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

Surat Al - 'Alaq (The Clot) XCVI



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MESSAGE FROM THE CHIEF PATRON

National Defence College has been striving since 1998 with a vision to be the premier national centre of excellence on leadership, defence, security, strategy and development studies to meet the challenges of the 21st century. Since its inception, the college has been relentlessly presenting time-befitting academic curricula to the potential policy planners, senior leaders and strategic thinkers of the future. The college aims to create a balanced outlook and bring a visualization amongst the course members with a strategic and operational level understanding. The chronicles of past 22 years testify the viability of the academic system that has contributed to this leading institution in gaining reputation of excellence at home and abroad.

National Defence College being the top level national institution in Bangladesh, has always been emphasizing on conducting research on contemporary issues of national importance. The common aim of research work is to enable course members to make original contribution to a subject of national or international interest, which has influence on national security and development. NDC journal reflects the notable research works carried out by course members and faculty of the college. I am assertive that the Research Papers included in this journal encompassing varied subjects would be considerably useful for the readers.

I congratulate all authors who contributed to this journal. I appreciate the sincere efforts of Research and Academic Wing and acknowledge the hard work of editorial board to publish this journal in due time.



Md Akbar Hossain, SBP, BSP, SUP(BAR), afwc, psc, G+, PhD
Lieutenant General
Commandant

EDITORIAL

NDC Journal is a bi-annual publication of National Defence College, the premier national centre of excellence on Leadership, Security, Strategy and Development Studies. The articles for the journal (Volume 21, Number 2, December 2022) 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 15,000 -20,000 words and the abridged versions are of 4,500 - 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) papers 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 training.

This volume includes papers of different categories those will draw attention of varied group of readers. 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 Md Akbar Hossain, SBP, BSP, SUP(BAR), afwc, psc, G+, PhD, 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.



AKM Aminul Haque, ndc, afwc, psc, PhD
Major General
Editor-in-Chief

ABSTRACTS

**FEASIBILITY STUDY ON TOURISM MARKETING IN
BANGLADESH: WAYS FORWARD**

Brigadier General Md Sharif Hossain, PBGMS, ndc, psc

Bangladesh is a gifted child of the nature. It has got enormous beauty of flora and fauna, serenity of nature, long history of culture and heritage, vastness of sea, hospitable and welcoming people and homogeneity of inhabitants, which all are valuable and very attractive product for tourism. Despite all these gifted laurels, still Bangladesh is lagging behind to utilize the tourism sector for its economic development just due to lack of introduction and implementation of proper tourism policy, marketing strategy to make the Beautiful Bangladesh as a dream destination for the tourist and travelers. To develop this sector a lot of work, planning, policy formulation was done but very less was implemented due to lack of attention and commitment. Despite various efforts, still there are gap between the tourist expectation and the service provider perception which is very essential for the research on “Feasibility Study on Tourism Marketing in Bangladesh: Ways Forward”. This research conducted in combination of existing theory and the empirical data, primary data collected from various study, research paper, journal and secondary data by survey, discussion and interview with expert, academicians and related stakeholders. Beside this, a ground visit is also done to see the existing state of tourism environment. Comparative study with the regional and global leaders of tourism is also made. Due to time and COVID 19 pandemic limitation, access to the related stakeholders as well as the visit of the domestic and foreign tourist was limited as the tourism sector was either closed or restricted during this time. Having all these issues, this study could find out the gap between the expectation of tourist and perception of the service provider. It also identified the grey areas of existing policy and suggested appropriate guidelines and made necessary recommendations. With all limitations it surfaced very vividly that Bangladesh has to work a lot to gain maximum from the gift of the nature as tourism.

Keywords: Tourist Expectation, Service Provider Perception, Tourism Policy.

EFFECTIVE AIR SPACE MANAGEMENT WITH THE INTEGRATION OF CIVIL-MILITARY CAPABILITIES: BANGLADESH PERSPECTIVE

Brigadier General Ghazi Muhammad Sajjad, SPP, PBGM, ndc, psc

Airspace Management (ASM) basically embraces coordination, integration and regulation of the use of airspace to ensure smooth and safe flow of air-traffic within the defined airspace. Presently, Airspace of Bangladesh remains mostly at large, because number of international air routes (L- 507 and P- 646) are passing through maritime airspace over which CAAB does not have any control. More so, after winning on the arbitration on International Tribunal for the Law of the Sea (ITLOS) airspace of Bangladesh added another enormous maritime area (1,18,883 sq km) in the Bay of Bengal. Airspace violations should be dealt appropriately by the apt integration of civil-military resources in peace time. Singly any stake holder is virtually unable to manage the intricacy of ASM, therefore, until now the work in coordination. Yet, there are gaps and weaknesses of the existing system in ensuring the management both peace and wartime scenario. A holistic approach is essential in meeting the challenges. The capabilities are by and large in proportion to the assortment of the necessary equipment and efficacy of the control system and operators, despite of the fact that the shortcomings are met by organizing and reorganizing the structures involved in the system, it is either being separate in a coordination of being together by integrating the assets and capabilities of the civil and the military. Thus, this topic has been an effort to examine the existing the existing coordinated ASM system of Bangladesh for both peace and war time and eventually pointing the gaps and weakness. A probing for the better and effective systems of ASM form coordination of different involved agencies and institution to integration of the capabilities of essentially civil and military has been persuaded for to suit the ASM in Bangladesh perspective.

Keywords: Air Space Management (ASM), International Civil Aviation Organization (ICAO), Civil Aviation Authority of Bangladesh (CAAB), Bangladesh Air Force (BAF), Air Defence Operation Centre (ADOC).

CULTURAL FOUNDATION OF ANCIENT BENGAL: RELEVANCE FOR CONTEMPORARY DEVELOPMENT OF BANGLADESH

Brigadier General A B M Faisal Baten, ndc, psc

Revisiting history always brings new insights. As such, a study on the cultural foundation of ancient Bengal and finding its relevance in contemporary development

might reveal important outcomes for Bangladesh. Though quite a good number of research have been done on ancient Bengal, yet its relevance for present-day Bangladesh is not investigated much. The history of Bengal is very rich and the richness still exists within the political boundary of Bangladesh. Further study and original research in this field can scientifically explore the glory of the past. This paper made a humble endeavor to uncover relevant ancient cultural elements of Bengal to analyze those from the present-day's development perspective. The research is mostly based on secondary sources, however, key informants' interviews and surveys were also conducted to cross-check opinions and bringing out inferences. Ancient Bengal had such glorious culture, heritage, and riches that its splendors were mentioned by the renowned voyagers and merchants of Arabia, China, Greece, and many more. Unfortunately, throughout the centuries, substantial damage to the region was done by the ancient and medieval rulers, most of whom did not hail from this land. The majority of them did not own the region or the natives and only were keen on exploitation instead of foresighted development. Frequent changes of culture brought by different rulers had a phenomenal impact on this region which stalled overall progress. However, history always has much to offer for building the future. The present scenario of Bangladesh has changed quite significantly from the past. Though Bangladesh now is advancing at a greater pace in almost all development indices, the outcome of the research might give guidelines to the policymakers at the highest level for bringing out strategies that would accelerate the contemporary development of the country.

Keywords: Cultural Foundation, Cultural Heritage, Ancient Bengal, History of Bengal, Development of Bangladesh.

CLIMATE CHANGE INDUCED MIGRATION FROM COASTAL REGION: SECURITY CONSEQUENCES FOR BANGLADESH

Brigadier General Abu Rubel Md Shahabuddin, ndc, hdmc, afwc, psc, G

In this research the researcher intended to identify climate change induced migration taking place in the coastal region and the security consequences of migration for Bangladesh with a specific objective to ascertain the security impacts of climate change induced migration from the coastal region. The research applied a quantitative approach using cross-sectional descriptive design and made use of triangulation method to validate the qualitative responses of scholars and environment activists with the quantitative analysis of survey data. Researcher administered questionnaires were adopted to collect data through a two stage (Pilot and Final) survey using Likert Scale. 351 person from coastal region responded to the final questionnaire.

The research identified few important aspects which may be useful for the policymaking approach of the Government of Bangladesh (GoB). It identified that climate change effects causing serious difficulties in day to day life of coastal population. It's causing migration, both internal and external, which in turn triggering socio-economic security consequences for the country. Frequent damage to coastal polders and salinity intrusion have become the major reasons for migration from the coastal region. Climate change effects causing general economic distress in the local economy which is a major ground for migration. This climate change induced migrants are among the primary causes of socio-economic instability of the country. Rootless and unemployed young climate induced migrants may become a sour concern for social stability and may lead to be the most significant reason for socio-political instability in the future days. Besides, relation with neighbouring country may become strained due to climate change induced external migration from the coastal region. The findings and recommendations of the research may be helpful for different ministries of Government of Bangladesh. This may also fill up gaps in existing literatures on climate change, migration and its security issues pertaining to Bangladesh and India. Academicians may find this research useful for working on mitigation effort of climate change and migration impact. It may also increase awareness about the very graveness of the issue to concerned Government and Non-Government Organizations so that a timely intervention policy may be formulated.

Keywords: Climate Change, Induced Migration, Socio-economic Security, Coastal Region, Security Consequences for Bangladesh.

GEOPOLITICAL CHALLENGES IN PURSUING THE BLUE ECONOMY OF BANGLADESH: AN ANALYSIS OF STRATEGIC RESPONSE

**Commodore (Now Rear Admiral) Shaheen Rahman, (G), NUP, ncc, ndc,
psc, BN**

Bangladesh is growing economically at an average rate of around 7 for the last 5 years. This impressive growth has been possible from the foreign currency earned through the export of readymade garments industries and the remittance of its labors around the world. But this main two drivers of its economic growth have reached a saturation as the competition in the global market rises along with the shrinkage thereof as a consequence of Covid-19 pandemic. In order to maintain its current economic growth, Bangladesh needs to look beyond the conventional economic options and Blue Economy can be that much needed alternative for Bangladesh. The 'Blue Economy' is relatively a new concept which advocates

for the better management of the oceans or 'blue' resources for sustainable economic growth. Bangladesh has already adopted its Blue Economic model in 2019. This model visions a smart, sustainable and inclusive economic framework which will expand the domestic job sector through creating new employment in maritime activities and thus sustain its amazing economic growth. But the global and regional geopolitical landscape is going through a rapid change due to the US-China and China-India rivalries which also affect the Bay of Bengal region. The current global and regional politics unfolding, pivoting on the Indian Ocean and consequently the Bay of Bengal, is so fast changing that resulting effects makes it very difficult for a small country like Bangladesh to pursue its domestic, foreign and especially economic policies.

Keywords: Bay of Bengal, Blue Economy and Cooperative Engagement.

ORIGIN AND DEVELOPMENT OF PUBLIC SAFETY SYSTEMS IN PRE-HISTORIC AGE: BENGAL PERSPECTIVE

Deputy Inspector General Md Nazrul Islam, ndc

Public safety and law enforcements are like identical twins, interdependent and inseparable. Each and every individual in a society has significant role in ensuring or endangering public safety; no matter whether in ancient or present day. Human being, always prioritized its security, since the beginning of peace and stability. Yet, the community life extended safety systems in Ancient Bengal, when pristine Astric people, practiced customary provisions and rituals; lead by Manjhi, Mahato, Doshjona, Mondol, Baesi, Panchayets. However, it changed in different cultures and commitments during the rule of Asuras, the Jains the Mauryians and Guptas, based on their political and ideological commitments and interests. Sometimes it's compassionate, sometimes brutal, repressive and suppressive. Shifting's of laws and law enforcers were sometimes welcomed by the mass people, and sometimes challenged by them as well in adverse situations. Dandaniti, introduced by the Mauryians, exercised by Guptas failed to control the people of Bengal and busted out in Civil War, the Matsanyaya. This is a qualitative study, explanatory and causal in nature to unearth the ancient public safety systems of Bengal; with an objective to compare the laws and enforcement systems of independent ancient Bengal with the subsequent external invasions, explicit to gauge a difference; to interpret, evaluate the lessons for present days policing; which contains core values for internal security, that ultimately leads to enhance understanding of public safety in present Bangladesh. This objective and contextual analysis, interviews, iconographic studies, arguments, findings will be

useful to unearth the unnoticed ancient law enforcement segments; will broaden the horizon of understanding quality of law enforcement, in attitude, culture and commitments of Police in present Bangladesh.

Keywords: Ancient Bengal, Compassionate Law Enforcements, Shifting of Public Safety Systems, Brutal Executions, Matsanya.

ROLE OF NAVY IN PURSUING NON-TRADITIONAL MARITIME SECURITY CHALLENGES – INDIAN PERSPECTIVE

Commodore Jai Bedi, ndc

Globalisation led to increased presence of extra-regional navies and non-state actors in the Indian Ocean Region (IOR), giving rise to various maritime security challenges. Regional maritime security agencies have been forced to accord higher priority to these non-traditional security challenges, sometimes at the cost of traditional military preparedness. The objective of this research is to identify maritime security challenges in the IOR, which necessarily require involvement of the Navy, and to examine the impact of such involvement on the Navy's ability to perform its primary role of safeguarding sovereignty and maritime interests during inter-state conflict. It examines the achievements and limitations of the various organisations and forums involved in tackling non-traditional maritime security challenges in IOR through dialogue and diplomacy. It concludes that affected nations have to necessarily resort to military means for implementing effective mitigating measures against maritime security threats, which will require maritime security agencies to evolve beyond their traditional roles and structures. However, limited budgets, a collective legacy of sea blindness, and critical human and economic development compulsions will continue to constrain the growth and diversification of military forces in the region. It is, therefore, imperative that IOR nations and maritime security agencies adopt a collective approach through cooperative mechanisms and develop capacities to effectively tackle non-traditional maritime security challenges in the region. The security of the Indian Ocean Region is downright critical and requires policymakers to formulate concrete and result-oriented maritime policies for an organised and systematic response to non-traditional maritime security challenges. India, being the largest maritime power in the region, has taken the lead in this aspect through SAGAR and IONS, but a lot more needs to be done through diplomatic forums like IORA, for safeguarding regional maritime security interests.

Keywords: Indian Ocean Region, Navy, Maritime Security, Non-traditional Security.

CLIMATE CHANGE AND FOOD SECURITY IN PAKISTAN- IMPACT ANALYSIS & WAY FORWARD

Commodore Zahid Farooq, SI (M), ndc, nswc, psn

UN's Intergovernmental Panel on Climate Change (IPCC) published in August 2021 discusses one of the hottest and most devastating summers on record which includes floods in Northern Europe and China, wildfires in the US and heatwaves everywhere. The report tells us that the consequences of current global warming crisis are largely irreversible. The most we can do is to prevent an all-out ecological collapse. Climate change is increasing the frequency and intensity of climate-related disasters threatening land, livestock, crops and food supplies thereby undermining attempts to increase agricultural productivity. Rise in average temperatures disproportionately affect people living in fragile environments, with limited coping mechanisms, who are already at risk of hunger. Without proper risk mitigation, disasters will continue to exacerbate food insecurity and malnutrition. Over approx. past 30 years, Pakistan has seen a steady rise in temperatures and the variability of rainfall making weather patterns increasingly erratic. Less rain falls along Pakistan's coasts and arid plains, prompting extended periods of drought. Year on year, the monsoon season is delayed in Eastern Pakistan, with severe implications for agriculture. It is clear that strong adaptation and mitigation efforts to prevent the worst impacts of climate change are required. This research may be considered a step in this direction. Using a qualitative research methodology, it aims to suggest a set of recommendations so as to make people in Pakistan less vulnerable to food insecurity by shedding light on who the most vulnerable populations in the country are, and what interventions can help them manage and mitigate the climate-related risks they face. This paper discusses agro-ecological zones and explores the impact of climate change on livelihoods, especially in areas prone to climate risks.

Keywords: Pakistan, Food Security, Climate Change, Weather Events, Rise in Temperature & Variation in Precipitation Patterns.

INTEGRATION OF "MISSION COMMAND" IN THE MULTI- DIMENSIONAL BATTLEFIELD OF THE 21ST CENTURY: BANGLADESH ARMY PERSPECTIVE

Colonel Faruque Ahmed, afwc, psc

Command and control (C2) in Bangladesh (BD) Army is mostly centralized. At present era, C2 should be both responsive and robust to deal with the changeable and unpredictable operational atmospheres and to make use of the technological

advances. Dynamic situations of the 21st century battlefield necessitate quick decision making and snatching the opportunity given in the instant. The future battlefield environment includes asymmetric, irregular, non-linear, hybrid and technological warfare, demanding detailed analysis in order to anticipate the consequences of decisions taken by the leadership. Absence of right decision at right time and place may change the whole gamut adversely and put the under commands in tremendous odds. To address the complexity and unanticipated consequences of the battlefield “mission command” may be a viable option for BD Army. This concept demands decentralized execution, shared vision, professional excellence, mutual trust and respect between the leaders and the followers. There remains some serious drawbacks in incorporating mission command in BD Army that must be eradicated to ensure that its applications are executable and practicable.

Keywords: Mission Command, Multi Dimension, Bangladesh Army, Centralised Command and Control, Future Battlefield, Mindset, Zero-error Syndrome, and Professional Excellence.

IMPACT OF DEMOGRAPHIC VARIABLES ON POTENTIAL MILITARY LEADERS' SELECTION SYSTEM: BANGLADESH ARMY PERSPECTIVE

Lieutenant Colonel Muhammad Nurul Amin, afwc, psc

Bangladesh Army is the symbol of the strength and sovereignty of the nation. The potential leaders of the organisation act as the prime mover and enable them to move forward with honour as well as dignity. The selection of potential leaders is mainly carried out in two stages; preliminary selection and ISSB test. The ISSB selection system primarily focuses on personality, which is shaped by various demographic variables like family, society, educational institutions, culture, ethnicity, religion, etc. However, there is a missing link in addressing demographic variables scientifically during the preliminary selection process. As such, it is a need for time to harmonise the officers' recruitment processes. This would synchronise the entire system to select suitable potential military leaders. The current study aims to examine the impact of demographic variables on military leadership potentials in order to implement an integrated officers' selection system for Bangladesh Army. It is descriptive research with a cross-sectional design. A mixed approach combining quantitative and qualitative methods has been followed. This paper suggests necessary modifications to the selection system in evaluating the potential military leader. This research's outcome may assist in reviewing or modifying the existing selection systems of potential military leaders of the Bangladesh Army. As the selection of potential

military leaders is the most vital step for developing the Bangladesh Army. In other words, it can be considered as the first window through which potential military leaders are assessed and selected. Finally, a synchronised selection system proved unquestionably crucial by the present study for a dynamic organisation like Bangladesh Army.

Keywords: Demographic Variables, Inter Services Selection Board, Potential Military Leaders, Preliminary Selection System.

INFLUENCE OF CHANGING SOCIO-ECONOMIC DYNAMICS ON SOLDIERING: NEED FOR SUITABLE LEADERSHIP APPROACH FOR THE MID-LEVEL OFFICERS OF BANGLADESH ARMY

Lieutenant Colonel Iftekhar Ahmed, SGP, PPM, afwc, psc

Socio-economic environment of Bangladesh has undergone a steady transformation in recent years causing substantial changes in social structure and cultural values. Military being very much part of the society can no way ignore the effect of changing socio-economic environment of the country. Although socio-economic development brought many positive impacts in our society, it also has several negative consequences impacting military culture and profession. Hence, it is essential to make a comprehensive study on this issue, identify the perceived leadership challenges in the units and finally look for a suitable leadership approach to mitigate the challenges posed by changing socio-economic dynamics on soldiering. For decades, thousands of academics have studied leadership and many new ideas about leadership styles and methods have emerged. This research examined and evaluated the five most contemporary, widely tested and practiced leadership approaches basing on their unique attributes and applicability. While examining leadership trend in the units of Bangladesh Army, it was found that majority of the mid-level officers practice a variety of leadership styles with a bias towards transactional leadership. Furthermore, notable leadership challenges posed by changing socioeconomic factors, such as materialistic attitudes, eroding loyalty, IT indulgence, fading honesty and integrity, and so on, were identified as prevalent in the units. Hence, the leadership attribute required to offset the negative effect were determined considering the senior officers as well as UCs expectations from the leader. Identified key attributes were then correlated with the perceived leadership challenges and widely practiced leadership styles with a view to determining the most suitable leadership approach for the mid-level officers of Bangladesh Army which was further validated by case studies on unit performances. It was found that transformational leaders were better aware of the challenges and thus made a greater contribution to the unit, resulting in

improved performance. Therefore, it can be concluded that transformational leadership approach by mid-level officers will contribute much better to address the influence of changing socio-economic dynamics on soldiering as well as to meet the expectations of the senior leadership of Bangladesh Army.

Keywords: Socio-Economic, Transformational, Transactional, Situational, Visionary, Laissez-Faire and Servant.

THE EVOLVING INDO-PACIFIC SECURITY ARCHITECTURE AND DEFENCE DIPLOMACY: FOSTERING NATIONAL INTEREST OF BANGLADESH

Captain Mahmudul Haque Majumder, (L), NPP, afwc, psc, BN

The Indo-Pacific is a widely-discussed topic in today's political, academic and military discourses. Its security architecture is rapidly altering with the changing geopolitical landscape of the region. While the prevailing security architecture of the Indo-Pacific engenders a myriad of security challenges, it offers some opportunities for the littorals as well. The Bay of Bengal, connecting the Indian and the Pacific Oceans, links Bangladesh to the region. Hence, the prospects and challenges emanating thereof will likely to shape Bangladesh's national interests. The evolving geostrategic setting of the region and the burgeoning security challenges also warrants an enhanced cooperative engagement. This provides an opportunity for defence diplomacy in the Indo-Pacific. This study primarily aims to suggest ways defence diplomacy can be constructively used to foster the national interest of Bangladesh within the evolving security architecture of the Indo-Pacific. This research is largely premised on qualitative analysis from divergent sources to identify the cardinal issues and relate them to the Bangladesh context. However, it also incorporates quantitative data through a survey questionnaire. To prioritise those data and analyse them further, some interviews are conducted with a selective list of academia and senior military leadership. The study finds several prospects and challenges in the Indo-Pacific which can be addressed through defence diplomacy. It also deduces that defence diplomacy will be a viable option for Bangladesh amidst evolving security architecture of the Indo-Pacific and it is unlikely to hinder Bangladesh's strategic hedging with major powers. To enable so, a constructive defence diplomacy model is necessary, as proposed in the paper. The proposed model will not only address the security challenges but also can foster the national interest of Bangladesh.

Keywords: Indo-Pacific, Security Architecture, Defence Diplomacy, National Interest, Strategic Balancing.

FEASIBILITY STUDY ON TOURISM MARKETING IN BANGLADESH: WAYS FORWARD

Brigadier General Md Sharif Hossain, PBGMS, ndc, psc

Introduction

Tourism is a critical success factor for many countries that are generating foreign exchange, creating employment opportunities, contributing to infrastructure development, and developing technological expertise (Hall et al, 1997). In the present day, tourism plays a vital role in their economic activity and ultimately appears as an important source of income. Tourism also contributes immensely to the travel, and accommodation worldwide, the overall turnover is about USD 8.9 trillion and it was 10.3% of the Gross Domestic Product (GDP) of the world in 2019 (World Travel and Tourism Council, 2020). As we know, tourism industry cannot function alone, it operates along with other industries. So, tourism industry directly or indirectly accounts for approximately 330 million jobs. Again approximate turnover of world visitor export is USD 1.7 trillion, out of which the tourism sector alone enjoys a market share of 6.8%. Besides this, it is not only a booming industry but also one of the largest industries in terms of the world economy. Having all these facts available, still many efforts are essential for the sustainable development of this industry. Thereby, a comprehensive marketing plan is a cry of the time for the development of a potential industry like tourism.

The leadership of Bangladesh is also aspiring to become a developed country by 2041. To attain that goal, the tourism industry in Bangladesh can play a vital role in internal and external economic sectors. With the improvement of social and living standards, people are becoming alone day by day and looking for amenities that tourism can offer. Presently tourism is one of the focused sectors in most developing countries to take ahead of their development.

Besides the development in social welfare issues, advancement in the tourism sector also has increased manifold due to the improvement of political stability, economic development, an increase of disposable income, elevation of poverty, access to information, increase in the use of social media, tourism campaign, innovative ideas of entrepreneur, etc. In contrast, study shows that developing nations face challenges like corruption, conflicting political culture, inadequate nutrition, poor health, access to education and mass literacy, etc. Having all these limitations coupled with opportunities like other Asian countries, Bangladesh also has great potential in developing the tourism sector. But to exploit this opportunity Bangladesh needs huge work to do in developing all the related sectors. In doing so, the Bangladesh Tourism Board (BTB), Bangladesh Parjatan Corporation (BPC), and Tour Operators Association of Bangladesh (TOAB) are focusing on tourism development, steering as a central key player to make Bangladesh an important destination for tours and travel. Despite all its existing efforts, the position of Bangladesh is not vibrant, particularly in the world tourism arena. However, Bangladesh has made tremendous success in all the indexes of development like economic, social, and human resources. In this context, the respective concern is also taking many initiatives for the development of tourism in Bangladesh.

Going through the literature, it is found that despite the potentiality of this sector, relatively less work is done to place the tourism sector in the leading role of the economy. This makes us clear that more and more literature and work is necessary on this topic. Even Bangladesh stands far below considering the global work on this. Presently researchers can find very few reports on prevailing problems, limitations, and intricacies of market dynamics in tourism development literature. But only a few studies have been conducted on an issue like Tourism Marketing in Bangladesh. However, the market feasibility study will help to identify the market competition, potential market, and market analysis to assess the domestic and international markets. Given the above this research intends to focus on the issue to explore the topic feasibility, potentiality, development, and way forward in Bangladesh to culminate the peak of development tourism market in home and abroad. Choosing the study on Beautiful Bangladesh as an example.

Methodology of the Study

Nature of the Study. This paper is the output of both exploratory and descriptive research. In the first stage, exploratory research is conducted to identify the factors affecting Tourism Marketing for the sustainable development of Bangladesh. Then descriptive research is done to understand the Tourism Marketing strategies of the tourism industry in Bangladesh.

Information Needed. To conduct this research primary and secondary information was very important to determine the selected factors. So a survey through the questionnaire on tourists (Local & Foreigners), tour operators, managers of restaurants and airline executives, and related personalities was carried out.

Questionnaire Development. The questionnaire was developed in a way to reveal the respondent's response related to each of the independent variables. A semi-structured questionnaire was prepared and filled by the respondents through face-to-face and internet surveys for collecting primary data. The questions of questionnaires include open-ended questions, close-ended questions, and multiple-choice questions.

Sources of Data/ Data Type. This study covered two types of data which are.

Primary Data. Primary data were collected by interview through the questionnaire.

Secondary Data. Secondary data was collected from the previous publication, journal articles, websites, newspapers, policy papers, and other relevant materials.

Data Collection Method. Here the respondents were asked some questions from a preplanned questionnaire. A pilot test of the survey was carried out to see whether the respondents are understanding the questions or not. Then based on the pilot test, necessary correction was given to the questionnaires' for the final survey.

Scaling Technique. 5 points Likert scale has been used to collect the degree of agreement or disagreement with each of a series of statements. The scale is designed in the following way.

1 strongly disagree, 2= disagree, 3 neither agree nor disagree, 4= agree and 5= strongly agree.

Sampling Process. The process followed as under.

Step 1. Define the Target Population. The target population for the questionnaire is defined in Table 1.

Table 1: Define the Target Population.	
Target Population	Elements: Tourists (both foreign & local), BTB, BPC, Tour Operators, Airlines, and Hotels Related Personalities Sample Size: 323 Sampling Unit: Tourism Industry Extent: Tourists of Bangladesh. Time: February 2021 – October 2021

Step 2. Sampling Technique. Here judgment sampling method is used to select the respondents who are coincidentally in the right place at the right time for the questionnaire related to research data.

Step 3. Sample Size. This study employs a sample size of 323 as follows

Table 2: Sample of Categories and Size.	
Sample of Categories	Size of Samples
1. For Questionnaire Survey	
a. BPC and Tourism Related Official	02
b. TOAB Members	03
c. Tourists (60 foreign and 248 domestic)	308
d. Executives of Airlines	02
e. Executives of Hotel/Restaurants/Resorts	04
f. Experts (2 academicians, 2 marketing experts).	04
Total	323

Data Analysis

Data Analysis - Tourist

This part of this study is designated to give an overview of some important variables of the respondents. This study uses five (5) socio-demographic characteristics of the respondents for data analysis purposes. Gender, age, profession, reason for travel, and monthly income of the respondents are used to find out tourists' socio-demographic characteristics.

