Maritime Agencies.** Maritime agencies are interdependent for operations. To be more effective agencies need to function under a common umbrella for support and cooperation. For this, Maritime Coordination cell in functional level will enhance maritime response capacity manifold. This will facilitate sectoral coordination for concerted effort.

c. **Capacity Building of Maritime Agencies.** Maritime agencies need to be capable enough to operate in the Bay of Bengal considering the weather and Hydrography. In this aspect logical apportionment of national resources to be made to various clusters like BN, BCG, Shipping, Fishing fleet etc.

d. **Cooperation with Neighbours.** Bangladesh needs to take initiative to make agreement with India, Nepal and Bhutan for transit arrangement from Bangladesh port.

Deduction. Bangladesh needs robust approach to capitalize opportunities created after verdict. In doing so, Bangladesh needs to adopt comprehensive road map with prudent persuasion to achieve set objectives. Critical analysis on strength, weakness, opportunity and threat will contribute further to set lines of action.

SWOT Analysis on Maritime Environment of Bangladesh

SWOT analysis on maritime environment of Bangladesh is appended below:

Figure 8: SWOT Analysis on Bangladesh Maritime Capability	
Strength - Huge Hydrocarbon Deposits - Huge living resources in the sea area - Strategic location to facilitate regional connectivity - Human resources for maritime engagement - Geo-Strategic importance for regional actors power balance in the BoB - Multilateral diplomatic policy of state - Huge low cost production capacity for international markets - Favourable political relation with India and west allies - Strategic location at the X road in South – South East Asia	**Opportunities** - Exploration of offshore Hydrocarbon - Becoming regional economic hub through transit facilities - Exploration and preservation of living resources - Safer maritime environment for international trade - Exploration of Blue Economic potentialities - Facilitating regional connectivity for economic development - Job opportunities in maritime sectors - Relation with neighbours - Cooperative approach to address issues of common interests with neighbours, regional and extra regional actors - Gain interest as Power Balancer for regional actors
Weakness - Poor Technology/infrastructures for maritime resource exploration - Bureaucratic decision making process on major maritime issues - Dependency on India for regional connectivity/transit to neighbors - Less Maritime Domain Awareness - Inferior Naval power at the BoB - Political Uncertainty - Systematic Corruptions - Geographic location	**Threats** - Hydrocarbon exploration by neighboring countries from adjacent blocks - Environmental degradation - Maritime resource degradation - Poaching by illegal fishermen - Human, Drug and Arms Trafficking - Military Modernization of neighbors - Neighbors hegemonic attitude - Disruption of SLOC by neighbours during war - Land connectivity from ports may be at stake - Uncertainty on support from influential power actor during tension or war
Source: Prepared by the Author	