Gender

The study finds that most of the participants of this study are male which represents almost 81.8 percent. 18.2 percent of the respondents are female. The majority of the tourists are male in Bangladesh which also represents the frequency distribution of this study.

Age

Youth travelers are the major tourist group in Bangladesh. The study also shows similar trends. The majority of the respondents belongs to the 31 to 35 age group which is 62 percent. 19.8 percent of respondents are the below 20 years age group, 7.1 percent are in 20 to 25 years age group, and 7.8 percent are in the 26 to 30 years age group. On the other hand, only 3.28 percent of respondents are above the 35 years age group.

Education Level

The table shows the educational qualification of the respondents.

Table 3: Education Level of Respondents		
Education Level	Frequency	Percent
HSC	3	1.0
Undergraduate	124	40.3
Graduate	175	56.8
Post Graduate	6	1.9
Total	308	100.0

Profession

Professional identity is a vital factor in socio-demographic characteristics. It helps to guide the behavioral pattern of the respondents. According to the study, 51.9 percent of respondents are service holders, 24.4 percent are students, 14.3 percent are businessmen and 8.4 percent are housewives.

Income

The table shows the monthly income of the respondents.

Table 4: Monthly Income		
Income Level (Taka)	Frequency	Percent
Below 20000	76	24.7
21000 to 30000	16	5.2
31000 to 40000	8	2.6
41000 to 50000	23	7.5
51000 to above	185	60.0
Total	308	100.0

Reason for Travel

This study reveals that the majority of the respondents travel to passing quality time with friends and family members which are 48.7 percent of total respondents. On the other hand, only 41.2 percent travel for recreational purposes, 6.5 percent travel for study or research purposes, and 3.6 percent travel for business purposes.

Service Provider

In this study fifteen (15) service providers have been selected for interview to know their responses about tourism marketing in Bangladesh. Table 4.12 shows the demographic characteristics of service providers.

Table 5: Demographic Characteristics of Service Providers		
Gender	Frequency	Percentage
Male	13	86.67
Female	02	13.33
Educational Level		
Masters	10	66.67
M.Phil.	05	34.33
Years of Experience		
5 to 10 years	2	13.33
10 to 15 years	8	53.33
More than 15 years	5	34.33
Profession		
Govt. Officials	2	13.33
Accommodation Industry	2	13.33
Restaurant	2	13.33
Travel Agency and Tour Operator	3	20.00
Airlines	2	13.33
Tourism Consultant	2	13.33
Tourism Academician	2	13.33

Summary of Expert Opinion from the Survey Interview

Table 6: Importance of Integration of all Stakeholders for Tourism Development	
Informant : Designation & Experience	Importance of Integrated Action of all Stakeholders
Chairman, BPC (More Than 25 Years)	Integration and coordination between stakeholders are important and also need improvement
Chief Executive Officer (CEO), BTB (More than 25 years)	Coordination and integrated action are important for tourism

CEO, TOAB (More Than 25 Years)	Integration and coordination between stakeholders are important and also need improvement
Hotel Manager, Mr. Ronny Fuss, Hotel Radisson Blu, Chottagram (More than 30 Years)	Integration and coordination between stakeholders are important for tourism
Cluster General Manager, Mr Pubudu Fernando, Hotel Sayeman, Coxes Bazar (More than 30 Years)	Integration and coordination between stakeholders are important for tourism
Deputy Inspector General (DIG), Tourist Police (More than 20 Years)	Integration is necessary
Director of Operation, Civil Aviation Authority of Bangladesh (CAAB) (More than 30 Years)	Tourism is an inter-ministerial matter Tourism needs to be integrated, coordinated, and managed by a very high-level coordinating body

Table 7: Importance of Marketing Strategies & Policy Development for Tourism Development	
Informant : Designation & Experience	Importance of Marketing Strategies & Policy Development
Chairman, BPC (More Than 25 Years)	The tourism sector can contribute much better to the national economy with improved policy and management
CEO, BTB (More than 25 years)	Development and implementation of tourism marketing strategies are necessary Modernization, enactment, and formulation of concurrent law and policy are very important
CEO, TOAB (More Than 25 Years)	There is a need For up to date marketing Strategies The tourism sector can contribute much better to the national economy with improved policy and management
Hotel Manager, Mr. Ronny Fuss, Hotel Radisson Blu, Chottagram (More than 30 Years)	There is a need For up to date marketing Strategies
Cluster General Manager, Mr Pubudu Fernando, Hotel Sayeman, Coxes Bazar (More than 30 Years)	There is a need For up to date marketing Strategies
DIG, Tourist Police (More than 20 Years)	There is a need to build up the Image of Bangladesh
Director of Operation, CAAB (More than 30 Years)	Tourism needs to be integrated, coordinated, and managed by a very high-level coordinating body

Table 8: Importance of Qualified Human Resources for Tourism Development	
Informant: Designation & Experience	Importance of Human Resource Development
Chairman, BPC (More Than 25 Years)	Shortage of Skilled Human Resources
CEO, BTB (More than 25 years)	Efforts are on for infrastructure and soft skill development both in public and private investment
CEO, TOAB (More Than 25 Years)	Shortage of Skilled Human Resources
Hotel Manager, Mr. Ronny Fuss, Hotel Radisson Blu, Chottagram (More than 30 Years)	Adequate and qualified human resource
Cluster General Manager, Mr Pubudu Fernando, Hotel Sayeman, Coxes Bazar (More than 30 Years)	Ethical and qualified human resource Quality training to feed the quality and professional staff in the industry is a must
DIG, Tourist Police (More than 20 Years)	Skill to be developed
Director of Operation, CAAB (More than 30 Years)	CAAB staff are not trained on tourist handling issues but they are trained in their profession

Table 9: Importance of Safety and Security for Tourism Development	
Informant : Designation & Experience	Importance of Safety & Security of Tourists
Chairman, BPC (More Than 25 Years)	Integration and coordination between stakeholders are important and also need improvement
CEO, BTB (More than 25 years)	An attractive and safe travel image is a must for the visitor
CEO, TOAB (More Than 25 Years)	A safe to travel and attractive destination is very vital for tourism
Hotel Manager, Mr. Ronny Fuss, Hotel Radisson Blu, Chottagram (More than 30 Years)	A safe to travel and attractive destination is very vital for tourism
Cluster General Manager, Mr Pubudu Fernando, Hotel Sayeman, Coxes Bazar (More than 30 Years)	A safe to travel and attractive destination is very vital for tourism
DIG, Tourist Police (More than 20 Years)	Safety and security are important
Director of Operation, CAAB (More than 30 Years)	CAAB is following International Civil Aviation Authority (ICAO) standards for operation There is no “one-stop service” in our airport for tourist assistance

Discussion

Marketing a tourism destination or a country is a critical success factor. Crompton (1992) stated that “each destination offers a variety of tourism products and services to attract visitors and each tourist has an opportunity to choose from a set of destinations” (p.408). The effectiveness of

destination marketing has been affected by some factors like image, policy, branding, destination attractiveness, quality of employees, quality service, price, safety, security, etc.

Davidson (1994) stated that the image of a destination gives a competitive advantage to other destinations. As a tourist destination, the image of a country is significant to tourists (Chon, 1991; Gallarza et al, 2001; Dimanche, 2003). However, this study also finds that enhancement of the image of Bangladesh will help to attract more tourists to Bangladesh. Both tourists and service providers emphasize positive image development which is also supported by previous studies. For that reason, promotional activities like advertisement, online marketing, brand development, personal selling, and sponsorship in different events are effective to develop a positive image in the country. This study suggested that the use of digital and social media is helpful for tourism marketing. On the other hand, tourism service providers stated that organized competitions, seminars, exhibitions, etc contribute positively to promotional activities.

Table 10: Rank of Tourist Perception of Tourism Marketing in Bangladesh			
SL No	Statement	Mean	Rank
1	Enhancement of tourism image helps to build a good rapport with tourists	4.42	1
2	Accessibility to the tourist destination has a positive impact on tourist satisfaction	4.30	2
3	Digital and social media easily facilitate tourism products	4.18	3
4	Products of tourism are the key source of tourist attraction	4.06	4
5	The outlook of tourism destinations is a source of attracting domestic and foreign tourists	3.90	5
6	Personal selling can affect tourism services	3.72	6

Table 10: Rank of Tourist Perception of Tourism Marketing in Bangladesh

SL No	Statement	Mean	Rank
7	The friendly and hospitable attitude of local people creates a positive impact on the tourists	3.69	7
8	Available accommodations in the tourist sites are cozy and comfortable for the tourists	3.10	8
9	Transportations, food, and accommodation are available at an affordable cost to tourist	3.09	9
10	Existing infrastructure facilities related to tourism influence tourist attraction	2.96	10
11	Price is a value to the tourist and a factor in the competitive tourism market	2.96	10
12	Bangladesh is a safe and secure destination for tourists.	2.89	11
13	The current technological use in tourism is effective for tourism	2.87	12
14	Tourism service providers persons are well-trained to deliver quality service to the tourist	2.76	13
15	The current marketing plan for tourism is sufficient to address all the tourism product	2.58	14
16	Tourism-related policy in Bangladesh is effective for tourism development	2.50	15

Table 11: Rank of Service Provider Perception of Tourism Marketing in Bangladesh			
SL No	Statement	Mean	Rank
1	Tourist satisfaction is the main driving force in designing and developing tourism destination product	4.40	1
2	An increased number of qualified staff can help to increase the number of tourists in the tourist sites	4.40	1
3	Sponsorship of special events such as sports, charities, competitions, seminars, meetings, and exhibitions can have a positive impact on promoting tourism	4.27	2
4	Publicity and the country's image are important factors to enhance the image of Bangladesh Tourism	4.27	2
5	Digital/Social Media facilitate tourism products and destinations	4.20	3
6	Advertising can be used to communicate and reinforce the image of tourism	4.07	4
7	Understanding the needs and demand of tourists increases the number of visitors to the tourist destinations	3.87	5
8	Tourism destinations are set to attract tourists from all over the world	3.73	6
9	The current marketing plan is effective for tourism development	3.27	7
10	The current marketing plan is sufficient to address all the tourism product	3.27	7
11	Current laws and regulations are sufficient and effective for tourism marketing	3.27	7

Table 11: Rank of Service Provider Perception of Tourism Marketing in Bangladesh

SL No	Statement	Mean	Rank
12	Current Tourism promotional strategies are useful for promoting tourism in Bangladesh	3.13	8
13	Tourism-related policy in Bangladesh is sufficient and effective for tourism development	3.13	8
14	The current technological use in tourism is sufficient and effective for tourism marketing	3.07	9
15	Do you think existing marketing strategies are useful for promoting tourism in Bangladesh?	3.07	9

This study finds that tourism service providers are not well-trained to deliver quality service to tourists. However, Nasser (2000), Fabricious (2001), and Yoon (2002) suggested that well-trained, qualified, and competent people are important for tourism development and will impact the destination marketing process. This study suggests that the current marketing plan, marketing policy, promotional activity, pricing strategy, tourism-related policy, and marketing strategies, security arrangements are not sufficient and effective for tourism development in Bangladesh.

Table 12: Strategic Action Plan for Tourism Marketing for 2021-2030			
Strategic Objectives	Action Plan	Time Frame	Responsible Authority
1. Formulate a tourism marketing plan for Bangladesh.	Set the Aim and objectives of the plan Select the possible stakeholders of tourism marketing	2021-2022	Ministry of Civil Aviation and Tourism (MoCAT), BPC, BTB
2. Ensure proper infrastructure at the tourism destination.	Select and evaluate the existing infrastructures Develop new infrastructure in the tourism destination Monitor the progress	2022 -2030	MoCAT, BPC, BTB, Private Business Operators
3. Ensure safety and Security in the tourism destinations	Develop safety protocol in the destinations Increase security systems in the tourism destinations	2022-2030	MoCAT, Tourist Police
4. Ensure fair prices for tourism products	Develop pricing policy for tourism products Monitor the pricing systems of tourism products	2022-2030	BPC, Tourism Stakeholders
5. Develop ICT-based infrastructure for tourism marketing	Use ICT in every aspect of tourism activities Emphasize Social media marketing and online marketing	2021 – 2030	MCAT, BPC, BTB, Tourism Stakeholders
6. Develop human resources for tourism	Increase new training facility Increase new educational institutes for tourism studies	2021-2030	MoCAT, BPC, BTB, Education Ministry

Conclusion

The tourism industry is a rapidly growing industry all over the world. The complex composition of the tourism industry and the rapid growth of this industry need strong marketing management support to gain a competitive advantage over other destinations. The present study emphasizes the feasibility study on tourism marketing in Bangladesh. This study is unique because it accommodates both tourist perception and tourism service provider perception. Tourists or customers are the main components of all tourism activities. Thus, tourist satisfaction is the key to destination success and all marketing activities must be designed to support tourist satisfaction. However, the destination image communicates a positive message to the tourist, supporting the destination quality, product quality, and service quality. An effective marketing activity may help to build a positive image of Bangladesh tourism. In Bangladesh, tourism-related existing marketing policies, marketing strategies, and promotional activities are not effective in attracting domestic tourists in general and foreign tourists in particular. Comprehensive marketing activity is needed to attract more international tourists.

The present study will help to formulate an effective marketing plan for Bangladesh in the future. This study presents the perception of tourists and service providers about tourism marketing in Bangladesh. The findings of this study will be valuable for government bodies and private business operators to formulate their strategies. The Bangladesh government and other government bodies like BTB can help formulate the policy, strategies, and laws to support tourism activities. At the same time, private organizations may fulfill their role in tourism development. Thus, policymakers should consider the issues cautiously and solve the issues on a priority basis to get the desired outcomes in Bangladesh tourism.

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Author

Brigadier General Md Sharif Hossain was born in the historical place Sonargoan, in the district of Narayangonj, Bangladesh. The author studied at Narayangonj High School and Government Tolaram College, Narayangonj, and passed Secondary School Certificate and Higher Secondary School Certificate in the years 1984 and 1986 respectively. Later the author joined Bangladesh Military Academy as a cadet in 1987 and was commissioned into Bangladesh Army in 1989 in the corps of Ordnance. The author also completed his Masters of Business Administration from Bangladesh Open University and is a graduate of Defence Service Command and Staff College Mirpur, Dhaka, Bangladesh. The author also completed his Master on Defence Studies from Bangladesh National University. The author by profession is a Supply Chain Management Professional and obtained his International Diploma in Supply Chain Management from International Trade Centre, Geneva. The author, after his commission, has worked in a variety of appointments in the diversified capacity of Military and Para Military Forces. The author worked in all the tiers of Supply Chain Management of the Bangladesh Army and was regarded as a procurement specialist in the Procurement Sector. The author also has a diploma in the French Language from Alliance Francais Bangladesh. The author has got the hobby of reading books, gardening, listening to songs, and traveling.

EFFECTIVE AIRSPACE MANAGEMENT WITH THE INTEGRATION OF CIVIL- MILITARY CAPABILITIES: BANGLADESH PERSPECTIVE

**Brigadier General Ghazi Muhammad Sajjad, SPP,
PBGM, ndc, psc**

Introduction

Air Space Management (ASM) entails coordination, integration, and regulation of the use of airspace to ensure the smooth and safe flow of air traffic within the defined airspace. It is basically a process by which airspace options are selected and applied to meet the need of all airspace exploiters. ASM prevents mutual interference from all users of the air space, facilitates Air Defence (AD), and identification, and accommodates the flow of all air traffic safely. Unmanned Air Vehicle (UAV) missions are both pre-planned and immediate requirement basis (Chapter 3, airspace Management, n.d.). According to Wikipedia airspace is the portion of the atmosphere controlled by a country above its territory, including its territorial waters or more generally, any specific three-dimensional portion of the atmosphere. It is not the same as aerospace, which is the general term for Earth's atmosphere and outer space in its vicinity.

“In Bangladesh, ASM has been vested to Civil Aviation Authority of Bangladesh (CAAB) and it is the primary regulatory body for all aviation-affiliated activities” (Al-Amin, 2020). Furthermore, it provides aeronautical services and is responsible for the safe, expeditious, and efficient flow of air traffic within the Flight Information Region (FIR) bounded by the geographic boundary of the country. Bangladesh Air Force (BAF) has been given the responsibility to take necessary measures against any airspace violation. In the case of emergency or war, BAF will take over the responsibility of ASM (Al-Amin, 2020). Albeit, the agencies and the

forces are working in coordination to manage the airspace yet, to cover the complete airspace of Bangladesh in terms of effective ASM there is an existing requirement of fulfilling the coordination gap into effectual integration of Civil-Military capabilities.

The advents of modern science drastically reshaped the air war. The extensive low-level flying capability of the latest air war places has made the identification extremely threatening. As such, during war own aircraft would be vulnerable not only to enemy fire but also to its force. Recent history has taught us about fratricide quite distinctively. During the Arab-Israel war in 1973, the Egyptians shot down sixty-nine of their aircraft which accounts for 32% of their total aircraft losses. Israel's AD force shot down 10% of total aircraft losses of her own.

“At present, the airspace of Bangladesh remains mostly at large, because several international air routes (L- 507 and P- 646) are passing through maritime airspace over which CAAB does not have any control” (Al-Amin, 2020). Particularly in the maritime borders for foreign intruders and vulnerable due to the absence of an effective airspace management system and active airspace control mechanism. Again, many international flights violate air routes in connivance with Flight Information Centres (FIC) without providing any information to Air Defence Operation Centre (ADOC). These flights even overfly restricted areas, designated for military flying (Rashid, 2018). Such unfair route violations impose unwanted risk, create chaos and confusion, and often led to near-air collision situations with BAF aircraft.

Recently, several private operators including corporate business groups have started operating small aircraft and helicopters at very low-level crisscrossing restricted areas (BAF Training Areas) within very congested airspace.

Existing Peacetime airspace Management System of Bangladesh

ASM over Bangladesh Airspace

BAF is responsible to take necessary actions against any airspace violation. ADOC, BAF, on behalf of the Chief of Air Staff, is primarily responsible for the AD battle over Bangladesh airspace during war or emergency periods. During war or emergency periods, the total control of the airspace of Bangladesh will be vested with BAF (Cabinet Division, Cabinet Secretariat, Government of the People's Republic of Bangladesh, 2004). The movement and utilization of all civil aircraft and overall airspace control and security will be planned by BAF. AD Cell of the Air Command Operation Center (ACOC) will formulate and revise the AD Plan (ADP) including airspace Control Order (ACO) for effective AD over Bangladesh airspace during war or emergency. ADOC looks after the sovereignty and security of Bangladesh airspace during peacetime as well (Rashid Md. Mamunur Group Captain, 2015). CAAB is committed to ICAO to apply its standards and practices while formulating the rules and procedures. Presently, aviation activities are being carried out from 3 international, 7 domestic and 5 Short Take-off and Landing (STOL) airports. Air Traffic Services (ATS) of different types are provided for the entire airspace including over territorial waters of Bangladesh encompassed by Dhaka FIR (under Dhaka FIC) except that portion which has been delegated to Kolkata FIR/Yangon FIR for provision of Air Traffic Services (Route L-507 from 26,000 to 40,000 feet). FIR boundary of Bangladesh (Map 1 Below) is not covering the airspace beyond the line joining the Hariabhanga River (South-West tip of Bangladesh), the Southern tip of Danger Area-29 (near Teknaf), and Reporting Point APAGO (near Bandarban). FIR boundary of Bangladesh needs to be extended up to the sea space including the airspace over South-East International Boundary as the airspace is very important for AD of Bangladesh.

FIR Boundary of Bangladesh

Map 1: FIR Boundary of Bangladesh (Black Dotted Lines Covering the Area)



Source: ADOC, BAF

Airspace is further subdivided into a variety of areas and zones, including those where there are either restrictions or complete prohibitions of flying activities. Over Bangladesh Airspace, there is one Terminal Control Area at Dhaka, two Control Zone located at Chittagong and Dhaka, 14 domestic Aerodromes, 17 Restricted Areas, 16 Danger Areas, and 02 Prohibited Areas in Bangladesh airspace. Restricted Areas are earmarked for BAF aircraft to conduct training missions. Danger Areas are used by Bangladesh Army (BA), Bangladesh Navy (BN), and BAF for firepower practice. There are 15 Domestic Routes and 10 International Routes over Bangladesh airspace.

ADIZ for Bangladesh

The concept of ADIZ was developed during the Cold War (GlobalSecurity.org, n.d.). The US declared the world's first ADIZs during Korean War to

reduce the risk of a surprise attack from the Soviet Union. Today, the US has five ADIZs (East Coast, West Coast, Alaska, Hawaii, and Guam) and operates two more jointly with Canada. In total 47 states have established ADIZ including Bangladesh, China, India, the UK, France, Russia, Germany, Japan, Norway, Pakistan, South Korea, Myanmar, Taiwan, and the United Kingdom. Bangladesh took the first initiative of establishing ADIZ over Bangladesh airspace on 30 September 1976 by giving a proposal in writing to Director General of Civil Aviation. But due to many limitations, the proposal could not be materialized. Again, the initiative was taken to establish ADIZ over Bangladesh airspace on 27 March 2017 by DAD, BAF.

Identification Procedure

In ADOC, Movement Identification Officer (MIO) is primarily responsible for identifying all flying objects within the ADIZ boundary of Bangladesh airspace. Based on FPL and information from all flying bases, all flying objects are being identified. AD surveillance radars play a very important role in detecting flying objects.

Procedures for Operation within Bangladesh ADIZ

Pilot-in-Command (PIC) submits the flight plan (FPL) to the Briefing Office of Civil Aviation Authority of the departed airfield before takeoff. This FPL is sent to Bangladesh FIC and Briefing Office through Aeronautical Fixed Telecommunication Network (AFTN). AD Notification Center (ADNC), Bangladesh provides the AD Clearance (ADC) Number if the aircraft has the clearance to fly over ADIZ of Bangladesh based on the foreign aircraft clearance procedure. If the PIC fails to get the ADC number before takeoff for any genuine reason, there is a provision for getting the ADC number from the air before entering ADIZ.

The flow diagram of providing ADC number and reinforcement is shown in diagram 1 and 2.

Diagram 1: ADC Number Issue in Flight Flow Chart

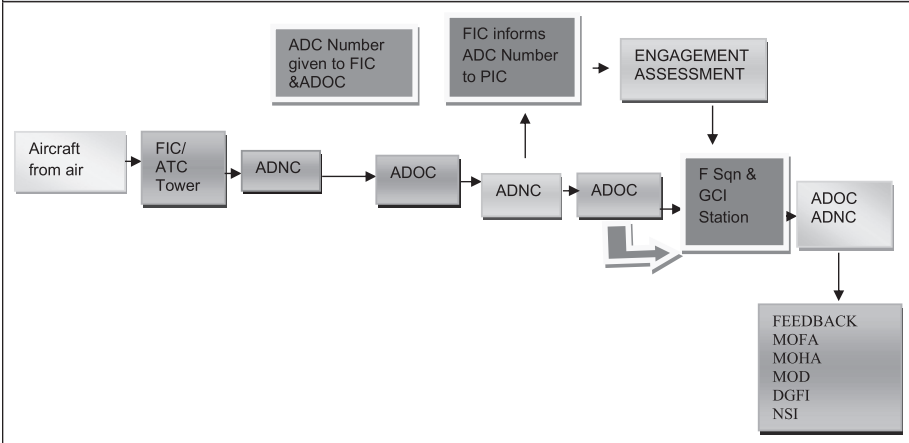
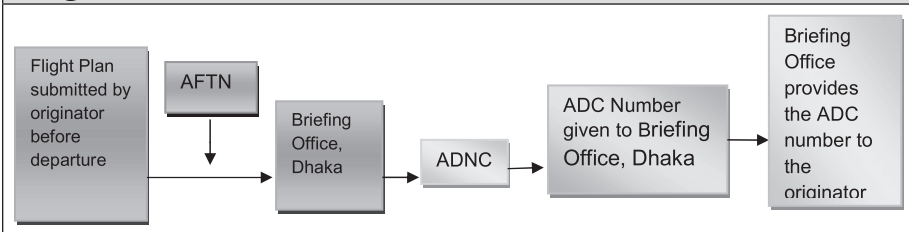


Diagram 2: ADC Number Issue on Ground Flow Chart



Enforcement of ADIZ

An ADIZ is most valued and easy to enforce if the ADIZ boundary over land and water is reasonably deep. They are less valued and difficult to enforce if ADIZ boundaries over land and sea are fairly narrow. The Government of Bangladesh has declared the whole airspace of Bangladesh including airspace over the Bay of Bengal as the ADIZ boundary of Bangladesh.

Rules of Engagement

In a period of amplified national security threats, it is important to be aware of the possibility of being intercepted by military aircraft, particularly if entering Bangladesh airspace from abroad without prior permission. Pilots

of intercepting and intercepted aircraft should be familiar with intercept procedures and be prepared to readily comply. Non-compliance may result in the use of force. The interception procedure has already been laid down in ICAO Document 9433. In case of violation, unidentified aircraft are liable to be interrogated and if necessary, intercepted for identification before they cross into sovereign airspace.

Demarcation of ADIZ

The airspace of Bangladesh is the airspace horizontally above the land area of Bangladesh including territorial water vertically extended up to 100 km. To implement ADIZ over any country's airspace, especially over sea, the demarcation of ADIZ will go beyond territorial water. ADIZ of many countries of the world at sea has been extended up to 400 nm from baseline. The ADIZ boundary of Bangladesh over land and sea is shown on the map below.

Map 2: Demarcation of Proposed ADIZ Boundary of Bangladesh

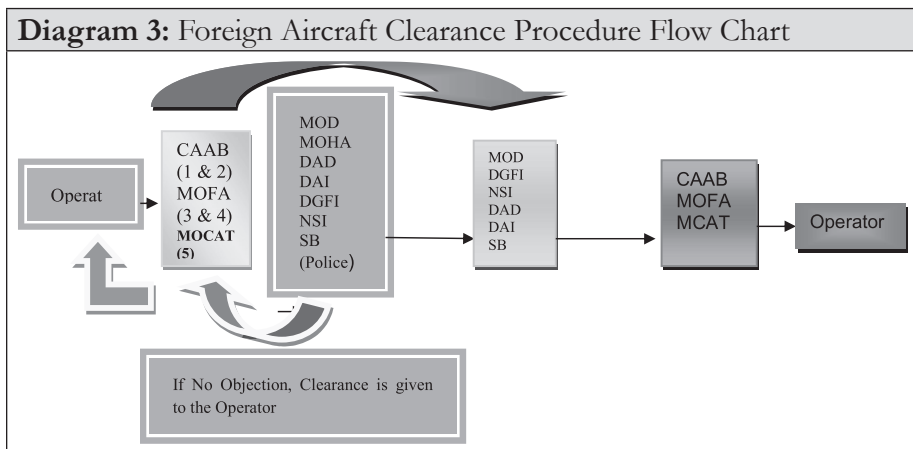


AD Clearance (ADC) Procedure

ADC is provided to any flight based on diplomatic clearance, flight plan, track behavior, and electronic means. Diplomatic clearance of a foreign aircraft is given following the foreign aircraft clearance procedure. Flight plan submitted by the originator on the ground comes to the Briefing Office of Dhaka. When the aircraft are picked up by BAF AD radars, based on track behavior and Identification Friend or Foe (IFF) mode and code, identification is given by ADOC, BAF. ADNC gives ADC numbers based on all these mentioned above.

Foreign Aircraft Clearance Procedure

The basic principles and procedures governing the clearance of foreign aircraft flying over, take-off, and landing in Bangladesh have been laid down by CAAB, Ministry of Communication in 1977. For landing, take-off, and over-flying Bangladesh airspace by foreign aircraft, CAAB and Air Head Quarters (Air HQ) are primarily involved in provisioning Technical Clearance. The diagram below shows the process of foreign aircraft clearance procedure.

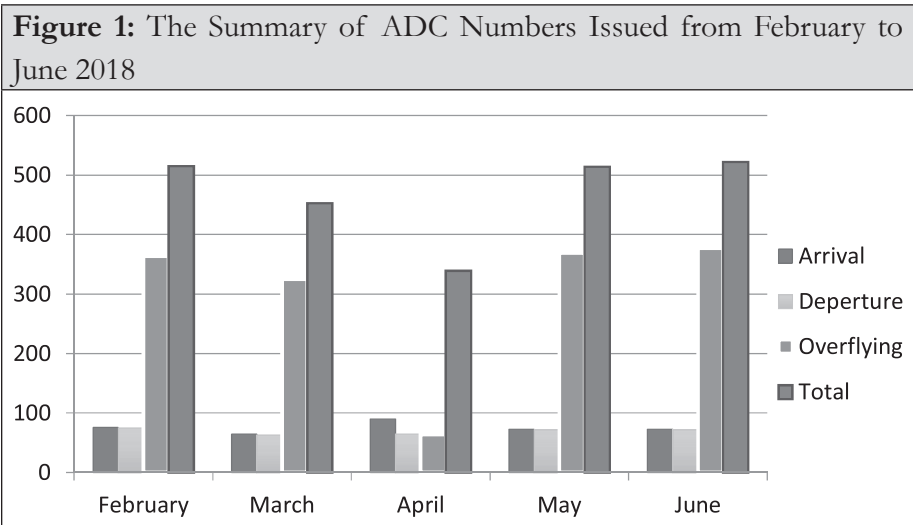


Role of ADOC in Enforcing ADIZ

ADOC, BAF is the nerve center of all AD activities where the total air situation is monitored by the AD Commander and Battle Staff. Air surveillance data of all AD radars are projected in ADOC for identification, threat evaluation, and finally engagement. During peacetime, the Duty Controller of ADOC remains vigilant in assessing the air surveillance and supervising the correct identification of all detected flying objects. ADOC also supervises ground-controlled interception conducted by AD radar Units and fighter aircraft on unauthorized aircraft.

AD Notification Centre (ADNC) of Bangladesh

To enforce ADIZ over Bangladesh Airspace, ADNC was established. ADNC Ops Room is collocated to FIC. AD Weapon Controllers working in ADNC, maintain liaison with FIC for issuing ADC numbers to all flights operating within Bangladesh ADIZ boundary in coordination with ADOC, BAF. The average ADC number issued per day to all aircraft from February to June 2018 is shown in the graph below.



Air Space Management System During Emergency/War Period

General

Rapid Technological advancements in the modern era have brought about major challenges in aerial warfare. Evolution of fighter aircraft, the advent of integrated systems, cruise missiles, UAVs, and drones further complicated theatre airspace control systems. In today's complex strategic environment, civil use of airspace in a combat zone may take place along with military operations.

Airspace Management Considerations

The objective of ASM is to achieve the most efficient use of the airspace based on actual needs and, where possible, to avoid permanent airspace segregation. An impressive ASM would optimize AD protection and offer some specific benefits as mentioned below:

- Maximize the effectiveness of friendly forces' firepower.
- Minimize the disorder among the friendly forces in the theatre.
- Provide a secure and orderly flow of air traffic under all conditions.
- Facilitate the control and identification of the air assets in the theatre.
- Assist the commander in specifying the priorities and restrictions to be applied.

Essentials of ASM

To prevent the possibility of fratricide, all air activities are to be coordinated at an appropriate command level. ASM was carried out with the help of an efficient surveillance system, an integrated, reliable, and effective communication network, and a flight plan correlation methodology to determine the identity of airborne objects. The result is the creation of

the RAP that in turn, triggers an active AD against identified hostile targets while ensuring the safety of friendly aircraft.

Airspace Control

Airspace Control both in the Theatre of Operations and Tactical Battle Area is a prerequisite to evade fratricides. A great deal of integration, fast and unambiguous communication, and clarity is required with area weapons for exercising operational control in a time constraint and hostile environment. Conversely, any misidentification or misunderstanding may lead to fratricide or failed enemy engagement (Al-Amin, 2020). airspace control procedures should ensure the following:

- Facilitate combat operations.
- Expedite AD identification.
- Expedite the flow of air traffic.
- Prevent mutual interference.
- Prevent fratricide.

Airspace Control Authority (ACA). The Chief of Air Staff will act as airspace Control Authority (ACA) ADC. His tasks are as under:

- Coordinate and integrate airspace control area.
- Establish and coordinate an airspace control system.
- Develop the airspace Control Plan (ACP) as to the requirement of maritime and land units.
- Direct the execution of the ACP through ACM.
- In regards to the ATO, quick coordinate of task assignment or reassignment.
- Coordinate airspace control.

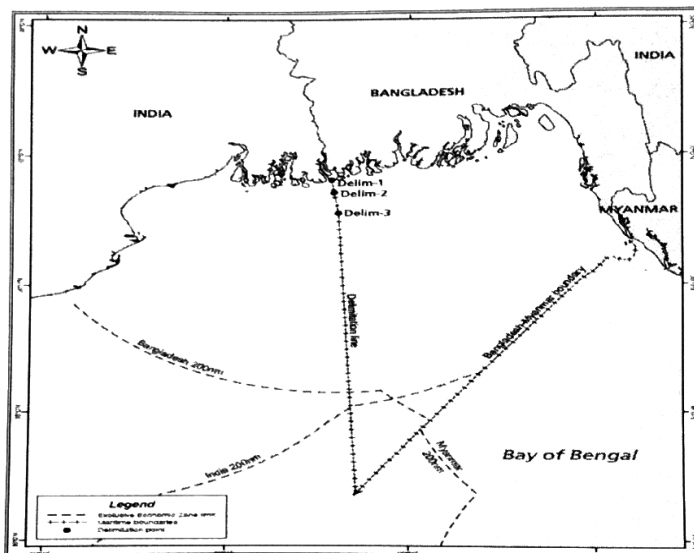
Promulgation of airspace Control Order

ACO will be promulgated in the context of the BAF AD Plan to ensure effective management of airspace. It will include a system of routes and corridors, which is used by friendly aircraft to transit 'from the rear areas to the forward areas, and zones which friendly aircraft usually avoid unless involved in specific operations.

Weaknesses/Gaps of the Existing Coordinated airspace Management System

The airspace of Bangladesh is the airspace horizontally above land area and territorial water Bangladesh (AIP 01/18, 01 Feb 18). The territorial water of Bangladesh is 12 nm from the coastline and extended up to the EEZ boundary. According to the verdict of the International Tribunal for the Law of the Sea (ITLOS), Bangladesh has achieved 1,18,853 sq km. airspace over the maritime boundary is shown below:

Map 3: Demarcation of Bangladesh airspace over Maritime Boundary



Source: AFD Journal, 2015

Demarcation of FIR Boundary over Bangladesh airspace. FIR boundary is very important from the perspective of AD. FIR boundary of Bangladesh does not cover the airspace beyond the line joining the Hariabhanga River (South-West tip of Bangladesh), Southern tip of Danger Area-29 (near Teknaf), and Reporting point APAGO (Near Bandarban) and it needs to be extended up to the EEZ in line with the ADIZ. At present, neither BAF nor CAAB has full control over the international routes passed through the maritime airspace as they do not have adequate surveillance or navigation over the maritime airspace of Bangladesh.

Airspace Surveillance and Detection of Airborne Objects

Surveillance of Bangladesh airspace is the primary responsibility of BAF. Through its AD radars, BAF carries out round-the-clock surveillance over the airspace. Again, Civil Aviation radar is also kept on the air round the clock to track incoming and outgoing civil aircraft and provide air traffic service. However, Civil aviation radar is unable to detect low-level air objects at long distances close to the International Boundary (IB), whereas BAF AD radars can detect targets at a low level.

Identification of Airborne Object

In a day around 800 air traffic overfly the airspace of Bangladesh (Haque, 2020). Considering the volume of airspace in Bangladesh, the number of air traffic is not less. As such, correct identification of aircraft is very vital for AD. After the detection, the aircraft is identified at ADOC matching the available information. In the case of civil air traffics, necessary permission is given by CAAB and here IFF code is the only electronic means of identification which is assigned by CAAB. Information regarding domestic air traffic (Civil and military) is informed to ADOC and FIC by local ATC or Base Operation Room for AD identification.

Control of Civil Aircraft

All civil traffic getting airborne from any of the airfields within Bangladesh and flying within the country or going outside the country are controlled and provided aeronautical service by CAAB. All inbound and outbound international aircraft belonging to different airlines of the world are similarly being controlled and provided service by CAAB which is responsible to ensure all movement of civil aircraft as per the approved flight plan.

Control of Military Aircraft

Military aircraft belongs to Bangladesh Army, Bangladesh Navy, and Bangladesh Air Force. Here BAF is the pioneer and leading organization to conduct most military flying and also do airspace management. Therefore, control of military aircraft irrespective of service is done by BAF.

The Intensity of Traffic over Bangladesh Airspace

The intensity of Traffic over the airspace of Bangladesh has been increasing day by day. Presently, about 800 ac are flying over Bangladesh every day. A total of 10,00,801 ac flew over Bangladesh from 2015 to 2019 which is the highest in comparison to previous years. This study it is revealed that since 2015, the rate of traffic increment over the Bangladesh airspace is 22% per year. With the rapid increase in traffic, CAAB has been facing a serious challenge in ASM due to its limited resources. On the other hand, due to the absence of ADSI, ATC radars of CAAB remains underutilized for AD purpose.

Airspace Violations over Bangladesh

With the Significant increase in flights, a good number of airspace violations have been observed in last five years, In last five years, total 77 incidences of airspace violations were observed (Rashid, 2021). It had been seen that traffic flying over air routes was reluctant to adhere to prescribed

procedures at times. The study reveals that most of the airspace violations occurred due to inadequate capability in ASM. Though the establishment of ADIZ over Bangladesh airspace has reduced the trend of deliberate airspace violations, such violations remain a serious threat to the AD of Bangladesh.

Identification Delay

In the existing identification procedure, there is an organizational delay as ADOC has to depend on ATC/FIC for the flight information before/after the airborne of any aircraft. This delay affects the entire decision-making cycle of the AD system. The delay occurs due to the chain of information flow up to ADOC.

Indiscriminate Operation by Private Operators and UAV/Drone

Recently, several private operators including corporate business groups have started operating aircraft and helicopters at very low-level crisscrossing restricted areas (BAF training areas) within the very congested airspace of Bangladesh. CAAB in most cases is not able to monitor these flying activities and in many cases.

Inconsistency in airspace Management

Control of airspace for civil and military aircraft by different agencies creates duality in ASM in Bangladesh. Allowing deviation from prescribed routes without permission of ADOC creates further confusion in track identification. Dhaka Area control of CAAB makes all decisions regarding civil aircraft, military transport aircraft, and helicopters outside restricted areas while ADOC is responsible for the management and AD of the entire airspace of Bangladesh at all times.

Complicated Flight Clearance Procedure

The existing clearance procedure, for entering and overflying over Bangladesh airspace, for international flights is very complex and time-consuming because it involves several agencies. The clearance procedure varies depending on the type, purpose, and nature of the flight.

Clearance Procedure of Schedule and Non-Schedule Aircraft

Any scheduled and non-scheduled aircraft entering Bangladesh airspace are required to obtain clearance from the appropriate authority before they enter and overfly Bangladesh airspace as per the set procedure. There are separate procedures for civil, non-civil, and pure military aircraft for obtaining clearance. In the case of civil commercial flight, CAAB issues clearance and then notifies all security agencies including Air HQ. For civil non-commercial flights, MOD is primarily responsible to provide clearance while Air HQ and DGFI exercise major control over the issuance of such clearance.

- **Schedule of Civil Flight.** CAAB issues clearance of all scheduled civil flights which routinely enter and overflies Bangladesh airspace throughout the year. These are normally commercial airline aircraft and they obtain clearance much before the flight, even six months or one year before. They follow the prescribed ATS route. After giving clearance CAAB notifies all concerned agencies like NSI, DGFI, DAI, Air HQ, DAD Air HQ, and SB.
- **Non- Schedule Civil Flight (Approved ATS Route).** In case of an approved ATS route, CAAB directly issues clearance and then notifies NSI, DGFI, DAI, DAD & SB.
- **Non-Schedule Civil Flight (No Objection).** After receiving the request for these flights, CAAB consults with NSI, DGFI & DAI. Then CAAB notifies the operator with intimation to NSI, DGFI, DAI, and SB, if there is No Objection.

- **Non-schedule Civil Flight (Objection).** After receiving the request for these flights, CAAB consults with NSI, DGFI & DAI. Then CAAB forwards these cases to MOFA. If the such flight is 'Undesirable', then MOFA refers the case to MOD. It reviews the matter in consultation with the concerned Security Agency and advises MOFA accordingly. In case of a request from a country having no diplomatic relations, CAAB requests the Operator to route through MOFA.
- **Military, Paramilitary, Police, and Custom Flight.** Upon receiving the request for these flights from the operator, MOFA forwards it to DGFI with intimation to MOD, CAAB, NSI, DAI, and DAD. DGFI consults with NSI, CAAB, and DAI. Upon receipt of 'No Objection' from these agencies, DGFI conveys MOFA with intimation to MOD, CAAB, NSI, DAI, DAD, and SB. Upon receipt of 'Objection' from any of the agencies, DGFI conveys it to MOFA. If the case is 'Undesirable', then MOFA refers it to MOD for review.
- **Duality in ASM.** Allotment and control of airspace for civil and military aircraft by different agencies create duality in airspace management during peacetime. Allowing deviation from prescribed routes without permission of ADOC further creates flight safety hazards and difficulties in airspace management.
- **Involvement of more Agencies in Aircraft Clearance.** The clearance procedure for foreign aircraft entering and overflying Bangladesh airspace is very complex. It, therefore, delays the clearance of the concerned flight and by the time the aircraft reaches IB, ADOC is yet to get information about its clearance.

Contemporary airspace Management of Other Countries

Flexible Use of Airspace-India

The complete right and power of a state to govern itself and its territory without any external interference results in sovereignty in the framework

of international law. This lawful right to exercise power, in the context of aviation, grants a state the proprietorship of its national airspace as well as the authority to exercise jurisdiction, administrative, and statutory powers within that airspace. The concept of airspace needs to be viewed against the backdrop of the UN Convention on International Civil Aviation (Chicago Convention) which dates back to 1944 and set into motion the formation of the International Civil Aviation Organisation (ICAO) as a UN agency in 1947 (Rashid, 2021).

The UN Convention on the Law of the Sea (UNCLOS) also imposes on airspace as it differentiates between sovereign and international volumes of maritime airspace where states may make laws and where States may not make universal laws respectively.

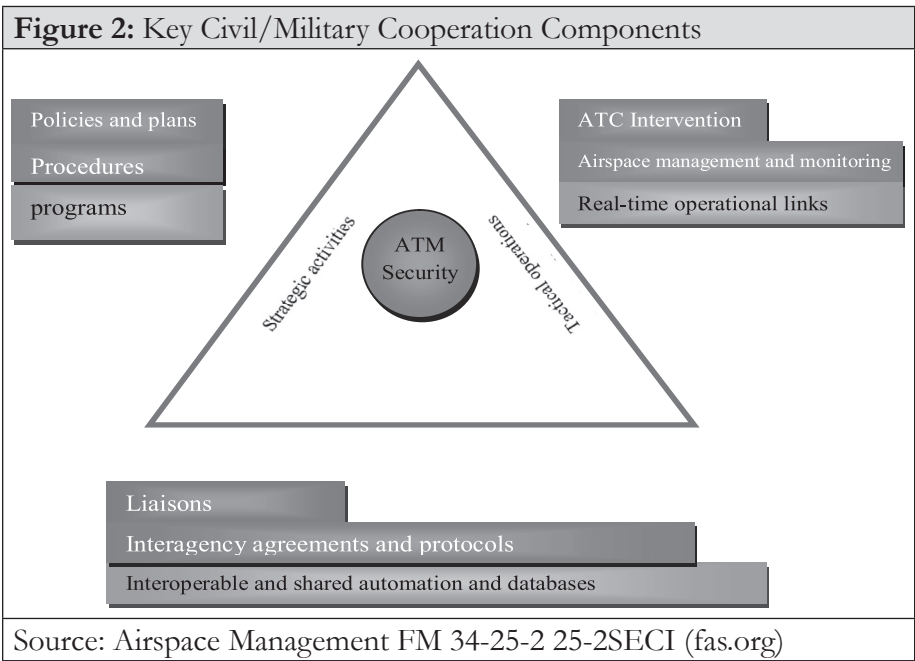
Military Management of Airspace

Command, Control, Communications, Computers, and Intelligence (C4I) systems, supported by Information Technology or IT (the Computers and Communications part of C4I) provide the ability for military decision-making by a commander for the success of a mission. One important capability that C4I systems provide commanders situational awareness about the location and status of enemy and friendly. Airborne Warning and Control Systems (AWACS), Airborne Early Warning (AEW), and various types of information gathering have been the resources that have enabled control over battlefield airspace. Artificial Intelligence (AI) is helping develop and use the right tools for control of airspace in the military domain, Battle Management System (BMS) is an expert rules-based system offering users or commanders comprehensive battlefield view concerning target analysis, automated recommendations, and awareness of the situation for the target objects.

ASM in the USA

The complexity and volume of the US National ASM System forced the embracing and application of numerous measures to guarantee civil-military integration surmounts cooperation. Crucial civil-military integrated interactions involve strategic activities, tactical operations, and interoperations. Figure 2 displays some of the components of cooperation and integration. The single air navigation service for an effective ASM system embraces the following:

- Serves the basic requirements of all civil and military air operations excluding special military needs peculiar to air warfare.
- Guarantees safe and consistent operations under all prevalent conditions.
- Allows immediate integration with the AD system of the US.



Civil and Military Capabilities and Procedures Involved in ASM

The formation of an extensive, complex network for civil-military ASM coordination, cooperation, and integration, eases problem resolution at the appropriate level as required. “The network operates effectively through the exchange and interaction of personnel. Military operations functions are performed at FAA ATC facilities, primarily Air Route Traffic Control Centres (ARTCCS). Similarly, FAA personnel are assigned as air traffic representatives (ATREPS) at selected military facilities, and FAA liaison personnel are assigned to select military Major Command Headquarters” (Chapter 3, airspace Management, n.d.). The FAA also permits the US Air Force (USAF) to assign a tower officer to ATC towers at joint-use airports to observe and advise of possible ATC issues to assuring the effective ASM.

Civil-Military Integrated ASM; Interoperability in Euro Control

Civil-Military integration has eventually ensured interoperability in the area of communications, navigation, and surveillance (CNS) structure. Consequently, when the foreseen operational improvements to the ASM system are in place, operations will be conducted in a highly automated environment dictated by increased traffic levels and the need for advanced tools and real-time information exchanges.

The Essence of the ASM of Different Countries

ICAO has already laid down all the procedures of the domain of ASM particularly for the international issues of aviation and for the peacetime situation. However, a state for the inaction of its aviation assets may preclude or add additional legislature or rules and regulations to meet her requirement as deemed suited. The following ways and means as far as the integration aspect are concerned could be drawn:

- In addressing the dissimilar mindset of the civil and military officers and men joint training system and working together at the same ATC tower and other installations enhanced the efficacy of personnel involved in ASM.
- Both civil-military operators are working together for both civil aviation and air assets scrambled for tactical military operations and being able to control both types of aircraft in achieving success in all types of operations.
- In the FAA of the USA as per legislation an Air Force Officer may be deputed as Deputy of the FAA and the operator can control both civil-military air assets in any flight or mission. This has been eased due to the integration of civil-military capabilities. The operators at FAA can directly refer the needful to the Secretary of Defence.
- The detection and identification gap of civil capabilities are being filled or bridged by the military assets to ensure that no friendly or unfriendly intruder gets through without being challenged by the ASM system. It appeared quite clearly in the system of Euro Control where integration has insured interoperability.

Recommendations

The following recommendations are placed following the findings and the deductions of the paper:

- FIR boundaries for the international Routes L-507 and P-646 should immediately be negotiated for achieving complete control of the airspace above 26000 feet to 4000 feet internationally. Military assets capable of detection and necessary identification of any flying object in the mentioned airspace should be integrated with the ASM necessary.
- To clinch the control of the airspace above the maritime area in EEZ the capability of CAAB should be enhanced either by installing new radars as per the necessity or by the integration of BAF capability for

both low and high looking with CAAB as BAF is capable of monitoring any aircraft in the maritime area of Bangladesh for identification and interception if necessary.

- Integration of the CAAB and BAF capability in the maritime area of Bangladesh should be done as soon as possible as it would offer economic benefits to Bangladesh amid its way of becoming Middle Income Country.
- Provisioning of additional BAF personnel who may be integrated into the ATC as both CAAB and BAF operators and are ICAO qualified and the BAF personnel who are capable of providing air traffic both for civil and military aircraft equally.
- As per the draft National AD Doctrine (NADD) ADOC will function subdividing into ADOC (North) responsible for Land boundary and ADOC (South) for the Coastal and Maritime area of Bangladesh. Cumbersomeness during the emergency or war may be reduced to a great extent provided necessary training arrangement is done involving all stakeholders including Army AD Elements.
- Enhancement of overall resources for ADIZ procedure at the national level to be enforced, BAF should be eventually empowered to take appropriate actions as and when required to ensure the effective ASM.
- An appropriate procedural control by BAF may be formulated with the integration of all stakeholders in ensuring effective ASM during the emergency of war. Further research in this aspect may be carried out by a comprehensive team of experts.

Conclusion

The agencies and the forces are working in coordination to manage the airspace yet, intending to cover the complete airspace of Bangladesh in terms of effective ASM there is an existing requirement of fulfilling the coordination gap into effectual integration of civil-military capabilities.

The advents of modern science drastically reshaped the air war. The extensive low-level flying capability of the latest air war planes has made the identification extremely tough. At present, the airspace of Bangladesh remains mostly at large, because a number of international air routes (L-507 and P-646) are passing through maritime airspace over which CAAB does not have any control. Particularly in the maritime borders for a foreign intruder and vulnerable due to the absence of an effective airspace management system and active airspace control mechanism. In the present ASM of Bangladesh, there exists gaps or lacunas within the cooperation framework embedded in the existing Civil-Military. The overall lion's share of it may be eliminated by the integration of the same capabilities.

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Author

Brigadier General Ghazi Muhammad Sajjad, SPP, PBGM, ndc, psc was Born in Narail and Studied at Jhenaidah Cadet College. He was commissioned into the Corps of Artillery on 20 December 1992. Besides his regimental appointments, he commanded one Air Defence Regiment and an Independent Air Defence Brigade. He served as both an operational and staff officer in the Army Headquarters, and Air Defence Artillery Brigade Headquarters besides serving at different incumbency in Intelligence Organization. He also worked as Sector Commander in Border Guard Bangladesh. He was an Instructor of Gunnery (Air Defence) at the Artillery Center and School. He is a graduate of the Defence Services Command and Staff College. He attended several courses at home and abroad including Army Staff Course (Bangladesh), Fire Control Computing System Course (China), Air Defence Company Commanders' Course (China), and Counter Terrorism Course (United Kingdom). He has obtained Master in Defence Studies (MDS) degree from the National University and Master in Security Studies (MSS) degree from Bangladesh University of Professionals (BUP), Bangladesh. He has served twice in the UN missions in Sierra Leone (UNAMSIL) as Contingent Member and in DR Congo (MONUC) as Military Observer. He is now working as Commander at the 7 Independent Air Defence Artillery Brigade in Chottogram.

CULTURAL FOUNDATION OF ANCIENT BENGAL: RELEVANCE FOR CONTEMPORARY DEVELOPMENT OF BANGLADESH

Brigadier General A B M Faisal Baten, ndc, psc

“The more you know about the past, the better prepared you are for the future”.

-Theodore Roosevelt

Introduction

Bangladesh is a proud nation-state and its emergence has a few thousand years legacy of diverse identities. Its diversities are evident in the livelihood, observance of rituals, and celebration of festivals. Bangladeshis are known to be resilient, as they always had to fight against nature and sustain against all odds. Bangladeshis are also renowned for being kind and hospitable because they never had a shortage of food and shared their extra produce with neighbors and guests alike. This is how the culture and practices were inherited in their blood and still influence their behavior (Alam, 2021). Bangladesh surely has an intriguing and rich cultural heritage to be proud of. Many legends and chronicles of ancient Bengal are buried in time and space which need to be explored. To see our future, we should make our past clear. This paper endeavors to unearth the cultural foundation of Ancient Bengal for the benefit of the flag-bearers of Bangladesh to make a brighter future.

Inquisitiveness to learn about ancient ancestors is natural. It will be fascinating to learn how the ancestors of Bengal reached the pinnacle of civilization and this region became an educational, cultural, and economic hub. The preconditions of ancient development might be tested in the present day's scenario to find if they are 'true' to set the foundation for

future development. The problem to be researched in the proposed study is, the ‘development of the ancient civilization of Bengal is not defined and viewed through the prism of cultural foundation’. Considering Bangladesh on the highway of development, the outcome of the research, if found appropriate, might give guidelines to the policymakers at the highest level for bringing out strategies that would accelerate the contemporary development of the country.

Research Methodology

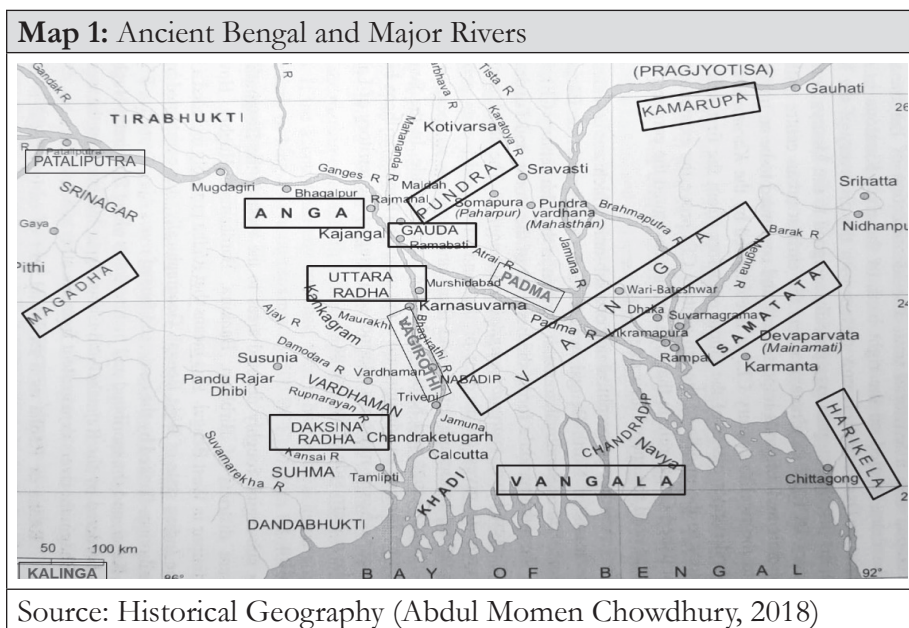
Ancient history is an interesting subject in the field of historical study. Considering the diversified and unsettled nature of history over the centuries, the history of ancient Bengal is very complex and intriguing. This research paper intends to study the complexity of the cultural foundation of ancient Bengal to showcase the exalted legacies of present days Bangladesh. This will be qualitative research. The paper will follow a fundamental research approach where descriptive theory will be applied.

An Overview of Ancient And Early Medieval Bengal

Geography of Bengal Region

The region ‘Bengal’ was not officially referred to as a united nation or one kingdom till the arrival of Turkish rulers in the 13th century (Raisuddin, 1986). The ancient Bengal’s boundary stretched up to Nepal, Sikkim, and Bhutan in the north, a valley near Bhrammapurtra in the north-east, Garo-Khasia-Jayontika-Tripura-Chattogram in the east, Rajmahal-Sautal Pargana-Chotonagpur-Manbhum-Dholbhum in the west, and the Bay of Bengal in the south (Roy, 1953). Within the above boundary, the ancient Janapadas (Kingdoms) like Pundra, Vanga, Harikela, Samatata etcetera were established which are present days Rajshahi-Bogra-Rangpur-Dinajpur, Jashore-Faridpur, Khulna-Barisal, and Sylhet-Cumilla-Chattrogram respectively. The whole region was largely dominated by many mighty rivers but most profoundly by the Ganges. At present days Pakur of Jharkhand,

the Ganges bifurcated into two: one went straight to the south in the name of Bhagirathi (or Hoogly) and the other entered Bangladesh in the name of Padma; later, both fell in the Bay of Bengal. For the last three thousand years, the area between these two rivers had been known as Banga (Imam, 1997). The rivers were also responsible for the flourish of the settlements of ancient cities and wash them away in the later centuries. The shifts in the course of these rivers were responsible for the shifting of the main center of government from Gaur to Rajmahal, Murshidabad, Dhaka, and many more (Sengupta, 2011).