Deduction. SWOT analysis reveals that there are significant opportunities in maritime sectors for Bangladesh. Some issues need to be addressed in cooperative and collective approach by actors to complement each other's interests.
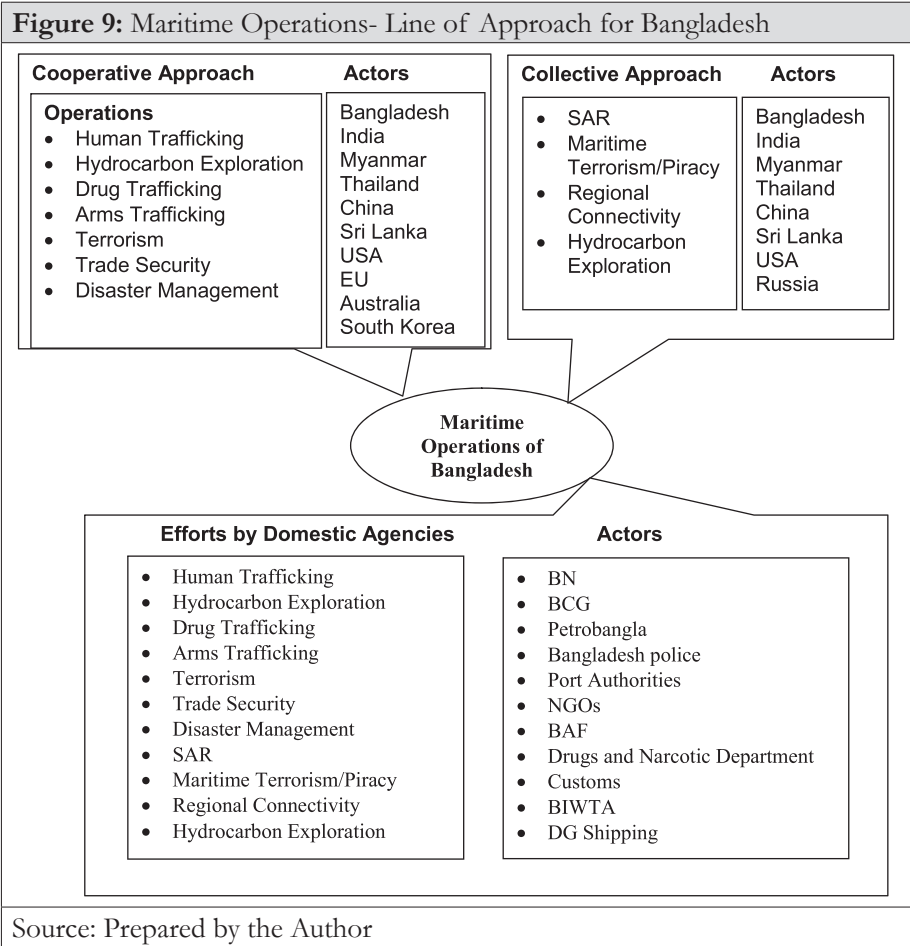
Lines of Approach for Maritime Operations

Cooperative Approach. Bangladesh can collaborate with USA, EU, Russia, and China for technology and investment in hydrocarbon. Other issues of common interests like SAR, regional maritime trade security, human trafficking, drug and arms trafficking can also be addressed in Cooperative Security approach through SAARC, IORA, BCIM, BIMSTEC and ReCAAP and IONS.

Collective Approach. Peaceful resolution of maritime dispute, progress in settling Bangladesh – India enclave issue and connectivity, Myanmar open policy and Chinese foreign policy offer positive atmosphere for collective security based on regionalism. Bangladesh can play pivoting role with complementing issues for mutual benefits in areas like maritime connectivity by transit to India, Nepal and Bhutan using Bangladeshi sea ports. Similar effort can be taken for controlling human and drug trafficking and SAR in the BoB.

Own Efforts at Maritime Domain. Certain issues like protection and exploitation of living resources, pollution control, marine research, trade security in the coastal area are solely interests of Bangladesh. These need to be addressed by Bangladesh itself and depends upon capacity of stakeholders and clusters like Navy, Coastguard, Ports, shipping, maritime institutions, fishing fleets, customs and police department.

Maritime Operations Framework for Bangladesh. Comprehensive framework for Maritime operations can be summarized as follows:

Figure 9: Maritime Operations- Line of Approach for Bangladesh

Cooperative Approach	Actors
Operations • Human Trafficking • Hydrocarbon Exploration • Drug Trafficking • Arms Trafficking • Terrorism • Trade Security • Disaster Management	Bangladesh India Myanmar Thailand China Sri Lanka USA EU Australia South Korea

Collective Approach	Actors
• SAR • Maritime Terrorism/Piracy • Regional Connectivity • Hydrocarbon Exploration	Bangladesh India Myanmar Thailand China Sri Lanka USA Russia

Maritime Operations of Bangladesh

Efforts by Domestic Agencies	Actors
• Human Trafficking • Hydrocarbon Exploration • Drug Trafficking • Arms Trafficking • Terrorism • Trade Security • Disaster Management • SAR • Maritime Terrorism/Piracy • Regional Connectivity • Hydrocarbon Exploration	• BN • BCG • Petrobangla • Bangladesh police • Port Authorities • NGOs • BAF • Drugs and Narcotic Department • Customs • BIWTA • DG Shipping