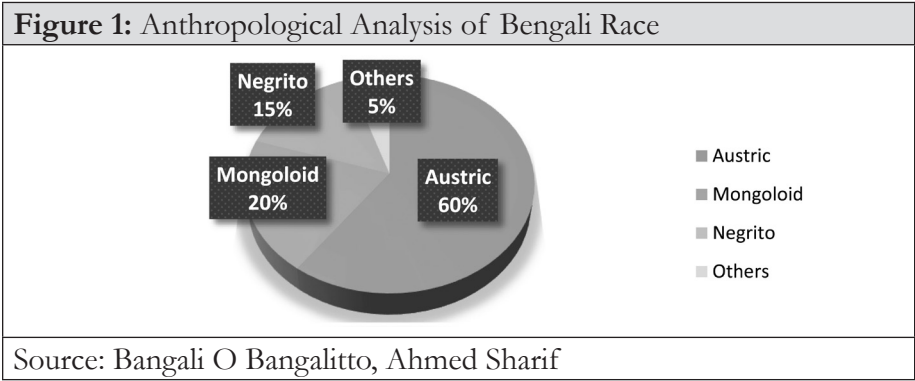
The Etymology of the Name Bengal

The region under investigation was not referred to exactly as 'Bengal' in ancient times, rather similar words like 'Banga' or 'Vanga' were used to identify people living there. The etymology of the word 'Vanga' indicates an area where a clan named 'Vang' or 'Bang' used to live. Their habitat extended from the east of river Bhagirathi to the west of Assam (Raisuddin, 1986). The first mention of the word 'Vanga' was found in Ayteraya

Aranyaka (500-200 BC). Vanga as the territorial unit was also found in 'Arthoshastro' which was said to produce the finest quality 'soft and white cotton. Another place called 'Vangala' was mentioned in the epigraphic records in 805 AD which co-existed with 'Chandradipa' (present days Barisal), a stronghold of king Chandra. The Tirumalai inscription (1021-1024 AD) mentions a place called 'Vangaladesha' which was invaded by king Rajendra Cola (Chakravarti, 2018). Under the Mughals, the area was known as 'Subh-e-Bangalah'. The Portuguese called it 'Bengala' and finally the British named this area 'Bengal'.

Anthropological History of the People of Ancient Bengal

The race which was the most prominent in ancient Bengal was the Austric-speaking people or Proto-Australoids. They also lived in areas from central to south India and Cyclone. Present days Saotal, and Mundas have a strong resemblance to Austric-speaking people. The Mongols arrived from the Himalayas and Lusai Hills and plateau but they found their habitats in the hilly regions of Assam, Tripura, Chattogram etcetera. Later, another group of people arrived in south India from the Mediterranean region, they are known as Dravidians. All these people lived together, intermingled, and turned into a mixed clan. Then came the Nordic who are told to set the foundation of Aryan civilization and the architect of Vedic culture (Roy, 1953). They were nomads, and herders and were known to have destroyed the Harappa-Mohenjo-Daro civilization (Sharif, 2001). The influence of the Nordic and Alpine clans is negligible but the Austric bloodline is profound in Bengali people (Roy, 1953). Ahmed Sharif's idea of the anthropological bloodline in present day's Bengalis is interpreted in Figure 1.



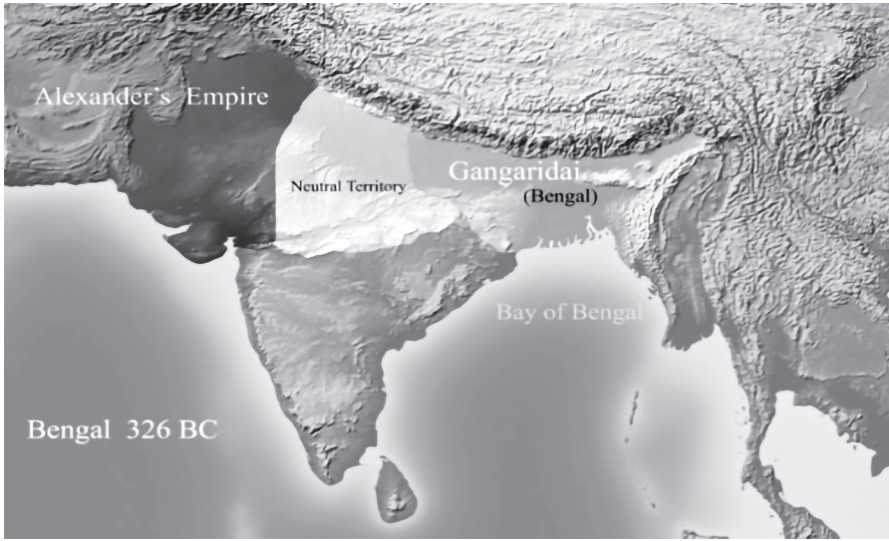
Manifestation of Cultural Foundation

Rise of Dynasties and Their Influence on Bengal

The Gangaridi. The Kingdom of ‘Gangaridi’ was the first great kingdom that existed in ancient times in the Gangetic-delta. The name ‘Ganga-ridi’ meant ‘Heart of the Ganges’ which proves the existence of the Kingdom between the two rivers- Bhagirathi and Padma. In 327 BC, as Alexander the Great was preparing for an invasion west of River Beyas (Bipasha), a united kingdom (Gangaridi and Prasii) under one king named Xandrames, stood against the invasion.

He is considered to be the son of Ugrasena - King Maha Padma Nanda (Hussain, 2019; Roy, 1953). According to Greek writers, the king of Gangaridi gathered around 200,000 soldiers, 8,000 chariots and 80,000 horses, and 6,000 fighting elephants to counter Alexander the Great (Majumder, 1943). However, Alexander never crossed River Beyas.

Map 2: Gangaridai



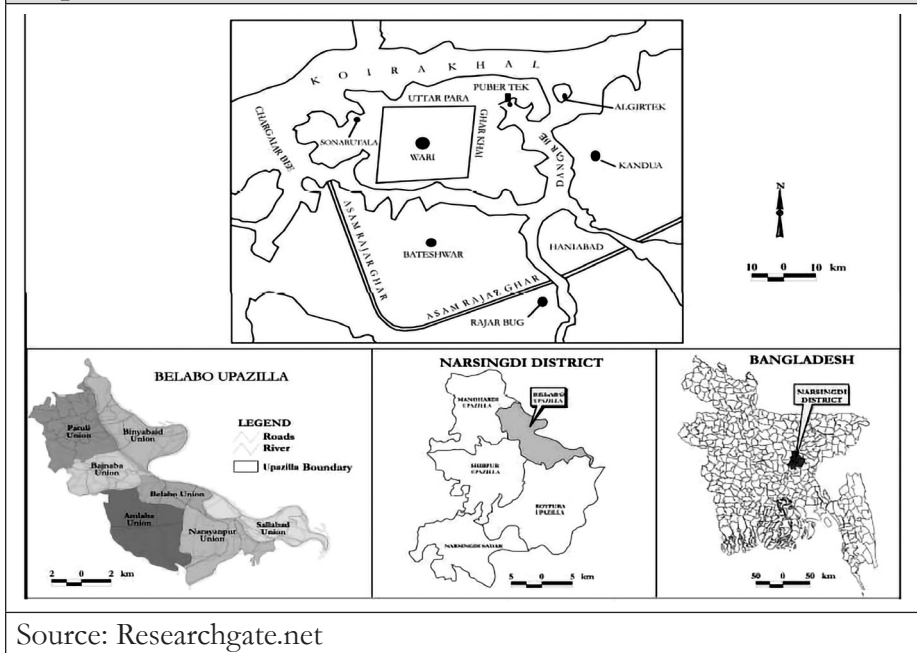
Source: Wikimedia.org

Wari-Bateshwar. The latest archeological excavation made an astounding discovery of a fort city ‘Wari-Bateshwar’ (near present day’s Belabo Upazila of Narshingdi district) where human settlement grew up during the Paleolithic (2.5m-10,000 BC) period (Bhattacharyya, 2018). Wari-Bateshwar was a river port, trade center, and production center of semi-precious stones. This area had a commercial connection with the countries of South Asia and the outer world (Sufi Mustafizur Rahman, 2018). The Discovery of Janapada-type coins in Wari-Bateshwar exposed its glory which existed in the 6th-4th century BC and goes in parallel to Gangaridai. The silver punch-marked coins found in Wari-Bateshwar are the testimony of a thriving money-based economy in the early historic period. The geographical location of Wari-Bateshwar indicates that it could be the ancient Janapada ‘Lauhita’ which was mentioned in the Mahabharata (Chakravarti, 2018, p. 482).

The leaders of Wari-Bateshwar took strong security measures to protect themselves from invading the enemy. The discovery of a large number of iron and terracotta missiles proves the importance given to the protection

of the fort city. Considering the geographical location, security measures, prosperity, and supremacy, it is possible that Wari-Bateshwar was an important part of Gangaridi (Moazzem, 2021).

Map 3: Wari Bateshwar



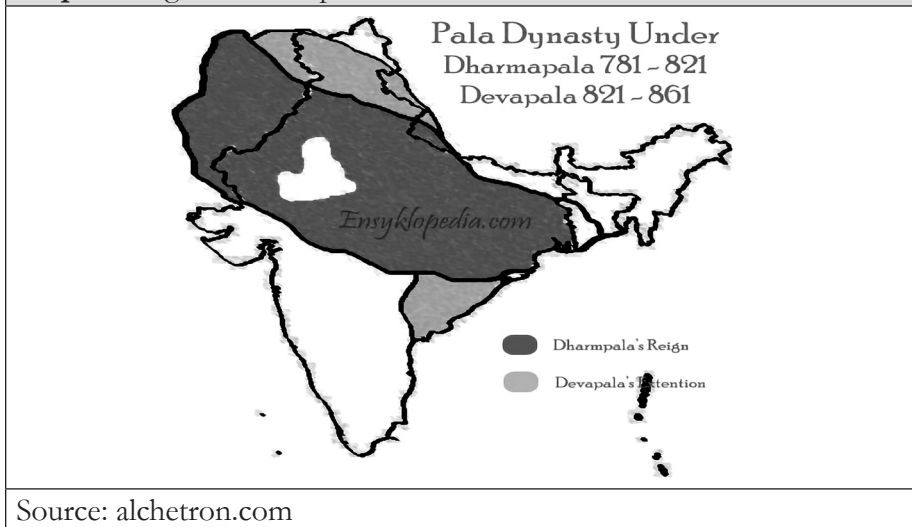
Source: Researchgate.net

The Independent Bengal Kingdoms. According to Majumder (1843, p. 55) throughout the Hindu period, Gauda and Vanga loosely denoted two prominent political divisions of Bengal, the former comprising the Northern and either the whole or part of Western Bengal and the latter Southern and Eastern Bengal. Five inscriptions found near Kotalipara of Faridpur and one found in Burdwan district reveal the existence of three rulers of the Vanga kingdom namely Gopachandra, Dharmaditya, and Samachardeva who reigned for about 35 years. Their kingdom stretched from Burdwan to Tripura. (Majumder, 1943; Roy, 1953). It had two administrative districts- Burdwan-Vukti and Nabyavakasika (Kotalipara). According to Majumder (1943, p. 54), “Bengal had a free, strong, and stable government under the three kings that brought peace, and prosperity to the people and made them conscious of their power and potential”.

The Imperial Palas From 650-750 AD there were no strong kings in Bengal which resulted in anarchy. It was like an absence of authority where big fishes always preyed to the smaller ones or Matsya-anya. According to R C Majumder (1943, p. 96), “The people who have suffered untold miseries for a long period suddenly developed political wisdom and a spirit of self-sacrifice to which there is no recorded parallel in the history of Bengal. They perceived that a single strong central authority offered the only effective remedy against political disintegration within and invasions from abroad to which their unhappy land was so long a victim.”

Thus numerous chiefs and leaders gave up their authorities for the interest of a united and peaceful kingdom. As a result, a local chief, a hero named Gopal was elected as the King of Bengal. Palas were devout Buddhists who hailed from Varendra. His forefathers were ordinary officials of local chieftains. Gopal’s accession took place in 750 AD and he reigned for 20 years. According to Sengupta (2011, p. 40), “much of his reign was devoted to consolidating his authority in the whole of Bengal including Gauda, Varendra, Vanga, and Magdh”.

Map 4: Kingdom of Imperial Palas



A Different Perspective

The writer of the 'Discovery of Bangladesh' Akbar Ali Khan strongly denies the empire-centric interpretation of Bengal which he says 'is contradictory to the epigraphic evidence (Khan, 1996). Khan said that political fragmentation was a distinct feature of Bengal's history which the nationalist historians ignored and tried to glorify their great kings from Gangaridi to Palas. Khan didn't deny the greatness of Gangaridi but seemed skeptical about its location the east of the Ganges. He also emphasizes that Mayurans, Guptas, and Palas were Bihar-based empires and hence had an influence on only western and central Bengal. Khan carefully separated Bengal from other empires and argues (1996, p. 75) that throughout history, political instability was rife in ancient Bengal whereas Mayurans, Guptas, Palas, and even Assam rulers succeeded in building strong empires which lasted hundreds of years.

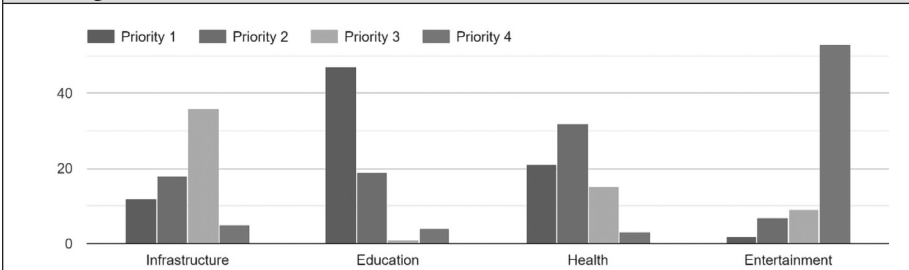
Impact of Cultural Foundation on Ancient Bengal

Religion and Rituals Religion perhaps played the most important role in shaping the cultural foundation of ancient Bengal. Because, the religious institutions and the priests had the power and influence to decide on rule of law, education, social norms, politics, and even strategic matters. Such prominent was the influence of religion that the arrival of new beliefs ushered great changes in the social lives of ancient rural people and they swung from one religion to the other. The adoption of a new religion must have played a major impact in every sphere of life of the ancient folks. Where Brahmanical religion needed to fight out its place in Bengal, contrarily Jainism, Buddhism, and even Vaishnavism were voluntarily embraced by the ancient Bengali people. This proves the rebellious and sovereign mindset of the people of Bengal as the former imposed various restrictions and divisions while the latter religions viewed everyone equally. Whatsoever, Aryan's religion and culture could offer were also syncretized and compromised in Bengal because its own culture and traditions were

much older and stronger. But it is a fact that much of the later development in education, literature, arts, and science emerged in the hands of the Aryans. Therefore, the belated acceptance of Aryan culture was also a reason for the straggling of Bengali people in the intellectual domain. However, the lag was distinctly recovered during the Pala reign when Bengal eventually turned into the epicenter of education and enlightenment.

Language, Education, Science, Arts and Crafts To be a rich civilization, it needs to have a surplus of food and resources so that a group of people can concentrate on improving their aesthetic qualities. Bengal region had the same since the beginning of the ancient period. Therefore a society of intellectuals developed who could pursue their endeavors in language, literature, arts, and crafts. A thriving culture of rich language, literature, dance, songs, folktales etcetera developed which represented the religion, culture, and livelihood of the people of early Bengal. Experts on such activities had a profound influence on the well-being of the society which coexisted unitedly and peacefully. Literature like Charyapada which was written in 'Bangla' demonstrates the existence of powerful rhymesters and scribes in early Bengal society. Bengal has a history of practicing a high standard of education as well. Though education was limited to the higher caste till the 7th century AD, imperial Palas introduced education for all irrespective of class and clan. The education system reached the apex during this period and a few universities like Nalanda and Vikramsila were established that earned worldwide veneration. A survey result shows that most of the respondents think, education is the most important sector for achieving the overall development of a country.

Figure 2: Survey result of ‘the most important sector for overall development



Source: Developed from the survey report by the author

Therefore, it can be said that historically language, education, arts, and crafts were considered noble practices in early Bengal. According to Ahmed Sofa, “a nation that doesn’t prioritize science, philosophy, and culture or can’t accept those with reverence – can’t develop. Those who can’t think, can’t differentiate ‘good’ from ‘bad’ – can’t progress. They can only blame others for their own failure and never find their weak point” (Sofa, 2008).

Administration. Being situated at the eastern fringe of the great ancient empires, though Bengal might not have experienced the gust of central rule, there are plenty of examples from where lessons can be learned. The rise of Gopal as the first king of the Pala Empire was a result of an election by the local kings of the Bengal region which was perhaps the first instance of democracy in the world. History suggests that Bengal as an independent kingdom, had been ruled by wise kings and the people lived quite peacefully. There are examples of the implementation of just law by the kings even against royal family members. However, the overall state of the commoners of ancient and early medieval times sometimes suggests that the rules were not implemented justly for all as they should have had. Primarily, the caste system offered enormous undue privileges to the upper class and vice versa. The expiation for the Brahmins was almost half (or less) of what was inscribed to be adorned for committing an offense. There is also evidence of brutal implementation of unjust law while collecting taxes, confiscation of properties etcetera. So, it can also

be said that the ancient regal and administrative system of early Bengal was not people-centric. Bangladeshis, like their ancient predecessors, can take pride in despising imposed systems from ancient times. There are numerous examples from history where its rulers and the people rebelled against extra-regional dominance. It proves that the people of this region loved to be ruled and administered by none but their leaders.

Economy. We have seen that the Bengal region and its people were subjected to suppression during ancient times. The people were rarely fortunate to manage their affairs by themselves and most of the time were ruled by non-Bengalis. However, in the realm of business, they enjoyed freedom and often received royal patronage which paved the way for uninterrupted and superior growth in the economy. Ancient Bengal, with numerous inland rivers and canals and the southern coast, developed efficiency in water-crafting and seafaring. River ports like Belabo, Faridpur, and seaports like Chittagong had thriving economic activities in the region and beyond. Chandraketurah and Satgaon of present-day's India were also very famous ports of Bengal. The presence of numerous ports and established trade routes through the sea made this region a business hub of ancient times which connected Arabs, Romans, Egyptians, Portuguese, Dutch, and many more (Hossain, 2021). Such trading and business activities brought prosperity to the people and the region alike.

An Analysis of General People of Ancient Bengal

For concluding a particular civilization, a complete picture of the general people is of great importance. The prosperity of the ancient kings and elites may not necessarily depict the prosperity of the peasants and the like. The books of history mostly describe the tales of kings and lords. Those were mostly written by accomplices or the biographers of the king's court. Naturally, they couldn't but praise the reign and wrote exaggerated tales which seldom coincided with reality. Another type was the travelers like Fa Hian or Huen Tsiang who used to be highly regarded and hosted by the kings. Being royal guests and having 'ensured the protection of the

kings during their travel, it is debatable how much they could learn about the true condition of the peasants (Isalm, 2021); and so is the case with all the researchers who depended on the literature of the above. Therefore getting an actual picture of the society that constructed the pillars of the kingdoms is extremely difficult.

Early Bengal folks had a humble and contented life. Though miserable living standards and poor households were portrayed in a few of the ancient literature, in comparison to the contemporary civilizations Bengalis had a good life. Bengal region has a glorious past and experienced remarkable economic growth during Mayuran, Palas, and Sen rule. In addition to that, the region also remained calm and steady due to the divinely gifted agricultural land and its produce. As such, people were generally satisfied with little. They also had enough time to practice their religion, rituals, music, dance, arts, and crafts. However, the rulers of Bengal did not plan well for the better living of their subjects (Hossain, 2021). Moreover, the eccentric gesture of the kings to serve their interests was a barrier to sustained progress.

Conclusion

The glory of the ancient Bengal region is proven to have existed with high esteem. Believing this very fact can be a great source of inspiration to reinstate the glorious past. Now that a strong and stable government is at the helm of affairs, the leaders and policymakers can take the opportunity to guide the nation toward prosperity. This country can be transformed into the hub of education, business, rule of law, arts and crafts as it was in ancient times. The homogeneity of the people is unique in the world and can be used to the best of its advantage. The nation is progressing; it will progress further led by patriotic, visionary, and strong leadership.

History gives insights into incidents beyond sight. History is not literature, but rather a testimony of the past based on factual and scientific evidence. Both glory and modesty of history yield lessons, therefore, digging

out own past is important to shape future events. In search of history, sometimes religious orthodoxy appears as a hurdle. The historical fact of inheriting the lineage of other religions through own ancient ancestors sometimes creates a sense of discomfort. Research on ancient history often gets affected by a ‘psychological stigma’ where a typical Muslim mind often hesitates to accept his/her non-Muslim legacies of the past (Hossain, 2021). But it is important to understand the factual evidence of ancient history and uphold those. A psyche of getting rid of or imputing own past can’t pave the way for a prosperous future. Owning, nourishing, and promoting own ancient history and practicing the best ones in the present day’s context can rather instill pride and guide a nation to a brighter future. In that plight, more primary and empirical research on the ancient political, social, cultural, and economic history of Bangladesh needs to be done by Bangladeshis. Hence, there is a great need to institutionalize and popularize the ‘study and research in the field of the ancient history of Bangladesh.

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Author

Brigadier General A B M Faisal Baten was commissioned in the corps of Armoured on 19 December 1994. He is a graduate of the National Defence College and Defence Services Command and Staff College, Mirpur. He also graduated from Defence Services Command and Staff College, Sri Lanka. He earned his Bsc Engineering (CSE) degree from the Military Institute of Science and Technology. He has served as Commanding Officer of an Armoured Regiment, Colonel Staff of an Infantry Division, and Brigade Commander of an Infantry Brigade. He served as a contingent member in United Nations Peacekeeping Operations, Ivory Coast, and as a staff in Bangladesh Military Contingent to Kuwait. He is a keen golfer and has a passion for reading books and music.

CLIMATE CHANGE INDUCED MIGRATION FROM COASTAL REGION: SECURITY CONSEQUENCES FOR BANGLADESH

**Brigadier General Abu Rubel Md Shahabuddin, ndc,
hdmc, afwc, psc, G**

Introduction

Bangladesh, home to about 170 million people, is one of the world's most negligible emitters of greenhouse gas (0.035 percent), yet the country is at the top list of most vulnerable countries (7th in 2019) due to climate change (BCCSAP 2009). Sheikh Hasina, the Honourable Prime Minister of Bangladesh expressed her grave concern at the 65th Session of the United Nations General Assembly, "though our share of carbon gas emission is negligible, we are its worst victim". Indeed, 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 disasters such as frequent cyclones, high tidal surges, riverbank erosion, countrywide flood, salinity intrusion, water logging, drought in the western region, seasonal variation in temperature and rain, etc. are already identified as the key effects of climate change. These calamities also cause food shortage, malnutrition, disease, poverty, social insecurity, human insecurity, losses of livelihoods and cultivatable land, etc. The climate-induced Internally Displaced Persons (IDP) and migrants are the product of these climate change adversities.

These internal migrant and IDPs may form the ground for rapid urbanization, youth bulge, unemployment, fierce competition for resources, socio-political disorder, unrest and conflict with existing rules and regulations, etc. They may also endeavor for illegal transnational migration emanating heightened tension and defaming the national image. They may as well considerably upset socio-economic development which

is the cornerstone of stability and security of a country. These all may significantly affect the peace and security of Bangladesh in the present and future socio-economic and political prospects. Hence, the graveness of the issue on the national security of Bangladesh needs to be identified and acted upon. Besides, a great deal of study is necessary to identify how the issue of climate migration will create fog and friction in society and national and regional politics. IDPs and migrants emanating from the adverse effect of climate change and their resettlement issue in the country could be a major destabilizing factor for any national and regional security structure which needs immediate attention.

The specific objective of the research is to ascertain the security impacts of climate change-induced migration from the coastal region of Bangladesh. It also endeavored to answer the following questions through the medium of this research:

- Causes of migration linked with climate change in the coastal regions of Bangladesh.
- Category of people migrating from the coastal regions of Bangladesh.
- Origin and destination of the migration.
- Security challenges for Bangladesh are likely to be emanated from the migration.

Research Methodology

Research Design

The research implemented primarily a quantitative approach using a cross-sectional descriptive design. At the same time, a mixed method taking both qualitative and quantitative methods was adopted. The data was collected by researcher-administered questionnaires in Google form and also by field trips and physical interviews. The data triangulation helped in validating the qualitative data through the quantitative analysis of responses.

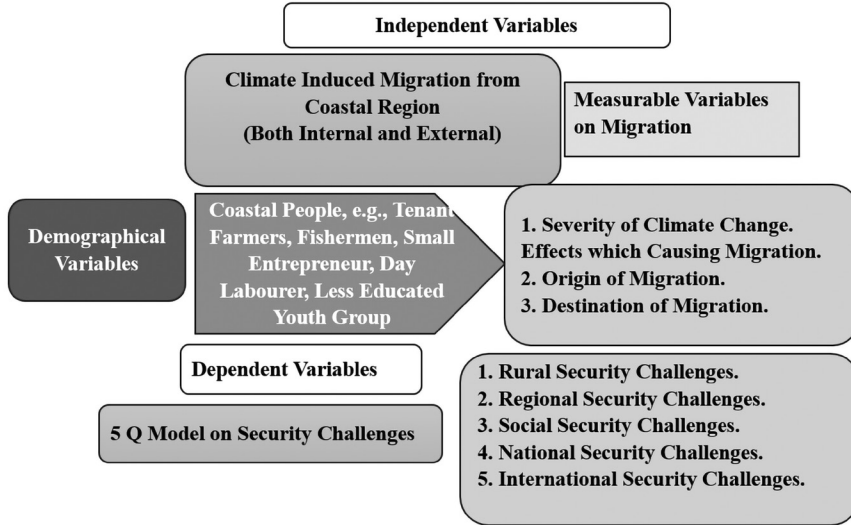
Conceptual Framework

Concepts, Constructs, and Measures

Table 1: Concepts, Constructs, and Measures		
Concept	Constructs	Measure
Climate change-induced migration causing security consequences at local, national, and international levels	Climate change effects causing migration in the coastal region of Bangladesh	• Climate change effects causing migration. • Categories of people of coastal areas migrating for climate change effects. • Origin (localities, districts, upazillas, etc.) of the climate change-induced migrants in the coastal regions. • Destination of the climate change-induced migrants inside the country. • Destination of the climate change-induced migrants outside the country.
	Security hazards at rural, regional, social, national, and international levels taking place by the climate-induced migrants	• Rural, regional, social, national, and international security challenges posed by climate-induced migrants from the coastal region of Bangladesh.

Relationship between Constructs and Variables

Figure 1: Constructs and Variables



Research Hypothesis

Null Hypothesis (Ho). Climate change-induced migration from the coastal region is not a security concern for Bangladesh.

Alternate Hypothesis (H1). Climate change-induced migration from the coastal region is a serious security concern for Bangladesh.

Operational Definition of Variables

Independent Variable. The independent variables, “climate-induced migration in the coastal region”, which included effects of climate change causing migration, the origin of migration, category of migrating people, a destination inside the country, and destination outside the country, were measured using 24 questions which were analyzed using Likert scale of 5 (1=Strongly Agree, 2= Agree, 3=Neutral, 4=Disagree and 5=Strongly disagree).

Dependent Variable. The dependent variables related to the construct, “security consequences for Bangladesh”, are: rural, regional, social, national, and international security challenges that were measured using 17 questions and were analyzed using the same Likert scale.

Demographic Variables. The demographic variables included different age groups from 16-25 years, 25-35 years, 35-45 years, and above. It also included literate and illiterate or less educated populations, marginal farmers, tenant farmers, hawkers, rootless small business entrepreneurs, relations in the neighboring country, etc.

Sampling Design

Study Population. For the convenience of the survey, coastal Upazillas of the Satkhira district were chosen. Among these Shayamnogor and Ashashuni Upazilla of Satkhira being close to the sea and affected by natural calamities frequently were finally selected for the survey purpose. The survey population included local farmers, fish businessmen (Gher), small-scale businessmen, day laborers, and gatherers from Sundarban (Bawali, moual, etc.). To identify which group of the population is venturing more for migration, the age group, academic qualification, and their relations in neighboring countries were also planned to be surveyed. The sampling technique adopted was cluster sampling stratified along demographic lines. The researcher considered a sample size of 400.

Statistical Design

Data Analysis Methods. The data analysis was undertaken using IBM® SPSS® Statistics (V 23) and other statistical tools. The descriptive statistical analysis was primarily carried out to determine the Mean and Standard Deviation (SD) and frequencies of various variables which would describe and characterize the population.