Source: Prepared by the Author

Proposing Perspective Plan for Bangladesh

Perspective Plan for Bangladesh. Bangladesh needs to follow a deliberate well planned roadmap to achieve optimum output from maritime domain. In that aspect a suggested action plan is appended below:

Figure 10: Proposed Perspective Plan on Maritime Operations				
Operations/Activities	**Imme-diate**	**Short Term**	**Mid Term**	**Long Term**
Surveying Sea Area for Hydrocarbon by International Companies				
Establishing NORI				
Maritime Education Facility Development				
Capacity building of stake holders				
Maritime Domain Awareness				
Declaring Thrust Sector				
Forming Maritime Division				
Area Maritime Coordination Cell				
Deep Sea Fishing				
Land Reclamation				
Cooperative Approach with International Actors				
Response to Myanmar Exploration				
Multi-Client Survey				
Harmonization of Laws and Regulations				
Hydrocarbon Exploration				
Energy from Tide and Water				
Shipping Development				
Container through Inland Route				
Marine Island Habitation				
Mere Culture				
Exploring Sea Bed Resources				
Sea Weeds and Pearl Culture				
Chemicals from Sea Water				
Collective Approach with Neighbours				
Bio Technology				
Marine Resource Management				
Source: Prepared by the Author				

RECOMMENDATIONS

Declaring Maritime Sector as Thrust Sector. To materialize Proposed Perspective Plan in post-verdict scenario Maritime Sector should be declared as 'Thrust Sector' of Bangladesh so that massive drive can be taken in various maritime issues with due importance.

Opening Maritime Division. A separate Maritime Division should be formed to remain proactive in maritime issues by reducing bureaucratic channel. The division will ascertain national maritime interests in various sectors, identify objectives and issue directives to functional maritime stakeholders.

Capacity Building in Functional Level. Capacity of different maritime stake holders like BN, BCG, Petrobangla, Ports, and Customs should be enhanced for attaining national maritime objective. Functional organization also will have to promulgate own Action Plan in line with the Perspective Plan.

Cooperative Approach for Maritime Operations. Bangladesh should adopt cooperative approach with regional and extra regional actors for hydrocarbon exploration, maritime connectivity, SAR and addressing non-traditional threats.

Collective Approach for Maritime Operations. Bangladesh should adopt Collective Approach in regional maritime issues with complementing interests like transit facilities, law enforcement and SLOC protection during peace and war through regional and extra regional forums.

Harmonising Maritime Agencies Operations. Bangladesh should harmonise maritime activities by activating common platform in functional level for interagency cooperation, coordination and for information and resource sharing. For this, Maritime Coordination Cell may be formed in regional level in Chittagong, Khulna and Barisal.

MDA. Maritime Domain Awareness Program should be under taken through regular seminar, workshop and trade fair etc involving national and international agencies to create awareness on maritime domain.

CONCLUSION

Bangladesh-Myanmar and Bangladesh-India Maritime dispute originated in 1974 and created a zone lock for Bangladesh. The dispute was major hindrance to

explore maritime potentialities by littorals due to operational grey areas. Littorals faced difficulties to take steps against various types of transnational maritime security issues like human trafficking, poaching, smuggling etc. Dispute between Myanmar and Bangladesh is finally settled on 14 March, 2012 by ITLOS verdict and dispute between Bangladesh and India is resolved by PCA verdict on 7 July, 2014. Both verdicts are accepted by all three countries. Thereby, long maritime dispute came to an end and new era in Maritime Operation in the BoB began.

The BoB contains one of the richest hydrocarbon reserves of the world. Myanmar, India and Bangladesh - all three littorals have discovered offshore hydrocarbon where regional and extra regional actors are engaged to explore. The BoB is also maritime communication highway for Bangladesh, India and Myanmar. Trade route is linked with interests of US, China and land locked countries like Nepal and Bhutan. The BoB serve as huge supplier of fish and other living and non-living resources to littorals. Huge investment of USA and allies in hydrocarbon exploration, China's String of Pearl strategy and recent Active Defence Policy made the BoB as a global strategic important Bay.