Data Analysis, Results, and Inferences

Validity of Survey Instruments

Final Questionnaire. The factorability of 19 Likert items was examined. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.960 which is much above the acceptable standard (0.6). Bartlett's Test of Sphericity was highly significant ($X^2 (171) = 9373.183, p < 0.05$). Significantly, the initial five factors explained 89.26% of the total variance. With these indicators, factor analysis was considered suitable for all 19 Likert items.

Total Variance Explained

Table 2: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.594	76.809	76.809	14.594	76.809	76.809	8.716	45.874	45.874
2	1.071	5.637	82.446	1.071	5.637	82.446	6.949	36.572	82.446
3	.657	3.457	85.904						
4	.352	1.852	87.756						
5	.286	1.505	89.262						
6	.269	1.417	90.679						
7	.242	1.274	91.953						
8	.196	1.030	92.983						
9	.187	.983	93.966						
10	.181	.951	94.917						
11	.172	.907	95.824						
12	.151	.796	96.620						
13	.141	.744	97.364						
14	.112	.589	97.953						
15	.102	.538	98.490						
16	.097	.509	98.999						
17	.071	.376	99.375						
18	.061	.323	99.699						
19	.057	.301	100.000						

Instrument Reliability. Besides, construct-wise and overall reliability tests were also made by using Cronbach's Alpha, which measured the internal consistency of the construct. The result is well above recommended minimum acceptable limit of reliability ($\alpha = 0.70$).

Overall Reliability Statistics

Table 3: Overall Reliability Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items	N
.983	.983	19	339

Demographic Analysis

A demographic analysis of all 339 responses was carried out to study and understand the strata. The survey yielded a response that shows that 46.2% of respondents are from the age group of 16-25 years and 17.8% are from the 25-35 years age group making cumulatively 63.9%. Thereby it was concluded that most of the respondents were from young generations who were strongly responding to the negative impacts of climate change on migration and security.

Young Generations are more Impacted and have Migrated

The young population of age group 15-35 are mostly affected by the negative impacts of climate change measured by the negativity impact at construct-1. The young generation of a population of 15-35 years yielded a mean of 4.3446 and the 25-35 years group yielded a mean of 3.8083 which is much above the mean of 3.50. These amplify that relatively young populations are most affected by climate change effects and migrating.

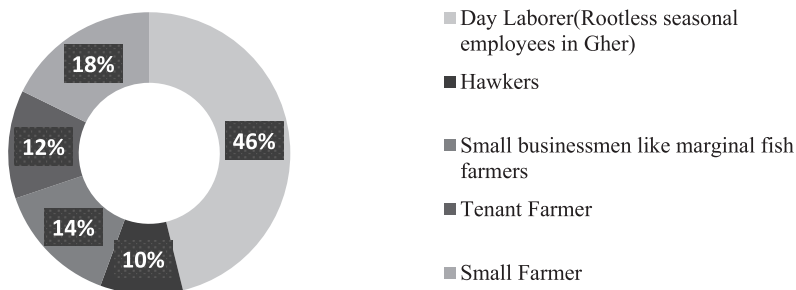
Young Generations Migrants Pose the Most Security Challenges

The young population who are most affected by the negative impacts measured by the model of negativity impact in construct 1 are posing the most security challenges. The young population of the age group 15-25 years yielded a mean of 4.2786 and 25-35 years yielded a mean of 3.8061 which is much above the mean of 3.50. This phenomenon explains that the young population who were affected by the negative impacts of climate change and migrated posed most of the challenges.

Chi-Square Analysis of Age Group. The attitude of different groups based on age was not significantly independent, $X^2 (04) = 150.580$, $p=0.000$ (two-tailed). Thereby, it was observed that the population attitude was homogenous across various age groups.

Rootless Professionals have Migrated More

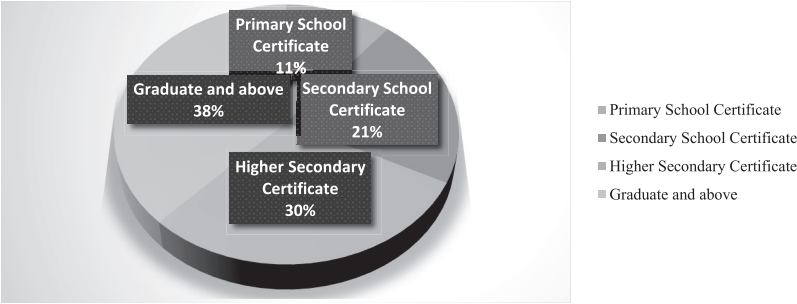
Figure 2: Rootless Professionals have Migrated More
Occupation of Migrant Respondents



Overall Mean of Demographic Analysis. Small businessmen like marginal fish farmers yielded an overall mean of 4.3063 and hawkers yielded an overall mean of 3.8070 which is much above the mean of 3.50. This leads to the conclusion that unsecured professionals are migrating more and in turn becoming security concerns for the nation.

Lower Educated Population has Migrated More

Figure 3: Lower Educated Population has Migrated More



Education Qualification Statistics. The statistic shows that 23.1% of migrants are illiterate while 23.0% qualified for Primary School Certificate making a total of 46.7% of total respondents who have a lower educational level of qualifications. It establishes that most of the migrants have a lower level of education. Mostly the young unskilled migrants are in this category who were highly affected by the negative impacts of climate change and migrated.

Respondents Having Relations on the other side of the Border. The study shows that the mean of responses on negative impacts of climate change effects and migration by the members living close to the border with relatives on the other side is above 4.00 (averaging 4.345) and in Satkhira is above 3.6 (averaging 3.81). It suggests that respondents having relations on the other side of the border have emphasized more on the climate change effects on migration.

Security Challenges vis-à-vis Education. The study shows that the mean of security challenges emanating from the illiterate migrants is above 4.00 (averaging 4.345) and only PECE qualified habitants is above 3.6 (average 3.81). The statistic amply clarifies that security challenges are more with the migrants of a lower level of educational qualification.

Summary of Findings from Demographic Analysis. Despite their resilience, most of the coastal population has succumbed to the extreme climate change calamities and attempting a new life by adopting the last

option –migration. The youth, illiterate, jobless, unskilled, day laborers, and poor gher farmers and workers have taken the brunt of the punch. The youth trying to resettle in different cities in Bangladesh and in other countries where they have some relatives, initial footsteps, and guarantee of fundamental livelihoods, e.g., food and shelter.

Chi-Square Test of Important Questions

C1Q1. “There are no instances that are the tidal surge damaging coastal dam/polders every year causing devastation to the standing crops which in turn forcing poor farmers to migrate?” Out of 338 responses, 203 (59.8%) respondents disagreed that tidal surge is not damaging coastal dams/polders and saline water causing devastation (Mean= 3.50, SD= 1.506).

Based on Age Group. The attitude of different groups based on age was not significantly independent, $X^2(16) = 304.78$, $p=0.000$ (two-tailed). Thereby, it was seen that the population attitude was homogenous across various age groups.

Based on Educational Qualification. The attitude of different groups based on educational qualification level was significantly independent, $X^2(16) = 304.79$, $p<0.000$ (two-tailed). Thereby, it was seen that the population attitude was homogenous across various educational qualification groups.

C2Q7. “Rootless climate migrants may not be a cause of social unrest who will move for food, shelter, job, medicine, etc. basic needs?” Out of 338 responses, 228 (67.4%) respondents disagreed that rootless climate migrants may not be a cause of social unrest and will make a movement. (Mean= 3.70, SD= 1.302).

Based on Age Group. The attitude of different groups based on age was not significantly independent, $X^2(16) = 273.321$, $p=0.000$ (two-tailed). Thereby, it was seen that the population attitude was homogenous across various age groups.

Based on Educational Qualification. The attitude of different groups based on educational qualification level was significantly independent,

$X^2(16) = 273.321, p < 0.000$ (two-tailed). Thereby, it was seen that the population attitude was homogenous across various educational qualification groups.

Statistical Hypothesis Testing

Estimation for Constructs. The negative impacts of climate change causing migration were estimated at 95% Confidence Level [3.4868, 3.7410]. Security challenges by the climate change-induced migrants in the country were estimated at 95% Confidence Level [3.5115, 3.7623]. Overall impacts and challenges of climate change-induced migrants on the country were estimated at 95% Confidence Level [3.5028, 3.7517].

Correlation Analysis. Bivariate Correlation was carried out to establish the relationships between independent and dependent variables. The negative impact of climate change causing migration was found to be significantly strong and positively related to the security challenges, $r = .947, p < 0.001$ (two-tailed). Hence, there is statistically significant evidence to reject the null hypothesis. $R^2 = 0.898$ indicates that 89.80% of the variations in negative impacts of climate change causing migration is attributable to security consequences.

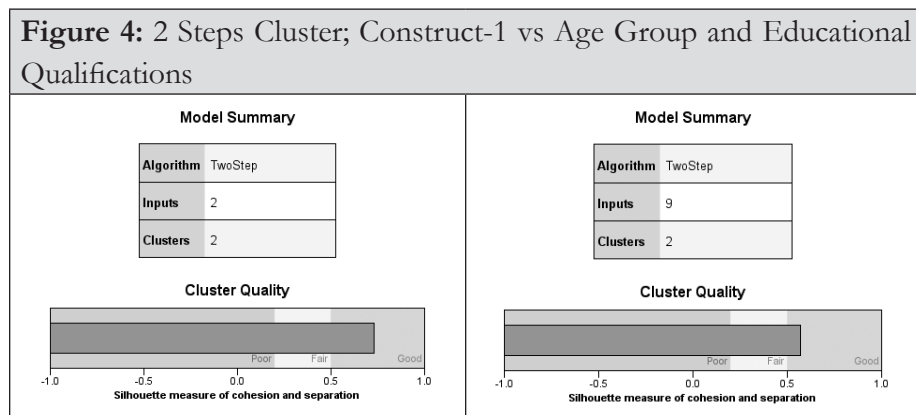
ANOVA. The reported $F(1, 336) = 2945.37, p < 0.001$ indicated statistically significant evidence to reject the null hypothesis.

Regression Analysis. A Multiple Linear Regression Analysis was carried out to predict the negative impact of climate change causing migration based on the 3Q model of negativity. A significant regression equation was found [$F(1, 337) = 2945.370, p < 0.000$] with an $R^2 = 0.898$. All the elements of the 3Q model of negativity were significant predictors of security challenges. $R^2 = 0.898$ indicated that 89.8% of the security challenges in the country were attributable to the 3Q model of the negative impact of climate change causing migration. These results show statistically significant evidence to reject the null hypothesis (H_0).

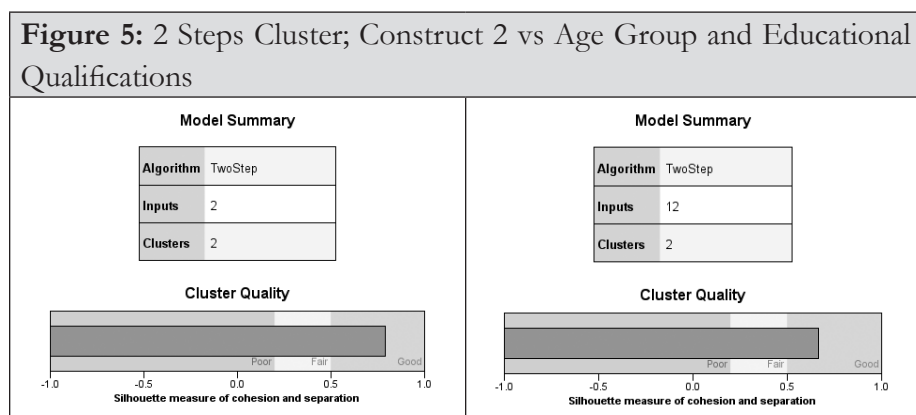
Two Steps Cluster

Cluster Analysis. A 2-Step Cluster Analysis was carried out for all the responses concerning two constructs. The Two-Step Cluster Analysis procedure is an exploratory tool designed to reveal natural groupings (or clusters) within a data set that would otherwise not be apparent.

2 Steps Cluster; Construct – 1 vs Age Group and Educational Qualifications



2 Steps Cluster; Construct 2 vs Age Group and Educational Qualifications



Inferences from Cluster Analysis. The output generated four clusters with good cluster quality (average silhouette = >0.5). From the cluster

analysis, it was observed that the negative impacts of climate change causing migration and security consequences for the country are more pronounced with the young generation age group where 46.2% of respondents are from the age group 15-25 years and 17.8% are from 25-35 years age group making cumulatively 63.9% who were strongly responding for the negative impacts of climate change causing migration and security consequences for the country.

Summary of Quantitative Findings

Most of the respondents are from young generations who were strongly responding to the negative impacts of climate change on migration and security. The relatively young population is mostly affected by climate change effects and migrating. The young population affected by the negative impacts of climate change and migrated posed most of the challenges. Contribution of unsecured professionals to the research objectives: migration and security nexus, is prominent.

Respondents having relations on the other side of the border have emphasized more on the climate change effects on migration. Overall educational qualification means suggest the contribution of less educated migrants to the research objectives. Thereby it could be concluded that security challenges are more with the migrants of a lower level of educational qualification. Overall impacts of climate change-induced migration and challenges on the security of the country are highly correlated hence the nexus between climate-induced migration and security consequences could be statistically established.

Focused Group Discussion

Causes of Migration. Every year the coastal embankment is damaged by high tidal surges and cultivation is hampered. There is no guarantee that the farmer would be able to harvest his crops or that the fish farmers would be able to sell his fish. Saline water is encroaching further and further inland

and water stagnancy causing impediments to agriculture. There is an acute crisis of drinking water also. The height of the embankment was only 3 meters which have gone down by frequent erosion during monsoon to less than a meter in many places. If the embankment is not raised to 6 meters or 20 feet, the local population cannot get enough confidence to continue living in the remote coastal polders.

Origin of Migration. On average 5-10 persons from each village from the coastal unions of Shamnogor and Sharonkhola Upazilla have migrated externally. The frequency is more from the bordering unions like Protapnogor, Sirula, Atulia, Gabura, Padmopukur, Noabeki, etc.

Destination of Migration. People are mostly trying to resettle in the nearby growth center. Many are traveling far to get a new life in the dream capital Dhaka. There are people even trying to resettle in CHT. Many young migrants have ventured to go abroad, both legally and illegally through middlemen and brokers taking the risky routes to the Middle East and East Asia, and Europe through India, Myanmar, Malaysia, Lybia, etc. Most external migrants are choosing neighboring countries as their primary destinations.

Category of People Migrating. Mostly the marginal farmers are migrating who do not have enough land or possess only a small quantity of land which cannot yield enough crops due to salinity encroachment and high tidal surges. They migrate for a season when they don't have many things to do with farming; work as day laborers for a few months and fall back during the farming season. Another category is small-scale fish farmers and workers in fish farming. Most migrants are young, within the age limit from 15 to 35.

Security Consequences of Migration. Social security is greatly affected by the unemployed youth migrating to different growth centers. The number of petty crimes has increased by manifolds. More and more intrusion in Sundarban noticed for collecting wood, fisheries, honey, and other items illegally. Frequent damage to coastal embankments, disruption of

cultivation due to salinity intrusion, and permanent inundation create mass social dissatisfaction. In the name of 'Upokul Bachao', different groups of activists antagonized locals against the government. Rootless migrants are taxing the local living resources like water, shelter, treatment, and employment and creating dissatisfaction among the host community. The congested living area of migrants is becoming a major cause of pollution in the cities. The unemployed youth bulge, their desperate efforts to secure a livelihood, frequent illegal migration to neighboring countries, attempt to resettle in CHT, border killing during illegal trespassing, exploitation by an extreme leftist and religious organization, etc destabilizing our socio-economic and political balance and causing serious security consequences for the country.

Key Informant Interviews

Cyclone Aila Destroyed their Means of Livelihood and Forced them to Migrate. Before Aila, the respondents have enough crops and fish to live a moderate life. During Aila, they lost their cows, Gher, and cultivatable land which is under saline water due to water stagnancy. They tried to resettle after Aila, but the water stagnancy remained for more than 3 years. The embankment also kept on collapsing every year causing difficulties in rice farming and fish farming. Finding no way they left their homes and settled in different growth centers and in neighboring countries.

There is no Guarantee of Livelihood in the Coastal Area. The embankment is not high enough to protect the yearly tidal surge. They are uncertain of their livelihood and prospects. If the GoB can protect their farming and Gher, they can produce better rice and shrimp here. At present they get some livelihood from Sundarban which is also being hampered by Covid-19 and the cancellation of the collection permit. They tried some saline tolerant cultivations like rice, watermelon, sunflower seed, etc. which were not good enough to make a humble living with 8 members family.

The Migrants want to Come Back if the Embankment is Permanently Repaired and the Scope for Farming is not Challenged. If the embankment is made properly the prospect of farming and business with more yield will resurface. Only then people may think of coming back. Subsequently, there will not be any more illegal seasonal migration.

Summary of Qualitative Findings

Climate Change Induced Migration is Taking Place in the Coastal Region of Bangladesh. Climate change effects causing serious difficulties in day today's life. People are forced to leave the distressed localities due to the destruction of houses every year, lack of livelihood, drinking water, cultivatable land, and other economic activities required to sustain a moderate living. The administration is working hard to mitigate the effects and officially claiming that there is no displacement and migration at present as the GoB has taken adequate steps (Divisional Commissioner Khulna, 2021). However, it is statistically evident that more and more people are migrating from the coastal area every year (UP Chairman, Shamnogor, 2021).

The Security Consequences of Migration are Many. Social disturbances are already taking place in the different growth centers. Security consequences are tagged with social unrest, youth bulge, and illegal migration to neighboring and other countries. The cases of illegal trespassing through Sundarban have increased many folds in recent decades. Human trafficking, particularly, women and children trafficking, is also rampant (Region Commander, 2021).

The Unskilled and Less Educated Youth are the Main Concern for Security Challenges. Jobless and less educated youth is the main reason for social unrest and socio-economic instability. The marginal farmers, small and medium fish farmers cannot withstand the year-on effects of climate change every year. The youth are very keen to migrate from the coastal region and venture for new opportunities in different cities (FGD, Shamnogor, 2021).

Coastal Regions Needs Immediate Attention to Prevent the Climate Change Effects and Reduce the Climate-Induced Migration.

The coastal region will continue to see such migration and the security consequences for the country will grow alongside. If adequate actions are not taken, the security consequences may destabilize society and the country. Climate-induced migration must be recognized as a security threat and GoB should take socio-economic steps to reduce the negative impacts of climate change and migration from the coastal region (Saleemul, 2021).

GoB Needs Meticulous Planning to Overcome Security Consequences of Climate-Induced Migration. Although there are many significant steps taken by the GoB to reduce the effects of climate change, the trend of migration is likely to continue. GoB is likely to have a plan to resettle the climate migrants in different growth centers to avoid congestion in Dhaka. The focus should be rehabilitating and educating the young generation so that they become productive citizens instead of burdens and security threats to the country. It needs meticulous policy and adequate funding as well (Saleemul, 2021).

The Rehabilitation Process of Climate Migrants should be taken as a National Priority for the Sake of National Security Interests. The scope of rehabilitation in the reclaimed land from the Bay of Bengal could be another option. If adequate funding could be obtained from the Green Climate Fund (GFC) declared in the Paris Agreement, the money could be utilized in the rehabilitation process. The abundant land of Chittagong Hill Tracts (CHT) could be another option that needs political considerations. It is a matter of national interest; the survival of some 20 Million coastal people. “There will be no border for people. From Dhaka to Afghanistan, people will move freely. This border is not made by us. We are the same people of one land (Mahfuzur, 2021). If the distressed migrants of million in number move out for survival, neither the border nor the fence would be able to stop them.

Major Findings based on Mixed Method Approach (Triangulation)

Frequent Damage to Embankments and Coastal Polders and Salinity Intrusion is a Major Reasons for Migration from the Coastal Region. 59 percent responded to this issue. In the interview also the point came up several times. Without increasing the height to 6 meters or 20 feet the region cannot be protected from the onslaught of frequent yearly tidal surges causing damage to crops and fisheries.

Frequent Cyclone Causing Devastation to Fish Cultivation and Rice Production is Ultimately Forcing People to Migrate. 64.2 percent of respondents mentioned frequent mega-cyclones destroying their homes and livelihood. The coastal population is struggling every year to resettle their home away from the affected region. Aila, Sidr, Nargis, etc. cyclones have displaced many; some of them have migrated completely.

Climate Change Effects Causing General Economic Distress in the Local Economy which is also the Cause of Migration. 71 percent of respondents agreed that climate change effects have negatively affected their livelihood. 67.1% opined that there are negative effects on cultivation and shrimp farming.

Climate Change-Induced Migrants are Related to Socio-Economic Instability of the Country. 70.5 percent of respondents mentioned that the law and order situation is deteriorating. Particular stealing and theft cases and robbery cases increased due to the climate migrant. Dissatisfaction and distrust by the population of local administration which has failed to stop the tidal surge and inundation have increased manifolds (72.1%). Again, 71% opined that the influence of fundamental activists has increased by exploiting the climate migrants. Rapid urbanization, social disturbance, and competition for scarce resources were agreed upon by 66.5 % of respondents. In the same way, 71.6 % of respondents agreed that increased unemployment and frustration among the unemployed young generation of climate migrants are noticed.

Rootless and Unemployed Young Climate-Induced Migrants may be the Most Significant Reason for Socio-Political Instability. 66.5 percent of respondents mentioned that rootless climate migrants may be a cause of social unrest who will move for basic needs. They may be utilized by any group for any kind of political movement, riot, and destabilize law and order situation (67.6%). The unemployed youth bulge of climate migrants in the cities can be a cause of security consequences in the country as mentioned by 61 % of respondents.

Statistical Finding

Both the Constructs Null Hypotheses (H01 and H02) were Rejected Proving that there are Significant Negative Impacts on the Security Situation of Bangladesh Posed by Climate-Induced Migration in the Coastal Region. One sample T-test was carried out on constructs to ascertain the opinion of the respondents with the constructs defined as a score of 3.5 or above. There was a highly statistically significant difference in means, therefore the null hypothesis of the construct was rejected.

The Null Hypothesis of the Research was Rejected Proving Climate-Induced Migration in the Coastal Region Causing Security Consequences for Bangladesh. Pearson Correlation Analysis revealed that climate-induced migration was found to be significantly strong and positively related to the security consequences, $r = 0.947$, $p < 0.001$ (two-tailed). Hence, there is statistically significant evidence to reject the null hypothesis. The Anova report, $F(1, 336) = 2945.37$, $p < 0.001$ indicated statistically significant evidence to reject the null hypothesis.

Administrative Finding

The negative impacts of climate-induced migration from the coastal region are posing security challenges to the country. Hence, there is a need to critically evaluate the existing preventive measures for climate change effects in coastal regions in particular making a permanent embankment

high enough to protect coastal polders from tidal surges, thereby decreasing the trend of migration and stabilizing the socio-economic and security situation of the country.

Recommendations

Based on the research findings and interview, the following recommendations are made:

- Massive development projects in the growth centers near the distressed areas including multi-storeyed housing projects and employment opportunities for the climate migrants may be undertaken by the government to facilitate resettlement and job opportunity.
- Immediate effective steps should be taken to permanently increase the height of the embankment to at least 6 meters to stop the frequent yearly tidal surge destroying coastal polders, life, and livelihood.
- Planned long-term re-settlement should be introduced by identifying the victims and likely victims. This is to be planned and implemented at every Upazilla of the coastal region.
- Decentralization of government administration, distribution of wealth, and development effort to grass root level may start forthwith to stop internal and illegal international migration and lessen the pressure on Dhaka and other divisional cities.

Conclusion

Coastal Bangladesh is particularly vulnerable to SLR as 12 out of its 19 districts are directly exposed to the sea. The cyclone Sidr in 2007 affected 30 districts out of 64 districts, impacting nearly 8.7 million people. Climate-induced migration is an important factor in rapid urbanization. The migrants are generally capable males ranging mostly from 15 to 35 years of age limit. They are illiterate or half educated with meager savings to sustain a new settlement. They are vulnerable to disease and lack the capabilities to adapt to an urban environment. They do not possess

enough skills to make a dignified living in the new destination. They are likely to add to the burden on the host community. They are susceptible to being trapped in the vicious cycle of poverty and adopt any means, fair or unfair, to make a living. They are likely to be exploited by criminals and dishonest politicians and will cause turbulence in the social peace and harmony of the host community. Climate-induced migration has the potential to trigger different kinds of conflict. There might be state-versus-state conflict; state-versus-group conflict and group-versus-group conflict. The ill-motivated and unemployed youth bulge together with the mass poor migrants and may demand equal distribution of land, food, and even a change of regime. The cities are saturated, the borders are sealed and the disasters are phenomenal. At some point, the demand to settle at CHT may give rise to a national conflict scenario between migrants, CHT habitats, and the State. Considering the predicted scenario, climate change-induced migration undoubtedly has become a compounded issue for national socio-political and security stability.

The magnitude and pattern of this migration need to be identified by policymakers so that the social and security dimensions of climate change can be addressed accordingly. In the current phase of migration which is still controllable, actions may be taken to mitigate climate change effects and strengthen the adaptation capacities of coastal communities. In the consecutive phase of migration and displacement, steps for the protection of affected communities and facilitating their livelihood amidst the adverse climate change effects could be necessary. In the last phase of the migration cycle, return or resettlement measures, as well as measures that support either reintegration processes into the home location or integration into the new location, might be needed. Concerned ministries of Government should work comprehensively to mainstream migration into national policies. Necessary measures to raise the height of the embankment to prevent frequent yearly tidal surges, reduction to salinity encroachment, economic emancipation steps for the targeted coastal population, and immediate steps to rehabilitate those who have already migrated should be the priority of the Government.

Practical and Theoretical Contribution. The practical contribution of this study is that it has established the nexus between climate change-induced migration and five distinct spheres of security in Bangladesh: rural, regional, social, national, and international security. The study highlights that the negativity of climate-induced migrants on security is inversely related to the age and educational qualifications of migrants. Less the age and educational qualifications, the more the number of climate-induced migrants and pronounced effects on national security. It has also been established that the marginal farmers, day laborers, and fish farmers are more susceptible to migration and have a significant role in today's degraded socio-economic and security situation of the country.

Areas of Further Study

The coastal region may become uninhabitable shortly as predicted by different researchers and organizations. Yet, there is not much research on land reclaiming both inland and from sea to resettle this huge coastal population. Further research may be carried out with the prospects of resettling this mass person of the coastal region to thinly habituated the Chittagong Hill Tracts or newly raised chars/ islands in the delta of the Bay of Bengal.

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Author

Brigadier General Abu Rubel Md Shahabuddin, hdmc, afwc, psc, G was born on November 27, 1974 in Khulna. He was commissioned by Bangladesh Military Academy on June 16, 1995 in the Corps of Artillery. He is a graduate of Defence Services Command and Staff College, Mirpur, School of Artillery, Halishahar, Chittagong, and College of Defence Management, Hyderabad, India. He received his Master in Defence Studies from National University, Masters of Science (Tech) from Bangladesh University of Professionals, and Master in Management Studies from Hyderabad University, India. He has completed his Masters of Philosophy (Part I) and undergoing his Doctorate of Philosophy from National Defence College under Bangladesh University of Professionals. Besides various regimental appointments, he served as General Staff Officer in the Infantry Brigade, Infantry Division, Army Headquarters, and Directorate General of Forces Intelligence. He has commanded an artillery unit and an artillery brigade. He has also served as Company Second in Command of a Mechanized Rifle Company in the United Nations Mission in Liberia (UNMIL) and Staff Officer (Operation and Training) in the Forces Headquarters of the United Nations Mission in Darfur (UNAMID). He can be reached at rshahabuddin@yahoo.com.

GEOPOLITICAL CHALLENGES IN PURSUING THE BLUE ECONOMY OF BANGLADESH: AN ANALYSIS OF STRATEGIC RESPONSE

**Commodore (Now Rear Admiral) Shaheen Rahman, (G),
NUP, ncc, ndc, psc, BN**

Introduction

Bangladesh has been going through unprecedented economic development for the last 10 years. The Gross Domestic Product (GDP) growth has been over 6.5% for that period and the total size of GDP stood at 302.53 billion international dollars in 2019 (www.adb.org). The main two driving forces of Bangladesh's economic growth are Readymade Garment (RMG) product exports and remittances sent by the ex-pats. As the competition in the global apparel business is increasing and due to strict business standard rules observed by the US and European buyers and governments after the Rana Plaza incident, the Bangladeshi garments industry is going through a pressure period. Furthermore, with the rapid rise of Vietnam, Sri Lanka and other East Asian countries share in the global apparel business, it is getting more and more difficult for Bangladesh to retain the competitive edge and at the same time make a profit as good as before. It is apparent that to sustain economic growth and become a developed country, Bangladesh needs to diversify its economic sector. But due to a lack of natural resources and skilled manpower, economic diversification needs a substantial period and several resources. On the other hand, its vast Exclusive Economic Zone in the Bay of Bengal (BoB) is yet to be explored and exploited. Hence, the government is interested in building up a new economic model that will be centred on Blue Economy to exploit the natural resources in the BoB and thus create employment in the job market, subsequently creating supporting businesses in the southern region. This will turn the southern part vibrant with economic activities and consequently boost the national economy.

Finally, the recent Covid-19 pandemic has dealt an unprecedented blow to the world economy because of which the market of global apparel business has shrunk significantly leaving the competition for Bangladesh very high. In such a context, to sustain the current economic growth, the only feasible option for Bangladesh is to pursue a Blue Economy in the littoral area of the Bay of Bengal (BoB). Given the necessity and potential of a sustainable blue economy, successful implementation of the Blue Economy model requires feasibility assessment from various points of view, especially so from a security standpoint. The successful implementation of the Blue Economy model in Bangladesh largely depends on the security aspects of Bangladesh which will ultimately determine its actual contribution to the national economy.

The US has adopted a policy of alliance building to counter China's influence as reflected in its effort to revitalize the Quadrilateral Security Dialogue or Quad that creates a common platform for the US, Japan, India and Australia for countering Chinese threat. The US has also put forward its "Indo-Pacific Strategy" to counter China's rise. Furthermore, India has become an integral part of the US's plan to contain China. On the other hand, Myanmar, a country with huge unexploited natural resources and a strategic location striding the Indian Subcontinent and East Asia, has become a major place where China and the US both are vying for dominance. As a result, the security scenario is evolving fast in the BoB region like many parts of Asia. Furthermore, some domestic socio-politico elements of Bangladesh also have the potential to become important factors that can affect security balance and peace in the region.

Under this circumstance, this paper strives to find out how big power rivalry affects the security balance in the region and thus makes an impact on the implementation of a sustainable Blue economy in Bangladesh. It also expounds on what can be perceived as a hypothetical solution that will formulate a coordination procedure among all agencies to better respond to the evolving security scenario in the BoB region and make the Blue Economy policy in Bangladesh more viable and sustainable from a security standpoint.

Research Method

The researcher gathered data, information and facts for the advancement of knowledge in establishing a sustainable blue economy in Bangladesh by using primary and secondary sources. Then the researcher assessed the security elements in the region which can affect the stages and aspects of establishing and successfully functioning a blue economy in Bangladesh. The process included three steps: formulation of questions, collection of data and information to answer the questions and presenting answers to the questions. A thorough inquiry or examination, especially investigation or experimentation will be conducted aimed to discover and interpret new or revised plans, models, doctrines or policies on establishing a sustainable blue economy and security aspects of south Asia.

This was explanatory research but the nature of the problem demanded a combination of research methods. To achieve the stated aim, a research methodology consisted of an online literature review, collection of data online from various sources and compare them, and online case studies. A good number of books, journals, articles, newspapers, websites, desk reports, maps, videos and research papers have been used as secondary sources of study. The study used a mixed method to analyze data both quantitative and qualitative as applicable to the context.

The researcher followed mixed methods for systematic integration or mixing, of quantitative and qualitative data within a single investigation or sustained program of inquiry. This methodology integrated a more complete and synergistic utilization of data than separate quantitative and qualitative data collection and analysis. The qualitative method of interviewing important appointment holders involved with Blue Economy, strategists and security analysts helped the researcher to unearth true information on the reform and challenges. The quantitative method through survey helped the researcher to verify the facts revealed from all other sources. The information was also collected from Blue Economy policy makers, maritime stakeholders, experts, planners etc. Secondary sources such as

books, journals and study materials from the internet were studied on the subject to discover hidden truths in search of new knowledge. Finally, the researcher found out a strategic response to the emerging geopolitical challenges in its pursuits of the Blue Economy of Bangladesh.

The researcher carried out primary data collection tools and his sample size for Key Informant Interviews (KII) based on the progress and requirement of the research. Important appointment holders who all are directly involved in the related subjects, and other International Organizations related to maritime were brought under in-depth interview.

Strategic Importance of the Indian Ocean

Rich Resource Base

The Indian Ocean (IO) holds 16.8% of the world's proven oil reserves and 27.9% of proven natural gas reserves. Indian Ocean economies accounted for 35.5% of global iron production and 17.8% of world gold production in 2017. The region was also responsible for 28% of global fish capture in 2016, and there has been a continuous increase in fish capture in the region since the 1950s. This has created a successful basis for export industries in several countries. For example, Indonesia and India accounted for around 4.5% of global frozen fish exports in 2017. This abundance of natural resources, among other factors, has facilitated trade-led growth within this region (www.lki.lk).

Maritime Trade

The Indian Ocean is home to major sea routes connecting the Middle East, Africa and East Asia with Europe and the Americas. These vital sea routes are facilitate maritime trade in the Indian Ocean region, carry more than half of the world's sea-borne oil, and host 23 of the world's top 100 container ports. Container traffic through the region's ports has increased fourfold from 46 million TEUs in 2000 to 166 million TEUs

in 2018. Increased connectivity within the region has strengthened ties with external trading partners. China has emerged as the most important trading partner of the Indian Ocean region, accounting for 16.1% of its total goods trade in 2017, up from 4.8% in 2000.

Emerging Threats

Freedom of navigation is vital for the smooth flow of Indian Ocean maritime trade but threats such as competition among great powers, non-traditional security threats, and environmental degradation remain. Piracy and drug trafficking are gaining traction within the region. Unsustainable use of marine resources may lead to the rapid depletion of fish stocks and other minerals. This could adversely impact the region's economic prosperity as some major economies depend on these resources to stimulate trade and economic growth. The further escalation of such geopolitical tensions, as seen in the South China Sea, would threaten the openness of the region's sea routes, which in turn may disrupt trade and adversely affect energy-dependent nations like Sri Lanka.

Rise of Asian Powers: China and India in the Indian Ocean

The Indian Ocean has become significant in the strategic security structures of both countries, i.e. India and China as their energy security is largely dependent on the safe transportation of oil and gas they import. Besides, 21.8% of Chinese export (more than 100 billion USD) to the Gulf region and Europe passes through the Strait of Malacca (Athwal, Amardeep). Therefore, in the face of international conflict, foreign naval domination of the Indian Ocean could pose a threat to China's security. Hence, it has adopted a Two-Ocean Strategy which incorporates the Indian Ocean into its security structure and accordingly is building up and distributing its naval assets in the IO. India, in response, which sees the IO as its backyard and wants to establish its absolute influence therein, is also building up its maritime capabilities to counter Chinese presence. Interestingly, Japan imports almost 90% of its oil from the Indian Ocean Region (IOR), Italy

85%, Britain 60%, Germany 60% and France 50%. 40 out of 54 types of imported raw materials used by American industry are supplied by the IOR (Kaushik, 1987). Therefore, the Indian Ocean has also become the theatre of the next major power struggle for supremacy.

Evolving Security Scenario in the Bay of Bengal (BoB)

The Indian Ocean and the BoB

The Bay of Bengal (BoB) is one of the access points to the Indian Ocean (IO) from the continent of Asia. In the 20th and 21st centuries, the geopolitical importance of the BoB does not only arise from itself but also the significance of the IO. The geopolitical and economic significance of the IO is associated with the rise of China and India and also the future potential of Africa as the next economic frontier for the present production hub of East Asia, apart from its natural resources.

On the other hand, India views the IO and its adjacent area i.e. the BoB as its backyard and wants to establish and retain its influence therein. But China's ambition relating to the BoB and the IO to sustain its survival by retaining its economic growth and to secure its future by ensuring its independent connectivity with Africa threatens India and also poses a strategic threat to its national policy as it has already been in an ideological and military struggle with China since as early as its independence from the British rule. Besides, its ambition in Africa, as evident from its collaboration with many African countries, economically and politically, also stipulates it to keep a wary eye on the presence of China in the IO and BoB.

The US as the greatest power in the world has strategic interests in the IO and the BoB. Primarily its main concern is China and India. Concerning India, it needs to keep its presence in the IO to monitor and control India's growth so that India's rise does not create any friction with its strategies in Asia. So it is evident and rationale for the US to keep in check both China and India even though India's strategic interests at present align with that of the US in terms of containing China.

Recent Developments Identified in the BoB Region in terms of Major Players

To better understand the impacts of geopolitical developments upon the process of materialization of economic policy in a country in the BoB region, it is useful to analyze the important developments in this region with the potential to affect the security scenario to identify the trend and pinpoint the fault lines in the security scenario. According to the Realist approach to international security, it is anarchy that yields insecurities (Wohlforth, 2010).

US-China Relations

The relations between the US and China evolve in the future and will determine the future of not only Asia but also the world itself. It is not only the rise of China in the materialistic sense that threatens the Western hegemony in the world, or more specifically in Asia, but the fact that a non-European power can achieve excellence in every aspect without following the western path of development, has created alternative options for the rest of the world to choose from for their development. China's development in the new millennium was astonishing one and in this period its economy grew manifolds surpassing that of major economic powers like Germany and Japan. On the other hand, the US to counter China's BRI proposed the Indo-Pacific strategy to retain its influence and strategic advantage by rallying other Asian and Pacific countries behind it. Finally, after the 2020-21 border clash between China and India, the US tried to revive the old alliance of four-democratic pro-western countries namely the US, India, Australia and Japan to counter China's assertive approach in the Indian Ocean and the Pacific.

US - India Relations

The US-India is mainly based on the common democratic values they share as the two biggest democracies in the world. But their strategic alignment

is engendered from their apprehension regarding China. During the Cold War, due to India's strategic location and its potential as the leader of Asia, the US wanted India to rally behind it in its struggle against Communism, but its non-alignment policy prevented India from taking any of the sides openly. Both the superpower identified India as the main or only capable force in Asia to counter China and thus cooperation with India in this regard grew over time.

India-China Relations

Sino-Indian relation dates back to antiquity though at present it is more complex than ever. The historic context and China's security ties with the countries from South Asia and the IOR to ensure its growing energy-security interests in the region resulted in deep-rooted suspicion between China and India (Garver, 2002). From 2016 to 2019, India signed three major military agreements with the US at a time when it became apparent that the US was shifting its strategic focus in East Asia to contain China as touted through "Pivot to Asia" by the Obama Administration in 2016. All these rekindled the old mistrust and suspicion in Chinese leadership against its Indian counterpart. In consequence, they were seen to have strived to elbow out each other in 2020 and 2021 in south Asian countries.

Analysis of the Probable Effects Resulting from these Geopolitical Developments

From the discussion above, it is clear that the major powers active in the region are of two sorts ideologically. US-led pro-Western capitalist countries like India, Japan, the EU and on the other hand, China represents a new major power, with considerable economic and military might, that represents something other than dominant western ideologies. Furthermore, though the Asian major powers currently aligned with the US, ideologically, economically and military, have the "general incentives" of retaining their peaceful growth in future to realign themselves with China and thus upsetting the current order in Asia as narrated by Zbigniew

Brzezinski in his book “The Grand Chessboard (Brzezinski, 1997): The COVID-19 pandemic has also created an unprecedented scenario across the world in which economies in countries have been dealt a severe blow and thus threatened the overall stability (and also peace) in the world. Retaining peaceful economic growth, which was the main concern of the countries in the age of globalization before the pandemic, was no more as the economies around the world faced trouble. The inhibition to take risk of confrontation with China at the expense of economic growth was there no more after the pandemic as the economies were already under pressure. So, it was easier for the US to pursue the Asian powers, like Japan and India, already aligned ideologically, to confront China, not only economically but ideologically and militarily/strategically. Hence, the major players and incentives behind their actions have recently evolved in a direction that leads to a more conflictual future in the region of the BoB.

Interstate Security Factors in Bangladesh

Though Bangladesh has passed 50 years since its independence, many fundamental issues persist in the country. Many of them ensue from the socio-political structure of the country, others are created by the influence of outside actors, especially the major powers. To understand how the future scenario might develop, it is, therefore, mandatory to identify and understand these factors that are active and influential in Bangladesh.

Internal Factors

Given the geopolitical disposition and security landscape around Bangladesh, it is not an exaggeration that internal factors are heavily influenced by external factors and the correlation with external factors may sometimes bar them from being defined entirely as internal. But taking the internationally accepted demarcation of the border of the state, hence, define the factors active inside the territory as the internal ones. In this definition, the following factors are identified as important that can destabilize the region at a great scale.

The Chittagong Hill Tracts and Related Insurgency

Chittagong Hill Tracts (CHT) holds a very unique place in not only the geographic landscape of Bangladesh but also in the political landscape of this country. Due to the nature of the terrain and the porous border with India and Myanmar, it is difficult for law enforcement agencies to operate effectively against them. The religious inhomogeneity along with the history of long-term conflict makes the CHT a potential place of further conflict and instability in the future.

Religious Extremism

Religious harmony has prevailed in this land for thousands of years in the past. The Hindus and Muslims, before that the Buddhists, had lived here side by side without communal conflicts. Socio-political changes took place frequently in this region as it was one of the most affluent of regions in the subcontinent, often through violent manners, but never based on religious differences or religious causes.

External Factors

India's North East

India is facing one of the biggest threats to its Indian nationalism and hence the territorial integrity from the insurgencies in its northeastern states. Since independence and in some cases even before independence, various ethnic groups have been struggling based on their nationalist ideologies for their independence from India. Due to Bangladesh's strategic location concerning India's North East states, its territory is essential to sustain these insurgencies in those areas.

US Interests

Bangladesh's strategic location has the potential to destabilize India's North East and thus greatly affect its national security and integrity. Furthermore, due to China's growing need to gain direct access to the BoB and thus to the IO, Bangladesh's importance has been growing also in China's strategic paradigm.

China Interests

To ensure its energy security, China adopted the "Two-Ocean Strategy" which incorporated the Indian Ocean into its security paradigm along with the Pacific Ocean, traditionally the theatre of operation of China's navy. Consequently, the BoB became strategically important to China and so did the littoral countries in its foreign policy. The recent strategic realignment of India with the US has also made India a security and strategic headache for China. So, Bangladesh's special location and consequent significance in India's security paradigm make it all the more important to China.

Indian Interests

Bangladesh's significance in India's economic, political, military and security cannot be overstated. As we have already discussed, without Bangladesh's support it is next to impossible for India to maintain stability in North East India and extinguish the insurgency movements therein. Besides that, Bangladesh is India's third-highest remittance source and a big market for Indian products. Finally, to thwart any anti-Indian power to take root in Bangladesh is against India's interests, hence it always strives to retain the absolute influence of its own here.

Myanmar Interests

Bangladesh shares only 210 km of common land border with Myanmar in the southeastern part. Bangladesh is at odds with Myanmar specifically the

Rohingya and the maritime boundary. Myanmar has been pushing against Bangladesh on these two issues in recent years.

Pakistan Interests

Due to historical context and strategic significance, Bangladesh harbours various Pakistani interests, but those too are mainly oriented around their main target of containing their arch-rival, India.

Other Players

Among other players, there are the EU, Japan and Russia which are worth mentioning. But their interests mainly revolve around economic affairs. Though Japan in recent times is active in the region including Bangladesh, to counter China's growing influence, that too is done through mainly its economic development activities and business trades.

Challenges for Bangladesh

Preamble

Bangladesh faces multiple internal and external challenges. From a security point of view, the most critical challenges that need to be dealt with now to build up capabilities to pursue our interests more independently, are those emanating from the rivalries and subsequent hegemonic interference of the major powers, insecurities therefrom, foreign policy and strategic dilemmas, capacity building. In the following portion of this chapter, we will examine the nature of the challenges more closely and attempt to analyze how they make an impact on Bangladesh.

Hegemony

Hegemonic interference by major powers is one of the most crucial challenges to deal with for a country like Bangladesh. Bangladesh's

proximity to China and an emerging power like India has put it at the forefront of hegemonic pressure by these powers and also their contenders. In absence of a stable hegemonic order where no one power can establish its supremacy, the smaller states still get their interests ignored by the major powers. Moreover, in such a situation the major powers are actively engaged in consolidating their power in a particular state resulting in political and economic instability therein. As a result of both, a hegemonic stable order and a struggle for hegemony, a state lose its ability to pursue independent policies for the interests of its people without losing its sovereignty. It is a classic example of hegemonic pressure to abandon policies or projects despite greater national interest. With such precedence, it is not an exaggeration that similar hegemonic pressure is likely to come, even in higher intensity, in future Bangladesh.

Rivalries among Major Powers

Firstly, due to its strategic location in between India's mainland and its troubled North-East, Bangladesh is of great importance not only to India but to its archrivals in the region, China and Pakistan. Common colonial history, partition based on religion and later on the involvement with the struggle for the independence of Bangladesh, all these matters place India, Pakistan and Bangladesh on the same page and make Bangladesh one of the many fronts, where India and Pakistan vie for securing their interests. Besides that, China also sees Bangladesh as a strategic place for putting pressure on India. Bangladesh also holds strategic importance for China concerning its investment in the northwestern part of Myanmar. The stability of the northwestern part of Myanmar is to a great extent dependent on the stability and policies of Bangladesh. Given Myanmar's strategic importance to China, it is one of China's highest importance that Bangladesh remains neutral or aligned with China in terms of its policies. So, Bangladesh becomes a battlefield for all these powers to secure their respective interests.

Foreign Policy and Strategic Dilemmas

The fast-changing regional geopolitical and global political landscape becomes more and more complex making it more difficult to respond accordingly through effective policies and strategies. Exacerbating the situation, even more, the interference and interventions by the major powers into internal policies make it next to impossible for the government to determine the right foreign policy and long-term strategies. Some might argue that Bangladesh's proximity to India, a major power, and its strategic importance to China, the US etc. makes a well-defined foreign policy ineffective and problematic to address the challenges it faces now and then. But the solutions to these sporadic problems or challenges that are faced by Bangladesh can be accommodated within a well-defined foreign policy effacing the argument.

Myanmar: A Source of Instability in the Region

Myanmar lies in a strategic location, with still unexploited natural resources, that makes it one of the most coveted countries to the major powers like the US, China, India, Russia and Japan. All these countries are competing with each other for securing access to the huge natural resources of Myanmar and ingratiate its rulers to utilize its strategically important locations. Myanmar military's rapid upgradation of its military capability in the last 12 years made it a more formidable opponent for the Bangladesh military than it was before. Furthermore, given the positive attention it receives from the major powers, it is also difficult for Bangladesh to create effective pressure politically on Myanmar. Hence, Myanmar is going to pose a great challenge in the coming days for Bangladesh.

Bangladesh's Response Options

Preamble

Bangladesh's options for responses to the situation can be classified into two levels: Strategic level and Tactical level options. Strategic level options include alliance building, a balanced approach to existing issues, cooperative engagement, and selective engagement, whereas tactical level options are diplomatic engagement, bilateral engagement, trade and investment. These options are described in the following sections:

Alliance Building

According to international relations, an alliance is a relationship among people, groups, or states that have joined together for mutual benefit or to achieve some common purpose, whether or not explicit agreement has been worked out among them. Though the effects of the alliance are not always straightforward, several studies find that defensive alliances deter conflict. Hence, pursuing an alliance is a feasible option when the required level of discretion is maintained not to turn the balance rapidly. That is why a country like Bangladesh joining an alliance makes it a ready target of the major power the alliance is formed against. Furthermore, in this age of capitalism, when the world is run based on business and trade, alliances must be built upon trade and economics. The more a country is integrated into the world market, the more protected it is from direct harm from other major powers as any disturbance in that country will hurt the majority of the stakeholders in the global market. So Bangladesh must pursue alliance building in business and commerce to make itself integrated into the global economic system to create a deterrence.

Balanced Approach

The main obstacles for Bangladesh in formulating policies and strategies regarding major powers are its location close to India and the subsequent

cultural, and historical influence it holds over Bangladesh. Hence Bangladesh needs to engage China in a way that helps it stave off excessive Indian influence. But again the historical relations with India cannot be denied and China's influence also must be managed in a way that doesn't create any situation to antagonize India. Furthermore, the US is one of the biggest markets for Bangladeshi products in the world and its role in the world cannot be understated even in a world which is tending more and more to a multipolar one.

Cooperative Engagement

Bangladesh needs to engage with the world community in a manner that promotes its goodwill and image in achieving global welfare. Cooperative engagement in the BoB region especially is very important. Because regional cooperation in various fields of interest strengthens the mutual dependence on each other and thus prevents any conflict of interest from turning into military conflict. Besides that, cooperative engagements among countries will also go a long way to remove mistrust and suspicion that lingers between neighbours in the region. So, cooperative engagement through alliance and association building is a potentially effective option for Bangladesh to deal with the challenges at hand.

Trade and Investment

In today's world of capitalism, business is one of the most effective deterrents a country can have. As a result of globalization, the boundaries have become blurred to a great extent as a result of the rapid expansion of international trade and commerce. Today no country can survive on its own and each needs the other for its economic stability to some extent. By inviting new foreign investments and thus increasing trade, a small country like Bangladesh can create a base of effective soft power which in the long run will protect against unwanted influence and interference by major powers.

Bilateral Relations and Selective Engagement

Since many of Bangladesh's persisting issues can be attributed, to some extent, to other countries, it always needs to engage respective countries bilaterally to avoid complexities in resolving these issues along with multilateral approaches. Bilateral engagement is conducive to creating mutual trust which in turn can be exploited as the basis for upholding a state's global or regional image. With countries of similar economic, political and military capabilities in the region, Bangladesh has a good opportunity of building effective bilateral relations in the region, to begin with. Selective engagement is the pragmatic way for a state to address numerous challenges based on its priorities and limited resources. Through a policy of selective engagement, Bangladesh will influence those areas where it needs to have so without wasting its resources to create influence in areas where it does need.

Diplomatic Instrument

While formulating long-term foreign policy and strategic objectives is a farsighted approach to the situation, diplomacy is one of the major tools to implement those policies. Diplomatic engagement needs to be increased with both the major powers and other countries to secure Bangladesh's interests. Especially, in securing the national interests of the UN, diplomacy can be of great usefulness.

Military Agreement

Bangladesh, despite various constraints including economic and external ones, has maintained a strong military. But with the rapid advancement in technology and subsequent modernization of military hardware, there is always the risk of falling behind militarily and losing military deterrence. To circumvent the existing technological backwardness and the indigenous military-industrial complex and its consequences on the military, Bangladesh needs to engage with other countries for cooperation

to maintain its military edge to ensure its deterrence and thus territorial integrity. Furthermore, cooperation in the military sector will also go a long way in dispelling mutual suspicion and gradually building trust.

Recommendations

Hence, Bangladesh must focus on its development policies with the evolving regional security scenario at the core. Otherwise, the policies cannot be implemented with the optimum results for which they were conceived at the beginning. Finally, the following recommendations are laid out for further bolstering the options laid out above:

- There is a need for a National Maritime Strategy under which Bangladesh should formulate its role in the Bay of Bengal.
- Strengthening bilateral relations with key regional and extra-regional powers in the Bay of Bengal region.
- Regional cooperation and capacity building are likely to provide the most effective basis for long-term, sustainable solutions. The international maritime community should consider focusing on key regions where maritime security is weak or absent and working in close partnership with regional organizations to help build local capacity for maritime security.
- Bangladesh should maintain an active role in all security and economic structures in the Indo-Pacific region. Diplomacy should be the cornerstone for effectively engaging with partners, particularly maintaining proactive dialogue with India, Nepal, Bhutan, Myanmar, and China for regional trade connectivity through MSRI. In terms of infrastructure development and connectivity, the balance between India, the United States, Japan, and China should not be disregarded.

Conclusion

It was discussed how geopolitical dynamics in the region are heading towards a conflictual end and how Bangladesh's internal and external security issues compounded by the consequences of still evolving bigger geopolitical dynamics make it a challenging task to implement its policies like Blue Economy. The options, which can be adopted by Bangladesh to address these challenges, are discussed. The importance of the BoB region will increase due to the US-China-India rivalry. But it also should be kept in mind that their rivalry not only involves themselves but also a region which is home to more than 50% of the world population and accounts for most of the economic activities in the world. So, the thinking, based on classical realism, used in this research might not turn out correct in case leaders of the major powers focus more on business and trade thus economic development than establishing their national hegemonic influence in the future.

Finally, it should always be remembered that predicting the future course of the complex scenario of international politics is next to impossible, as it depends on numerous factors. Nevertheless, the present state of the factors and how they interact with each other might give us a chance to understand how the future might turn out and prepare ourselves accordingly. Hence, Bangladesh must focus on its development policies with the evolving regional security scenario at the core. Otherwise, the policies cannot be implemented with the optimum results for which they were conceived at the beginning. This research will come as a useful guideline in this regard. At the end, it should be kept in mind that further research needs to be continued in this area for a deeper and more complete understanding.

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Author

Commodore (Now Rear Admiral) Shaheen Raman has joined Bangladesh Navy as an Officer Cadet on January 1, 1987. He was commissioned in the Executive Branch on July 1, 1989. He is a Gunnery specialist officer. He is a graduate of Defense Services Command and Staff College, Mirpur, Dhaka. He also attended a Second Staff Course at Naval War College, Lahore, Pakistan. He did his Naval Command Course from Naval Command College, USA.

The officer has served on board different naval ships and establishments in command, staff and instructional capacities. He attended various courses at home and abroad. The officer has completed his specialization course on Gunnery from INS DRONACHARYA, India. He has also obtained a Master in Defence Studies. He served as Directing Staff at Defense Services Command and Staff College, Mirpur and also served as UN Staff Officer at UNMIH Headquarters in Haiti. Among staff duties, he was a Staff Officer in Naval Intelligence, Deputy Director of Naval Training at Naval Headquarters and also served as Director (Border and External) at NSI Headquarters.

He has commanded various naval ships which include Patrol Craft, Large Patrol Craft, Offshore Patrol Vessel and Frigates of Bangladesh Navy. He also worked as a Member of Operations in Chittagong port. Presently he is Commanding the Western Fleet of Bangladesh Navy as Commander Flotilla West.

DISCOURSE ON ORIGIN AND DEVELOPMENT OF PUBLIC SAFETY SYSTEMS IN PRE-HISTORIC AGE: BENGAL PERSPECTIVE

Deputy Inspector General Md Nazrul Islam, ndc

Introduction

The terms 'Public Safety' denotes integrated meaning: "Protection of people, their life and property" and "state of free from harm, threats and dangers of an individual, organization, society, nation or territories from another person, group of people, nation or environment". It is a universal fact that every individual wants safety and plays a significant role in ensuring safekeeping or endangering others; contributing to public safety, irrespective of the pristine, or present day. "Every person has a right to risk their own life for the preservation of it" (Rousseau, 1762). The cave dwellers, tree-livers, hunters, and nomad people ensured their safety in an environment "surrounded with ferocious animals" (Morgan, 1877) in different territories of the globe during their existence in this world; and it happened in pristine Bengal too.

The pristine nomadic life had different safety challenges. People did not know about food production, food processing, and making a home for shelter and safety. They were dependent on nature absolutely; collected fruits from the trees hunted animals in the bushes; had had those directly. They run from one place to another in search of food and shelter, for survival. In the course of action, they had to fight against the ferocious animals. Jean Jacques Rousseau believes that the people were internally comfortable, happy, and self-contained in the pre-pristine age, and did not fight among themselves since they had no storage of wealth. Thomas Hobbes (1651) opined differently that primitive people lived in nature; which was dangerous and unbearable. There was no law, no education, and

no culture. Human being fought each other. Mankind had to suffer against adversities of strong cold winds, storms, floods, etc. Extreme trouble, death, and persistent fear embraced them.

Those situations changed during the development of agriculture, which led to permanent settlement, customs, norms, and ritual trends to bring a disciplined and secure life under the experienced elderly, wise or strong people's command or leadership. Farming culture led to the developing chiefdom, creating order in production, distribution of crops, and ownership/ successors of lands. Some norms, ethics, customs, and rituals developed for peaceful co-existence. Those ethical practices strengthened fellow feelings, kinship, clan, band, tribe, and community to remain united, and fight against opponents, either for defending or launching aggression.