Actors interests in the BoB depicts that Energy Explorations, Maritime Trade, Environment Protection, Safety and Security of Mariners, Anti Human Trafficking, Anti-Smuggling and Drug Trafficking, Protection of Marine lives, Marine Research, Management of Ecology are major concerns in the BoB. Regional actors strategy in the BoB is more of economic than military due to peaceful settlement of maritime delimitation. Most of the issues are complementing to actors interest. India, China and USA, being major actors view the BoB as important area for power balance.

Resolution of dispute has created opportunities to the BoB littorals to make cooperative engagement in bilateral, regional and global perspectives. Resolution of land enclaves and new land and maritime connectivity between Bangladesh and India in 2015 replicates positive atmosphere for more cooperative and collective maritime operations in the BoB.

SWOT analysis on Bangladesh depicts factors like huge hydrocarbon deposits, living resources, and strategic location can facilitate regional connectivity. States multilateral diplomatic policy also allows exploiting resources in collaboration with favorable regional and extra regional actors like USA, China or Russia. Low cost production capacity for international markets also attracts global business communities. Bangladesh can use strength for various opportunities like exploring

offshore hydrocarbon, exploration and preservation of living resources and Blue Economy emancipation. Maritime sector can create huge job opportunities as well. Actions against poaching, human, drug and arms trafficking is need more attention.

Considering opportunities and threats Bangladesh needs to adopt cooperative approach for hydrocarbon exploration with actors like USA, EU, Russia, China etc. USA being the most powerful actor in hydrocarbon exploration has complementing interest with Bangladesh in trade and energy, democratic support, and engaging in peace support operations. Bangladesh can also collaborate with Russia for hydrocarbon exploration. China has strategic relationship with Bangladesh in defence and economic development. Other issues of common interests like SAR, regional maritime trade connectivity and security, Anti Human, Drug and Arms Trafficking can also be addressed in Cooperative Security approach through regional forums.

Above all Bangladesh needs to address certain issues by own effort like protection and exploitation of living resources, pollution control, marine research and trade security in coastal area. For this, functional capacity of security elements needs to be enhanced. Capacity enhancement is to be achieved by adding resources as well as by enhancing jointness and interdepartmental cooperation. As such, Maritime Coordination cell at area level can be formed. Overall, to achieve optimum outcome from maritime domain Bangladesh needs to follow a Comprehensive Action Plan. The proposed Perspective Plan can be of great use in this regard.

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Author

Captain Atiqur Rahamn, (G), psc, BN was commissioned in Bangladesh Navy on 01 January, 1992 with the achievement of Osmany Gold Medal and Best All-round Midshipman award. He is a Gunnery specialist officer and under gone Command and Tactics Course from Dalian Naval Academy, China. He has also undergone courses on Counter Sabotage, VVIP Protection, International Defence Management and Port Management from NSI, SSF, BIPSOT and Chittagong Port Authority respectively. Captain Atiq is a graduate of Defence Services Command and Staff College, Mirpur and has under gone Naval Staff Course at US Naval War College, Rhode Island, USA. He has obtained Masters in Defence Studies from National University of Bangladesh. He is an alumni of Asia Pacific Centre for Strategic Studies (APCSS), Hawaii, USA. Captain Atiq has commanded number of ships and Squadrons of BN and credited long sea service. He has served in various staff appointments in Bangladesh Navy and Coast Guard. Captain Atiq has served as Training Commander of Bangladesh Naval Academy and School of Maritime Warfare and Tactics. He also served as Chief Staff Officer to Commodore Commanding Khulna. Captain Atiq served United Nations as Military Observer in Liberia. His numbers of articles are published in international and national journals. Captain Atiq loves playing golf and travelling. Recently he has undergone War Course at NDC, Mirpur and presently pursuing MBA from Northern University and MPhil under Bangladesh University of Professionals.

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