Bengal, visibly, a very ancient territory in terms of permanent settlement, statehood, and development of 'Garh' (citadel) had an inseparable underpinned history of public safety in a pristine and post-pristine era as defined by J. Rousseau or T. Hobbes or Morgan. The terrains of Chittagong Hill Tracts, Comilla, Greater Sylhet, Mymensingh in Bangladesh, Darjeeling, Jalpaiguri, the hills of Koch Bihar, Ajodhya in Purulia, Joychandi, the Tildhani hills, and the tufts in West Bengal were formed in the tertiary period, approximately 30 million to 50 million years. Relatively new lands have been formed in the sediments of hundreds of rivers like the Ganges, Padma, Brahmaputra, Jamuna, Meghna, Mahananda, Punarbhaba, Teesta, Korotoa, Hughli, Damodar, Ajay, Atrai, etc. Some of the parts contain stone weapons of 11 thousand to 40 thousand years, leaving clear evidence of one of the earliest places of human settlements and "defense potential" (Chakrabarti, 2001), and evidence of ancient civilization, is well supported by the existence of wrecks of citadels at Mahasthan Garh, Pandu Rajar Dhibi (Garh), Chandraketugarh, Bangarh, Asom Rajar Garh (Wari Bateshwar), Five Garhs in Panchagarh and so many forts. Academics and archaeologists argue that those citadels are 2300 to 4000 plus years old. No human settlement, village, no town developed without ensuring public safety in this world. Citadels are the symbols of

sovereignty. Harmonizing with the archaeological, iconographic pieces of evidence and ancient literature this effort is taken to find out the origin and development of public safety systems in pre-historic Bengal.

Research Methodology

This research is based on the qualitative method. It is explanatory and more causal by nature. Both primary and secondary data have been used in this research work. Information and indices are collected from literary scriptures and this researcher's visit to the archaeological sites, historical places, and museums; by observing the iconographic shreds of evidence, documents like ancient books, explanatory assessments of historians of different ages, and reports published in newspapers, journals, books, and websites. A comprehensive literature review was carried out to construct the thematic basis of 'safety' and both professional and amateur law enforcers in different parts of the prehistoric contemporary world; connecting the historical evolutions and impacts; developing universal and cosmopolitan views and measuring the incidents in-depth. Primary data were collected through interviews and informal discussions of think tanks and academicians to stick and authenticate the research works. Interviews of experts in archaeological works, social science, police science, and professional and police experts in the concerned field were the major sources to interpret the contradictions and gaps. 'Descriptions, beliefs, and knowledge of the past' mean, the 'Descriptive and Normative model' of Aviezer Tucker was focused on occasions.

Review of Literatures

Contextual works of literature from ancient Bengal have some broken linkages, leaving small room to mention the books, especially highlighting this subject matter. Yet, the presence of some ancient literature and archaeological pieces of evidence are explicit to explain and manifest those gaps to find new knowledge and understanding. Several books, journals,

and research papers studied highlighted different facets of the public safety systems of Bengal, which assisted to generate the key concept of the research work. The information acquired from those texts assisted to enrich the background knowledge of this research work. The recent days' archaeological excavations and scientific study reports on various aspects have augmented us to drive out obscure information relating to Bengal, and are helpful for this study.

Premangshu Chakrabarty and Rahul Mandal (2019), *Geoarchaeosites for Geotourism: A Spatial Analysis for Rath Bengal in India*, *Geojournal of Tourism and Geosites*, pointed to the caves safety systems of cave-dwellers of Laljal hill, situated at Jhargram, in West Bengal. Ghosh (1991) in his work *Zoological Survey of India* pointed to weapons used for defense and attack by primitive people.

Dilip K, Chakrabarti, in "Ancient Bangladesh" (2001), Abul Kalam Mohammad Zakaria in "Bangladesher Protnosampad" (2007), Sabiha Sultana, *Banglapedia*, *Settlement in Bengal, Early Period*; Rahul Sankrityayan, (1983), in 'Manab Samaj', have put some lights on the artefacts, the tools, weapons, and uses of those, by the people of Bengal in the lithic and iron age for their safety. Early Lithic Age specimens have been found in Sylhet, Comilla of Bangladesh, and the Medinipur district of West Bengal. Middle Lithic Age specimens have been evident at the Tarafeni valley, Laljal, Barapal, Da-Mahani, Sahari, Khagra, Dhuliapur, Vaishnavpur, etc. of Medinipur district. Iconographies manifest of the Copper Lithic age have been discovered from Dhuliapur and Sijuwa Mouzas; projecting to primitive human habitation as well. Zakaria, Abul Kalam Mohammad, *Archaeological Resources of Bangladesh* underline the patterns of the Iron Age that have been found in Bangarh, Ramanathpur, Laljal, Dhuliapur, Anthelia, Shilda, Orgonda area. Lots of evidence are available throughout Bengal, that human habitations took place almost everywhere in the pristine era. People used those weapons for production, self-defence, and attacking opponents.

Shri Ashok Kumar Mitra, in *Santal Jatir Itihas*, (1997), Buddheswar Tudu, and Otho Santal Kotha, (1917) portrayed the inseparable existence of primitive people and the correlation in sharing responsibility for public safety. Mitra, (1997) sketched a very ‘peaceful’ and ‘cooperative’ primitive social life when people constructed security by and for themselves in pristine and ancient Bengal. The Majhis ensured local security, cited (Tudu, 1977). S.C. Roy (1912), in ‘The Mundas and Their Country’ however, underscored the security benefits of the early totemist life of aborigine tribes of Bengal, particularly of the Mundas, before they lived in their own countries.

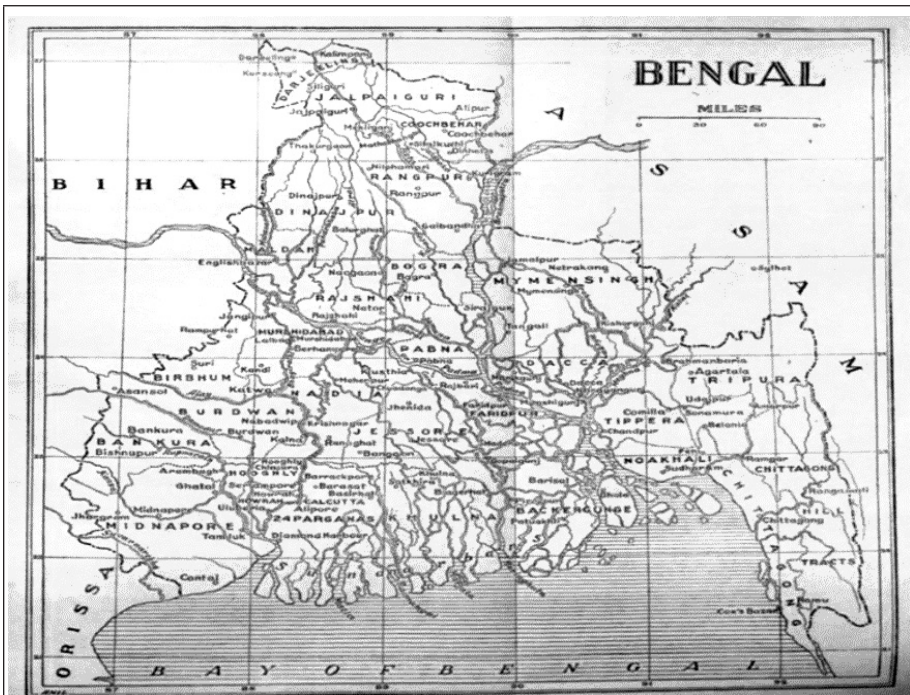
Bhadrabahu, in *Kalpasutra* (Chosen laws), pointed towards some friendly philanthropic administrations and ‘humanitarian’ services under Jain rules, illuminated people of Bengal; when the law enforcers exercised “Charok Shodhon”; or correction system for bringing the offenders to flawless life even some 2300 years ago (Johnson, 1931); when most of the contemporary ancient civilizations of the entire world had a very aggressive policy with a tooth for a tooth, an eye for an eye and ear for an ear. Some good social practices were underneath and preceded the benevolent efforts made by the state organization, and they laid the foundation during the prehistoric Bengal.

Few works of literature contain Police History, e.g.; Kabledul Islam, in his work “Obivokto Banglar Policer Itihas,” “Police Kahini” of Panchanan Ghosal, and “Police Administration of Ancient India” by KK Mishra illustrated the organizational identity of the law enforcers; leaving a gap on the public safety systems, and its underpinned socio-economic structures in pristine and ancient Bengal.

Identifying the Territory of Bengal

The territory of ancient Bengal is difficult to specify, as like any other south Asian country or many countries, where historical evolutions happened, since the state expanded by mighty rulers and squeezed in

external invasions on times; leaving universal truth behind that no state territory or map is perpetual. Majumder (1948) defined the boundaries of Greater Bengal in the light of language and culture. According to him, 'present Bangladesh and West Bengal and Cachar in Assam, Gopalpara, Purnia in Bihar, parts of Singhavum and Santal Parganas and Tripura have to be considered as the parts of Bengal. Roy (1952) has shown the geographical boundaries of Bengal a bit wider. According to him, Bengal is situated between the eastern boundary marked northwest by Darbhanga of Bihar, stretched through the Vagirathi; the east side covered by Garo-Khasia- Joyontia-Tripura-Chittagong mountains ended at the south point of the Bay of Bengal; To the west is the western boundary of Rajmahal-Santal Parganas-Chotta Nagpur-Manbhum-Dholpur-to the mountains of Keonjer- Moyurvanj forest and plateau. Buddhist Jatakas and a few Jain kinds of literature also refer to Uttar Pradesh as North Bengal.



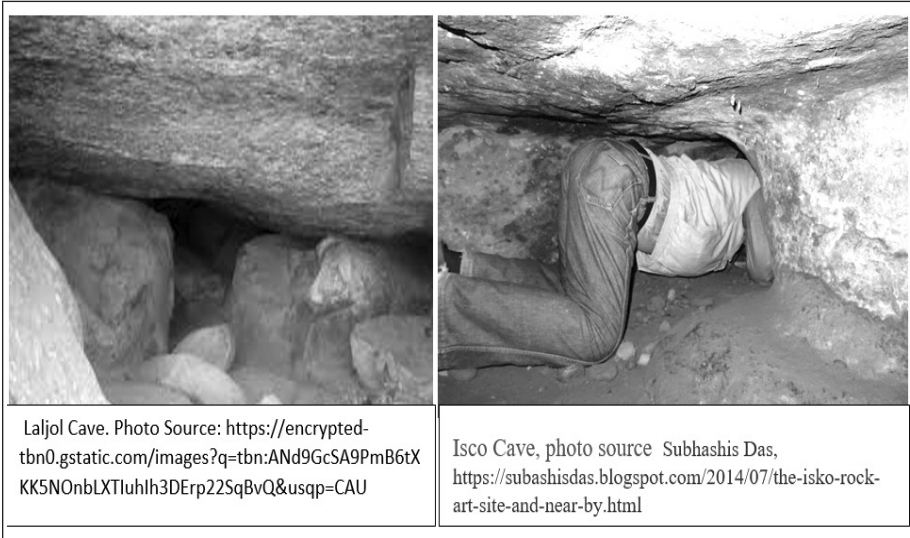
Source: R.C Majumder, 1913, *Bangladesher Itihas*, Ancient Age.

Primitive People, the Cave-Dwellers in Bengal; their Life and Safety

Some evidence depicts that like many places around the globe, human habitations were present in greater Bengal in the pristine era. Still, some of the footprints of primitive people are quite perceptible here. People lived in caves and lived in the hollows of big trees in the densely grown forests; survived by collecting food from nature. They had to run from one place to another in quest of food; fruits, and prey, as the nomadic people did anywhere in this world to survive. Those primaeval trees with hollows are disappeared now. Physical traces of nomads are lost. Only a few signs of the nomad's culture are still surviving among the Birhors and Santals, considered to be a few of the primitives, who are carrying the original legacies. The Birhor, (the 'Jungle people') still live in West Bengal and Jharkhand, leaving testimony by name that the original habitat of a section of Bengalis resided in the hollow of trees or the forest. Also, one of the primitive Santal's traditions is surviving in festivals, called 'Dihari'. They chose the forest for a sojourn during the 'Dihari' every year; spend time hunting animals.

But convincing signs of pristine peoples are persisting in several caves in Bengal. Specifically, the caves of Laljal hill, situated at Jhargram, in West Bengal. Several caves, made of granite and gneiss rocks are situated on the hilltops, presumed that people chose the height for safe stay; especially to avoid the attack of ferocious animals and avoid natural calamities, like floods and waterlogging. The bones of various animals are left in the cave along with "iron spearhead" weapons, presumed to be used for hunting and for self-defence, considered to be used by the lithic people in the area." Some stone barbs are also visible along with triangular choppers, copper axes, and so on. The entrances of the residences or caves were small in those days; holding suitability to stick from inside or outside with stones or wood. No animal could hurt or sting the insiders easily. It was also very conducive for protecting against extreme cold or heat or showering. The last time people lived in such a cave was around ten thousand years ago.

However, no one knows when they first started living. Prabhat Ghosh, though suggests that the experts' debate on human habitation started in these caves of Bengal, at least 70 thousand years ago.



‘Isco’ is another cave, situated at Hazaribagh (Jharkhand) in greater Bengal. The presence of cave paintings is still existing along with traces of animal hooves. Some symbols are triangular and some are quadrangular in shape. Some pointy and sharp stone weapons are available to manifest the presence of hunters here. People with primitive cultures are still living in the same village ‘Isco’. The Mundas, Oraons, Asuras, Kurmis, Birhors, Prajapatis, and Gunj people, who are carrying out legacies of the primitive people’s myths, are residents of this part of Bengal.

Similar caves are also existing in a few places in the hilly areas of Bangladesh and parts of Assam and Meghalaya. Never been conducted strong inquiries to identify the existence of the primitives, though fascinating myths of Matai Hakar and Ali Kadam are still there. However, no doubt, these caves could be used as a haven for primitive people to be protected from storms, rains, cold in winter, and hot in summer. Also, these were shields from wild animals and opponents’ attacks.

Nevertheless, some historians believe that a section of Primitive People in Bengal survived on boats and subsisted mainly by fishing (The abodes of the Bedes/ gypsies). They feature that Bengal was not an easy place to settle, in its dense rainforest and presence of plentitude wild animals. Choosing the highest picks and relatively high flatlands at first, they strapped back the forest frontier; created small settlements. Those settlements chose the nearby waterways to take advantage of both land and water transportation. “No doubt they traded ideas, artefacts, and foodstuffs with those who had penetrated the land by waterways and others who had created small clearings in the forest for their horticultural plots.”

From Cave to Plainland, Safety Mattered for Survival

The Santals carry a predominant myth about relocating to the plainland from the caves and hills; resounding its association with their clan's name. “When the primitive people came down from the mountain forest to the plainland and started living permanently, their name became Santal.” Primitive people walked through the forests, searching for fruits in different seasons at sporadic places, through the kingdom of ferocious wild animals, which are depicted in terracotta plaques in ancient cities, like Mahasthangarh, Bangarh, Chandraketugarh, Paharpur, etc., contain portraits of lions, elephants, cheetah, rhino, etc. Various specimens show that there were crocodiles in the water, tigers on land, hyenas, pythons, and many kinds of venomous snakes in Bengal. Their survival challenges can be evaluated by Fyodor Korovkin believes that “more than half of the primitive people used to die before being twenty, some in nail-biting of animals, some in starvations, and the rest in diseases.” “The disappearance of man at the end of history is thus not a cosmic catastrophe ... People remain alive as an animal who has harmony with nature or being as it is given.”

The ‘Hindu’ ‘Buddha’ and ‘Jain’ kinds of literature indicate that a special species of trees, namely ‘Kalpataru’ or Kalpavriksha were available in south Asia; that provided food throughout the year, like bananas or

Papaya of the present-day species. The ownership of those trees and fruits was the bone of contention among the primitive people. A group used to take control over the trees and tried to enjoy those only in them and other groups opposed the claims. So, the fights were not only against the fearsome animals but among mankind as well. Macintosh J. R. argues that human beings fought for food safety. Despite their reluctance, the cave dwellers and nomads of other clans were confronted for survival and better opportunities. Collective efforts were required to besiege the wild animals for food, guard against the attacks of dangerous species for self-survival, and extend food safety for the people who stayed in the caves, particularly for children, elderly people, and pregnant females. Those combined efforts led to a developing sense of collective security, during the cave-dwellings and a culture of extending safe hands in need. Primitive people used their physical strengths, along with stones or stone-made weapons as well as the sticks made of branches of wood or bamboo to attack and defend, believes Atul Sur.

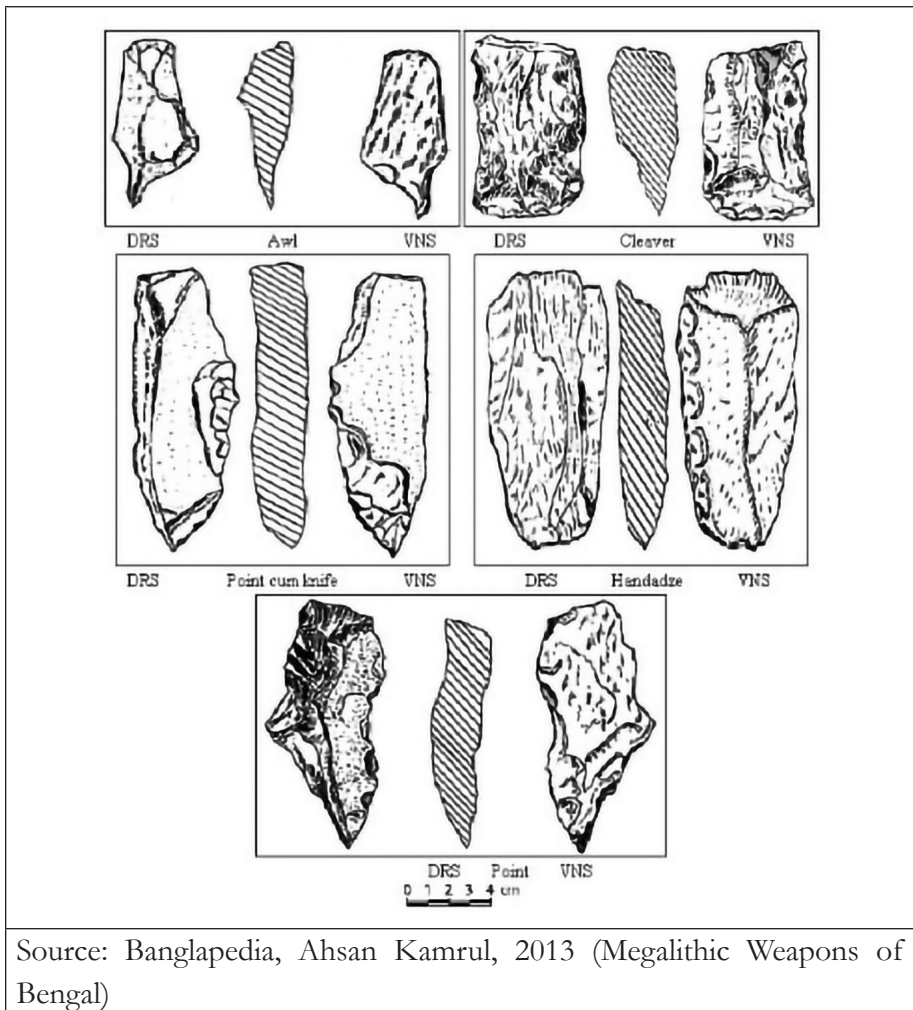


Source: <https://m.facebook.com/visitbuddhistworldheritage> (Ferocious Animals, depicted at Mahasthangarh Museum)

Lithic People in Bengal; their Safety and Survival

Biological needs resulted in the population growth of cave dwellers. It was impossible to live in a cave for many people, requiring an extension of residence for their safe shelter. the presence of such large stones; still exists in the old habitant of Jainta in Sylhet and Jhargram in West Bengal. The primitive people used to live in those rocks' houses; made tombs in the rocks as well. "In Jharkhand, megalith is a continuing tradition in the local Munda tribe. They bury the dead since time immemorial and rise a large stone slab by its side." Signs of that civilization, are also marked by the presence of a 'megalith village' or city with some wrecks at Jaintapur of Sylhet. Nurul Islam argues that the age of that civilization is between 5,000 to 30,000 years. However, it requires further study. People have learned to build houses for comfort and safety; reduced dependency on natural habitations in the caves; subsequently developed techniques for producing food grains like fruits and vegetables. They started settling into a totemist life. Some pristine wooden tools have been found in the Lalmai hills of Comilla, believed to be old and date back to the Lithic Age; some 40,000 to 11,000 years ago (Chakrabarti 2001). Contemporary tools have been found in Tripura, Meghalaya, Garo Hills, and Manipur. No doubt that people used those weapons for their safety and survival in the prehistoric age. A total of about 500 artefacts were found in 11 places, incorporating a large number of molds, Batali, hand axe, barb, cutter, knife, etc. found on the premises of Lalmai College, Radio Center, Lila Mura, Takka Mura, Tipra Mura, Mandara Mura, Maidhar Mura, Meher Kul Mura, and Sardar's hill indicate the use of contemporary security tools by the primitive people. Prehistoric specimens have been found in Lalmai and Tripura, such as some strainers, hand axes, Dhaba, etc. Radiocarbon tests indicate that those were made during 3561-3050 BC. A fossilized human jaw has been found at Sijuwa of Medinipur district in West Bengal. Experts believe it dates back to 10,000 BC; designates human habitations older than the Harappan-Mohenjo-Daro civilization. All these weapons were made by the people living in that era, who had a specific purpose of multiple uses

in agriculture, safety, and so on. The sporadic presence of these weapons carries proof that even in the Lithic Age, human habitations were quite vigilant in different parts of Bengal. All the megalithic stone-aged monuments, and ancient weapons, piled up in different places divulge human habitations and the security tools of primitive people in Bengal. Surely those physical evidence manifests and represents the use of tools for producing food, for the self-safety system, for attacking opponents, and defending from their attacks on themselves as well.



Innovation of Agriculture in Bengal and Food Safety



Source: <https://indiantribalheritage.org/?p=42709> (Symbolic Photo of agricultural product sharing)

Agricultural production was initiated in Bengal during cave life. People carried fruits from forests; ate delicious parts and dropped the bitter seeds nearby the caves. In the light-wind- rain of nature the plants came out of the released seeds; resulting grown-up of trees and their fruits again. Cave-dwellers observed that those fruits could be obtained by sowing seeds. People learned food production techniques, and agricultural work by using their senses. Mango, one of the most ancient fruits contains this proof. Researchers of Florida University, USA, argue that the breed home of ancient wild mangos were the Hill tracts of Bangladesh, North-East of India, and Myanmar. Surely, it came out through the natural process of dropping the seeds of fruits obtained from nature. Atul Sur, and Robert Briffault (1931) however, argue that women generated the idea of cultivating the lands for agricultural purposes, by applying a sense of child production. The story of the origin of agriculture is involved in the legends of Santals and Mundas. The Santal as well as the Munda call themselves 'Khutkathidars'; this means the people those clean the forests for developing villages. That also establishes ownership of the lands; 'uninhabitable, which segregated the land boundary. They transformed the non-arable lands into cultivable and productive. For that reason, they worked hard, developed agriculture, and ensured their food security.

Origin of Village, its Discipline and Security Systems in Bengal

The development of agriculture gave enough food altogether to settle people in a place. They formed permanent settlements or villages. Indeed, “very rich human settlements developed in Bengal following the Neolithic period through the Delta during the Chalcolithic period and urbanization developed in Iron Age”. (Banerjee et al., 1992). The people of the village were kinsfolk by ancestry or by marriage and were well organized. They were peace-loving and lived nonviolent lives. But not always. The ancient laws, myths, and religious texts suggest that initially, the bones of contentions, lay with illicit encounters of males and females; followed by ownership of fertile lands; those even ended in bloodshed. Of course, some people preserved peace collectively and faced dangers with the same efforts. Agricultural innovations and food production ensured community living, customary provisions, customs, and collective security in pristine Bengal.

The uphill task was to ensure the safety and security of the villagers and was performed by the Mondals, Gaonkhunta, or village deity in Munda society, and ‘Manjhi’, the village headmen, elected by the Santal clans. They were assisted by the village council. Jagamajhi and Goret used to assist him in the council. Goret was a watchman, a spy, and a messenger; conveyed the messages of the happenings and secrets to the village headman. Bhadda, Nayake and Pernik were in charge of security in Santal society. Those five were named ‘Panchayet’, and held the responsibility of a proactive peacekeeper, based on acceptability, mutual trust, respect, and dignity to prevent or mitigate the unrest generated in the village. These members used to conduct surveillance if the people of the village had any clash of interests or misunderstandings amongst themselves.

These ‘panchayet’ were used to settle disputes related to illicit encounters or unwarranted romance; solved the problems of land disputes in the village. If anyone in the village was in danger, everyone else would come forward. If a fight broke out between or among people, everyone would intervene. They were volunteers, informal and undifferentiated police in the primitive

world, developed in the initial social systems, long before the emergence of statehood. The villages were just like little republics, where they had security providers of their own. This means the security providers were of the people, by the people, and for the people, which is known as community policing now a day. They were proactive, easy-accessible, friendly, urgent responders, and trustworthy. Again, if anyone from one village offended someone from a different village, the people of the affected village would stand up for him, as the defence system works today to prevent its territory from external attacks. As a result, there was a sense of social, economic, and moral security within the village. As such, every village was then self-governing. Their major activities were to settle disputes, originating from illicit encounters, land litigations, crop ownership, occupying of reservoirs or ponds for irrigation or fishing, also the ownership of livestock or cattle. Sankrityan (1974) believes that the Panchayet, the local leaders were good enough to mitigate all sorts of internal quarrels. However, the inter-village conflict could widen the scope of security management. Panchayats, the clan leaders of five to seven villages or more, unanimously took part to solve inter-village problems.



Source: <https://i.pinimg.com/originals/9a/80/aa/9a80aac5b38c602121738c7a42f46173.jpg>

Customary Provisions for Combatting Offences

The Austric (Munda, Santal, Birhor, Asur, etc.) people developed and practised some moral customary provisions for maintaining order and keeping peace and tranquillity in prehistoric Bengal. All of them had a similar belief in the invisible Creator, later shifting to Sinobonga worship. They practised and developed norms of the marital relationship and monogamy approach; stood against polygamy or extramarital relationship. The pioneer forest cleaner was the owner of the land, the elder male was the decider of the wealth and new disputes were addressed by the Panchayats, using their experience and prudence. Yet, where there are laws, there are violations as well. The pre-historic people were not exceptional.

Village Crimes and Conflicts in Prehistoric Astric Society

Illicit Encounters and Exodus: Human beings were not crime-free, not even in pristine Bengal. It is unanimous that men fought for women first in this world, mentioned in all the Holly books, of Islam, Hinduism, Christianity, and Judaism. The oldest surviving law book, the Code of Hammurabi, and the oldest surviving law book of Bengal, 'Kalpasutra' contain most of the prohibitions on the illicit relationship of human beings and punishments for encounters. Surely, fights for females dented the safety and security of the people of primitive Bengal too. In ancient times the Santals lived in 'Chai Champate' (present-day Bhagalpur of Bihar). They believe that a Munda-speaking man of the 'Birhor' group was attracted to a Santal woman. The two engaged in illegitimate love; resulting in a child; 'Madho Singh by name. This Madho Singh became a powerful king, who wanted to marry a Santal girl; subsequently rejected by the Santal society. King Madho Singh and his cronies felt disgraced, became furious, and threatened to violet all the Santal women. The desire of the king did not require him to pay heed to any legal boundary and civil strife started in Bengal. Santal, Birhor, and Mundaries fought against each other. Winer Madho Singh kept pressures continuously, that stretched up to change the Santal's religion.

The Santals fled to Chotta Nagpur, the land of the Mundas, overnight to protect their religion and women's dignity. That is considered the first big incident of the exodus from Bengal as the victims of ethnic aggression; that contention originated from a woman.



Source: <https://www.google.com/search?q=Illicit+encounters+&tbm>
(Symbolic Photo to express illicit encounter)

However, ethnic violence led to an exodus in other parts of South Asia at a later age as well. K Verma found in his research that the Santals, the original Indian people in the Sahebganj area bordering the state of Bengal Bihar, still make extensive use of the seal inscriptions and alphabetical symbols found at Mohenjo-Daro, Harappa, Dhal Vira, Lothal, etc. during their religious ceremonies. Some scholars assume that the Aryans attacked the indigenous people, who fled to the east part of it and took shelter in Bengal.

Family Feud, Land Dispute

Naturally, the elder took lead to invest labour in crop production, household work, and sharing the produced crops. The death of the family head resulted in a dispute over the inheritance and ownership of the property among the successors. The property that produced good crops attracted everybody and wanted ownership of the same. There were disputes among the

neighbours over the demarcations and even ownership of good cropland. The 'Khutkathidars' was enough to demark but not to prevent always. Jen R McIntosh believes that "Human beings started fighting once they innovated agriculture, attracted to fertile land and shared water to irrigate those lands". The neighbours used to indulge in quarrelling over land boundaries; one used to occupy the land of another. The Santal beliefs are explicit that the "Deka Hapam,s would not have too much hassle for lands. But the development of agricultural land became a source of contention. Even the conflicting groups were also occupying the mouzas of their villages. Even today they carry that legacy in their songs. "Beret Beret Beret -----". That is, get up, friend; Wake up! 'Kayara' and 'Badolira' from another 'Desh' (country) are dying. Fighting for land boundaries. Dying for capturing the ownership of water docks." It is reasonable to assume that they fought for possession of agricultural lands and crops that began in Bengal during its innovation, at least 9,000 to 11000 years ago. Still, the Santals and Birhor clans call the Aryan-originated people 'Diku' (Decoit, invader, not a human being). The horse-keeper Aryans indulged in fighting against the natives for occupying agricultural lands on many occasions, mentioned in the Vedas and ancient epics.

Cattle Liftings

People of Bengal experienced the ceases of cattle lifting in the ancient period frequently. They were highly dependent on agriculture, and needed cows for cultivation, also the Aryans, were alluded to the cattle. "Cow was the means of exchange, even used as a compensatory allowance for crimes like murder, So, cow lifting was a common phenomenon, especially the Aryans did it frequently. Gangapaddhaya (2000) thinks that the Aryans used to snatch the cows from the farmers since they required those for sacrifice (Yasna); they needed 600 cows for a single sacrifice, and also gifted some to the Purohits (Religious leaders).

Human Sacrifice. The Aryans and Non-Aryans, all believed that the God of war could be satisfied if the life and blood were sacrificed before the war started and would bring an extra advantage if the God(s) were satisfied. Leiden Brill argues that the kings used to sacrifice human beings (Narabali), to satisfy their respective Gods, especially before the war. They believed that they could win if the Devta was happy. Jan. N. Bremmer, (2007) believes that ‘Narabali’ was also present in ancient Bengal. Hiuen Tsang experienced decoits’ engagement in killing their targets in the name of sacrificing for God.



The Self-Immolation of Wives (Satidaha). The females of south Asia were portrayed as ‘Aborodhbasini” (Blocked dwellers) and “Asujyasprisya” (confined to the Harem) in the Pillar addicts of Ashoka, in the third century BCE; yet illustrated in many erotic scenes on the terracotta plaques available in the Garhs, especially in Chandraketugarh, developed in second and first century BCE. The Gauri-Kalinga war, the Massacre of Ashoka in Pundra, and mass displacement took place meanwhile to change the scenario of Jain-Buddhist-Ajivik inhabited Bengal. The Satidaha or self-immolation of wives started during that juncture and continued thereafter here in Bengal.

Justice System in Pristine Bengal

According to the caste custom; before testifying in court, the Munda witness had to swear in the name of Panch, saying, “Sirmare- Singambonga Otere Panch” (the sun god is in the sky, the panchayat on earth)”. Sometimes the village court consisted of the heads of five, sometimes seven villages to mitigate inter-village disputes due to land or any other reason. People from one village would get involved with people from another village, and those led to a system to resolve it. A committee consisting of several village chiefs would seat together for a solution. The Santals called this committee ‘Baisi,’ or ‘Ba-E-C’. Justice and peace were established based on their consensus. People had the opportunity to direct display evidence. Presentation of pieces of evidence, debate, discussions, and arguments, were wide open there on a quasi-formal approach. Conflicts were predominantly considered as a two-person fault, stating one hand cannot make a clap. So, the juries always analyzed the role of both parties and both could have been punished as per the merit of their offence. The verdict always concluded by aiming at social peace and harmony, so that the disputed parties could erase the anger and its causes from their minds, and ties, and mutual respect could be established again. It can be considered a win-win verdict; for the disputing parties and society. “Any aggrieved, not satisfied in village community trial, people had the right to report his case to the Parganait who could go against any verdict pronounced at the village level by any Manjhi (headman) or council of elders. Before making his decision, the parganait might submit the wrongdoer to an oath or an ordeal; he can also give him a chance on the payment of a fine”. The Munda’s history, and Santal popular stories, divulge that the village leaders resolved the dispute initially until the aggrieved people were dissatisfied and headed toward Pargana Baisi, or Labor Baisi the latter was the supreme judicial institution of state mechanism in Prehistoric Bengal.

Raise of Rajas

Robert L. Carneiro, (2003) theorizes that “the rise of the first states in Egypt, Mesopotamia, and Peru were linked to increasing conflict between neighbouring villages once it was no longer possible for the villagers in one sector to cultivate land sufficiently to feed their hungry.” Bengal does not have different stories. It was the sacred responsibility of the village chiefs to resolve unwanted and unnecessary disputes and conflicts. The inter-village conflicts also took place in ancient Bengal and their resolutions, festivals, and rituals led to the extension of understanding, and leadership beyond its territories with time. The Munda, Santal, Birhor, and Chero, the ancient peoples of this country, all have legends about the development and evolution of society. They had an almost identical system of governance. At that time leadership was placed under panchayats, village administrators; responsible for 5/7 villages’ public safety, peace, tranquillity, and justice. Twelve to thirty villages were formed under one feudal lord. The names and identities of those feudal systems were different in nature. The feudal lordships of Munda were called the ‘Parha’ council. The Santals’ feudal lordships were called ‘Ba-e-si’. The feudal lordship of Birhor and Cherode was called ‘Jatipaksha’. The heads of this feudal system were called ‘Raja’ (kings). These Rajas took responsibility to protect their people both from internal and external threats. Later the Santals developed a larger administrative structure. There was ‘Pargana ‘Disham ‘. Some of the places, e.g., 24 Pargana (West Bengal), are still carrying the proof; some administrative units are changed during Mughal and British Rule. The head of the pargana was called ‘Parganait’ or ‘Desh Majhi’. The head of ‘Disham’ or Desh was also called ‘Raja’; For example, Pandu Rajar Dhibi after Raja Pandu, Chandraketur after the feudal king Chandraketu, Pundranagar, or Mahasthan Garh after the Asura king Pundra, Bangarh after the Raja Bana Asur, and Wari-Bateshwar after the Raja Asom. A few ancient historical territorial units, like Pundra or Pundravardhan, Bongo, Rarh, Samatat, and Harikel are well-identified ancient states in Bengal. Atul Sur believes that the state mechanism developed in Bengal at least 2450

years BC. Hossain, (2019) denotes that “it is being evident that Bengal Janapadas were parallel to Sindh civilization, even earlier. Surely, those Rajas took all sorts of measures to ensure public safety, which requires further research to unearth.



Source: [https://upload.wikimedia.org/wikipedia/commons/2/2bYaksha Gomukha and his beloved.jpg](https://upload.wikimedia.org/wikipedia/commons/2/2bYaksha_Gomukha_and_his_beloved.jpg) (Gomukha and Cakreswari, the first king and queen of Jains)

Recommendations

Based on a literature review, a study of the archaeological, iconographic pieces of evidence, and secondary data the following measures are recommended to enhance knowledge of public safety management at the grassroots level of society:

- Ministry of Home Affairs may update its strategic information for identification, interpretation, and evaluation, of mass people's engagement in the public safety process.
- Police Headquarters of Bangladesh may evaluate the role of people engaged themselves in ensuring their safety, the underneath factors that engross or detached them from playing a proactive role, need to be assessed time and again.
- The present day's policy planners and strategists may be well benefited to focus on the future by setting, analyzing, and evaluating past and present happenings. The law enforcers of present Bangladesh too would be well aware of its past happenings that began at the beginning.
- Analysts would be able to enhance conception and focus on these issues to develop a comprehensive and strategic roadmap for a better understanding of society, its evolutions, previous happenings for policy and strategy of community, and 'beat Policing'.
- Academicians also may consider this work to construct the missing links in the ancient history of Bengal.

Conclusion

All the historical events contain some unique lessons within their narratives; those are self-explanatory. The primitive and post-pristine people of Bengal by good practices laid a perfect platform to develop a culture of maintaining order in the society by engaging themselves, safeguarding their life and property through mutual trust, respect, and upholding the dignity of the people living in the society for prevention and detection of crimes and for establishing peace and harmony, need to be assessed and evaluated by the present generation.

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Author

Deputy Inspector General Md Nazrul Islam, NDC, was born in Chapai Nawabganj and attended Mirzapur High School and Rajshahi College. He completed a BA (Hons) and MA in Mass Communication and Journalism from the University of Dhaka. He joined BCS (Police) in 1995 through the 15th BCS. During his long 26 years, he provided security services in 8 districts, namely Gopalganj, Jhinaidah, Khulna, Natore, Narsingdi, Netrokona, Chuadanga, and Jamalpur. He also served in Dhaka and Khulna Metropolitan Police. Nazrul provided Public Safety for the mass people in Netrokona, Chuadanga, and Jamalpur districts as Superintendent of Police. He also served as an Additional DIG in the Sylhet range. He worked as a peacekeeper for two and half years under the United Nations Missions in Kosovo. Nazrul became the founding AIG Media for Bangladesh Police; formulated the ‘Media Guideline’ for his organization. He attended all the compulsory training for BCS (Police) officers and attended 11 training courses organized by UNMIK. Also attended in ‘High Defense Course’ in Spain, the ‘Crisis Management’ workshop in Australia, and the ‘Senior Staff Management Course’ at Police Staff College, Mirpur. Currently, he is pursuing a Ph.D. at the Bangladesh University of Professionals.

ROLE OF NAVY IN PURSUING NON-TRADITIONAL MARITIME SECURITY CHALLENGES – INDIAN PERSPECTIVE

Commodore Jai Bedi, ndc

Introduction

If the last two centuries saw nations jostling globally for control of land and terrestrial resources, the 21st Century is witnessing a scramble for control and influence over the maritime domain and undersea resources. The proliferation of activities for exploiting and extracting undersea resources in the decades following the demarcation of Exclusive Economic Zones (EEZ) by the United Nations (UN) has led to an increase in maritime activities. The unprecedented globalisation and rise of multinational conglomerates, coupled with the decentralisation of international trade and commerce has also introduced many private entities into the maritime domain.

Despite formulating regulations, the UN upholds the underlying principle of the seas being ‘global commons’ which makes the implementation of laws difficult. An unregulated and vulnerable maritime domain is not desirable for global peace and stability. Intelligent non-state actors can exploit the gaps in international and state-based maritime laws, operate below the threshold of conventional warfare and fulfil their aims, as has been demonstrated by Grey Zone operations in the South China Sea, conflicts in Yemen, Niger Delta and piracy incidents near the Horn of Africa, to name a few. The need for synergy and coordination in conducting maritime activities while safeguarding each stakeholder’s national interests is paramount.

Although the nature of maritime interests has evolved from traditional to non-traditional areas, the existing security apparatus remains traditional. Navies are inherently designed, trained and equipped for inter-state conflict.

Although navies have performed diplomatic, benign and constabulary roles in the past, they have started giving greater attention to these aspects only recently, mainly due to the decline in conventional naval warfare and increased commercialisation of oceans. This paper examines the necessity of military involvement in non-military maritime security issues and the impact of such involvement on the navy's ability to perform its primary military roles.

Methodology

Given the nature of the subject, the study is qualitative and non-experimental. It is descriptive and analytical in the sense that it examines facts and opinions to draw inferences from them. To provide a context, the maritime domain of the Indian Ocean Region (IOR) has been considered and the Indian and Bangladeshi maritime security models have been examined. Only information has been utilised. There is sufficient open-source literature available on the current non-traditional maritime security challenges in the IOR. Annual Reports of Governments of IOR nations, UN organisations and maritime security mechanisms in IOR provide substantial statistical data on incidents and initiatives in the region.

Maritime Security Challenges in IOR

Piracy and Armed Robbery. Piracy and Armed Robberies at sea are a significant maritime challenge in the IOR and incidents are regularly reported off the Horn of Africa, Gulf of Aden and Malacca Straits. As piracy off the Horn of Africa increased alarmingly in 2007-2008 due to the Somali influence, UN authorised international response mechanism was constituted through the deployment of multilateral naval forces for conducting counter-piracy patrols in the Indian Ocean region (UNODC, 2021).

Maritime Terrorism. Maritime terrorism has emerged as a significant security threat in the IOR, especially in the eastern part of the Arabian

Sea and East Africa. In the IOR and Indo-Pacific regions, Al Qaeda, Al-Shabaab and ISIS are believed to have a maritime component, mainly operating around the Horn of Africa and Somalia. LTTE Sea tigers in Sri Lanka had repeatedly demonstrated terrorism at sea and ashore. The use of the sea by Lashkar-e-Toiba for a terror strike in Mumbai in 2008, opened up the possibility of further attacks from the sea. Terrorists have also used the maritime domain for attacks on maritime security forces in recent years. Some examples include the attack on USS Cole in Aden in 2001, Tehrik-i-Taliban Pakistan and Al Qaeda attacks on Pakistan Navy's biggest establishments in May 2011, and efforts by Houthi rebels to add a maritime dimension to their offensive against Saudi Arabia and UAE.

Contraband Smuggling. Contraband Smuggling is an umbrella term for various occurrences of illicit commodity transfers. It includes narcotics, weapons, exotic and restricted wildlife and natural resources, prohibited fuels, tobacco, and undeclared domestic goods. Apart from perpetuating criminal activity, contraband smuggling leads to the proliferation of harmful substances and creates an adverse social effect on target populations. It has the potential to impact local economies, promote tax evasion, and customs fraud corruption, leading to moral, social, and economic degradation of society. Additionally, the profits are utilized for funding international criminal activities, insurgencies and even terrorist organisations (IFC-IOR, 2020).

Human Smuggling and Human Trafficking. Human smuggling and trafficking are prevalent across IOR, where most countries are either underdeveloped, developing or middle-income countries. People in these countries seek illegal immigration to developed countries for better employment prospects or to escape persecution from their governments. The Rohingya crisis in Myanmar has been a boom for the human smuggling industry in the IOR, especially through the maritime route. It has even given rise to terms like "Internally Displaced People" and "Boat People", referring to migration from the sea route to friendly shores.

Drug Trafficking. Drug trafficking is a very lucrative business worldwide. The IOR is home to two of the largest global zones of drug production and proliferation. The first zone, popularly known as the “Golden Crescent”, involves illegal heroin production in Iran, Afghanistan and Pakistan. The second commonly referred to as the “Golden Triangle”, straddles Laos, Thailand and Myanmar and is among the largest opium production regions worldwide. Heroin produced in the Golden Crescent is transported by sea from Central Asia through the Arabian Sea westwards towards the Atlantic and eastwards towards the Pacific regions. The Golden Triangle mainly produces methamphetamines, which are smuggled as the highly addictive Yaba pill into South and Southeast Asian countries through internal waterways and over land, to global destinations.

Illegal Unreported and Unregulated Fishing (IUUF). IUUF refers to a broad spectrum of fishing activity which is not conducted or reported in accordance with existing regulations and which violates rules for fishing gears, methods and mandatory reporting. The increasing global demand for fishing and influx of extra-regional fishing agencies places vulnerable coastal communities that principally rely on the ocean for their livelihoods, at greater risk. It has become a serious problem in the IOR and a recent assessment indicates that 30% of the Indian Ocean’s assessed stocks are not fished within biologically sustainable levels (IFC-IOR, 2020).

Marine Pollution. Marine pollution is the entry of harmful or potentially harmful chemicals into the ocean. Ships are required to abide by the International Convention for the Prevention of Pollution from Ships (MARPOL) and regulations imposed by coastal states under UNCLOS Articles 210 and 211. However, implementation remains a challenge, especially on the high seas. 80 per cent of non-biological marine pollution is due to land-based activities and marine accidents.

Marine Accidents. Marine accidents pose the greatest threat due to the quantum and extent of damage which can be caused by a single accident. Such incidents have risen sharply in the IOR in the past few years. The

grounding of the Japanese crude carrier, MV Wakashio off Mauritius in July 2020 and the fire onboard MV New Diamond, off Sri Lanka's east coast in September 2020, took many ships from the regional navies and Coast Guards to tackle the emergencies. The sinking of MV X-Press Pearl in May 2021 off Sri Lanka, caused one of the worst maritime disasters in history, forcing the Sri Lanka government to suspend fishing activity along a 50-nautical mile stretch of its coastline. As seaborne traffic and the variety of commodities transiting the IOR grows, marine accidents are likely to increase in times to come.

Climate Change. Extreme weather has already increased the prevalence of natural disasters, such as tropical storms, heavy rainfall and unpredictable natural phenomena like tsunamis. IOR has traditionally been vulnerable to all these events and the highly populated coastal areas are at great risk. The frequency and severity of cyclones in the Bay of Bengal and the Arabian Sea have considerably increased in the past few years, causing widespread loss of life and property. It has also propelled maritime security agencies and disaster management authorities to respond more often, even at the cost of disrupting their primary roles and other mandated tasks.

Addressing Maritime Security Challenges in IOR

Regional Forums

IORA. Indian Ocean Rim Association (IORA) is an international forum that consists of 23 coastal countries bordering the Indian Ocean and nine dialogue partners. Previously named the Indian Ocean Rim Initiative and Indian Ocean Rim Association for Regional Cooperation, it is a government-level organisation designed to promote regional cooperation and development in the region. IORA has organised many events to bring together various stakeholders in its priority areas and has also published several documents and compendiums on issues of concern. However, most of its achievements have been limited to the fields of fisheries management, tourism and women's economic empowerment. Although it

constituted the Indian Ocean Dialogue (IOD) in 2014 to address maritime safety and security concerns (IORA, 2017), there have been no tangible outcomes or progress in this field as a consequence of IOD activities.

ARF. ASEAN Regional Forum (ARF) has advocated an ambitious three-stage vision, namely confidence building, preventive diplomacy and conflict resolution, for promoting regional cooperation. However, due to the divergent interests of its members, the forum has struggled to advance beyond the first stage itself. Often dismissed as merely a ‘talk shop’, ARF has little to show in terms of achieving success in regional security issues, much less maritime security issues.

UNODC. UN Office on Drugs and Crime (UNODC) is the most comprehensive forum that addresses maritime security challenges in IOR. It focuses on drug and human trafficking, smuggling and maritime crime. It has published several reports and policy documents globally and regionally. However, despite its stated aim of functioning through regional forums, UNODC has mainly operated on a one-to-one basis with national governments, according to the issue at hand. Nevertheless, it remains the most legitimate and established global forum for addressing maritime security challenges collaboratively and could be tapped to a greater extent by IOR littorals (UNODC, 2021).

SAGAR. Security and Growth for All in the Region (SAGAR) is India’s policy or doctrine of maritime cooperation in the IOR. SAGAR aims to address coastal security, economic trade and maritime security through capacity building, collective action to deal with natural disasters and maritime threats, and sustainable regional development through enhanced collaboration. The SAGAR initiative is seen as a means for India to leverage the Blue economy and enhance connectivity with its neighbours. However, there is significant scope for pragmatic refinement to improve its maritime focus and formulate concrete, result-oriented maritime policies which offer inclusive solutions that can effectively harness the benefits of maritime cooperation. If strengthened and accepted by other stakeholder nations,

this initiative has the potential to become the overarching cooperative maritime security framework in the IOR (Kanodia, 2020).

Other Forums. The other major regional forums, namely SAARC, ASEAN and BIMSTEC are mainly focused on the economic and social growth of their members. Though they mention Blue Economy occasionally to highlight the prospects of maritime trade and fishing, there is no evidence of any discourse or roadmap from these organisations on dealing with maritime security challenges in the region. Notably, the UNODC claims to work through SAARC but there is no mention of this in any SAARC publication or initiative.

Maritime Security Initiatives

Indian Ocean Naval Symposium (IONS). IONS is an open forum for 32 member navies of IOR and eight observer nations, for discussion and cooperation on regionally relevant maritime security issues. The main objectives of the IONS are to formulate maritime strategies, strengthen littoral countries to address the maritime challenges, establish and promote mechanisms designed to mitigate maritime challenges in the IOR. It also aims to develop interoperability in doctrines, procedures, and operational processes and promote the development of regional capacities for expeditious and effective responses to humanitarian crises to provide disaster relief throughout IOR (Navy, 2012).

South Asia Regional Port Security Cooperative (SARPSCO). SARPSCO is a grouping of Coast Guard representatives from nine IOR countries, including India, Bangladesh, Pakistan Maldives, Sri Lanka, Madagascar, Mauritius, Oman and Comoros Island. for ensuring the safety of cargo containers and international seaports from terrorist strikes (Bhattacharya, 2008).

US-Led Initiatives. The International Ship and Port Facility Security (ISPS) Code of 2004, promulgated through International

Maritime Organisation (IMO), is a set of measures for governments, port authorities, shipping companies, mariners and shore facilities, to ensure preventive measures against security threats to ships and port facilities used in international trade. The Container Security Initiative (CSI) and Proliferation Security Initiative (PSI) aim to monitor the movement of shipping containers and fissile material which could enter the USA through the maritime route.

Maritime Domain Awareness Initiatives

Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP). ReCAAP is a government-to-government agreement for promoting regional cooperation in Asia, against piracy and armed robbery at sea. The ReCAAP Information Sharing Centre (ReCAAP ISC) in Singapore, collates and shares information on incidents of piracy or armed robbery and coordinates assistance through the nearest coastal state. The success of ReCAAP can be gauged from the fact that the number of piracy incidents reported in and around Southeast Asia reduced from 276 in 2005 to 95 in 2020 (IFC-IOR, 2020).

Information Fusion Centre – Indian Ocean Region (IFC-IOR). India has instituted the Information Management and Analysis Centre (IMAC) and a joint IFC since 2018, as a maritime information hub open to international partners, to strengthen maritime domain awareness. (Centre, 2018). So far, IFC-IOR has secured White Shipping agreements with 36 countries and three multilateral constructs. Currently, the IFC-IOR monitors thousands of vessels a month (an average of 36,830 in 2020) and produces a monthly summary and analysis of maritime security incidents across all four major sectors of the Indian Ocean (Thakkar, 2021).

Regional Maritime Information Fusion Centre (RMIFC). The RMIFC in Madagascar is an outcome of the Programme to Promote Maritime Security funded by the European Union. The centre shares and fuses information on maritime security and safety matters for Western

IOR and covers issues like violence at sea, illegal fishing, smuggling and contraband at sea, irregular migration at sea, and maritime safety incidents. RMIFC is part of a structure that also includes a Regional Coordination Operational Centre (RCOC), which is located in Seychelles (Jeulain, 2019).

European Maritime Awareness in the Strait of Hormuz (EMASOH). The EMASOH is a European initiative to monitor maritime activities in the Persian Gulf and the Strait of Hormuz and support freedom of navigation in the region. It operates its maritime surveillance assets in the Persian Gulf and the Arabian Sea and aims to safeguard the freedom of navigation by ensuring coordination and information sharing among all partners operating in the area (Danish MoD, 2021).

Anti Piracy Initiatives

Gulf of Aden and Horn of Africa. From 1992 to 2006, Asia was regarded as the region most affected by piracy. Piracy off the Horn of Africa also reached alarming proportions in 2007-2008, leading to a major global anti-piracy operation in the Gulf of Aden. This action manifested through the UN-mandated deployment of multilateral naval forces to conduct counter-piracy patrols in the Red Sea, Gulf of Aden and Horn of Africa region and provide a secure and safe transit corridor for vessels. Combined Task Force (CTF) 151, which comprises ships from more than 20 countries, is responsible for the conduct of these operations and has 14 to 15 ships on the task at any given time. Pirate attacks have reduced considerably in the Gulf of Aden, the Red Sea, and off the Horn of Africa due to successful military operations by the CTF (CTF, 2021).

Malacca Strait Patrol (MSP). The Straits of Malacca and Singapore (SOMS) account for over 70 % of Asian oil imports and 50 % of global seaborne trade. The Malacca Straits Patrol is combined surveillance and patrol of SOMS, undertaken by navies from the coastal states of Singapore, Indonesia, Thailand and Malaysia. The MSP has been instrumental in curbing maritime threats and reducing the risk level grading of SOMS

since 2006, mainly due to its successful sea and air patrols in 2004 and 2005 respectively (MINDEF, 2018).

Actions against other Non- Traditional Threats

Actions against Contraband Smuggling and Maritime Crime.

Countries They have enacted various laws and raised security forces to protect their offshore wealth including oil, fish and minerals, provide assistance to mariners in distress, safeguard life and property at sea, enforce maritime laws concerning the sea, poaching, smuggling and narcotics, preserve the marine environment and ecology and protect rare species. The Coast Guards of littoral nations carry out constabulary roles, provide maritime SAR and undertake operations to disrupt drug trade from the Golden Crescent and Golden triangle regions (ICG, 2021).

Actions against IUU Fishing. Initiatives like the SWIO Fish project in Tanzania, Comoros and Mozambique, and the Fisheries Transparency Initiative (FiTI), aim to identify endangered and targeted species in specific regions and increase transparency and participation for more sustainable management of marine fisheries. Countries like Bangladesh, India, Mozambique, Bahrain and Oman impose seasonal bans on fishing-specific species to prevent excessively and discriminate fishing. Iran, India and the Philippines have also passed regulations to curb IUU fishing off their coasts (IFC-IOR, 2020). Monitoring and reporting of IUU fishing in the region, especially on the high seas, remains another weak area as Maritime Domain Awareness remains the biggest challenge for IOR nations.

Actions against Illegal Human Migration. The Rohingya crisis has greatly contributed to the increase in the number of refugees and asylum seekers fleeing the region, mainly towards the Red Sea, Southeast Asia and the Far East. The Bangladesh Coast Guard rescued over 750 persons in three separate incidents, from April to May 2020. The Indian and Bangladesh coast guards have undertaken a number of joint exercises and information-sharing measures to mitigate this occurrence (IFC-IOR, 2020).

Actions in Natural Calamities. Since the 2004 Tsunami, the IOR has witnessed a large number of natural disasters from the sea. Cyclones have hit the coasts of Myanmar, Bangladesh and India almost every year. IONS constituted a Working Group (IWG) on Humanitarian Assistance and Disaster Relief (HADR), which has developed standard operating procedures and communication protocols for member countries to coordinate these activities. HADR remains a major concern and a recurring maritime challenge for all littoral nations in the IOR.

Challenges for Maritime Security Agencies

Limitations of UNCLOS. Implementation of UNCLOS in the era of globalisation remains a challenge. Imagine a crude carrier transporting oil from Nigeria to Malaysia, transiting through the IOR passing 10 nm south of Sri Lanka and onwards east through the Malacca Straits. The ship was built in South Korea, is owned by China and is registered in Panama. It has a Swedish national as its master and a multinational crew from India, Bangladesh and the Philippines. In case the ship has an accident off Sri Lanka, or is attacked by pirates in Malacca Straits, who would be responsible to pay for the ecological damage or the ransom? Which states would be considered the legitimate responders to maritime pollution or anti-piracy actions? These questions have no clear answers and remain grey areas in the implementation of UNCLOS, especially since it recognises only states as legal entities. These loopholes have been exploited previously for tax evasion and corporate matters but their potential for misuse by criminal organisations and non-state actors in the maritime domain cannot be ruled out.

Legal Issues against Piracy. During the initial years of counter-piracy operations in the IOR, there was no clear mechanism of criminal accountability for suspected pirates intercepted at sea. Coastal states had weak anti-piracy laws, dubious procedures for the trial of crimes committed beyond national jurisdiction and ineffective mechanisms for criminal prosecution. Finally, the UNODC Maritime Crime Program devised a framework which enabled the prosecution of suspected pirates by coastal states, which has provisions for action by coastal States, military forces and

international and regional organisations. (UNODC, n.d.). The term ‘petty theft’ has also been added under the aegis of ISPS to enable coastal states to handle petty theft in areas under their jurisdiction (Shipping, 2008).

Force Structure and Organisation. The organizational structure of a sea-going force is designed around creating optimal effectiveness at sea during the conflict. Many navies have promulgated their maritime doctrines and formulated perspective plans for capacity building and capability enhancement, according to their perceived maritime security concerns. However, budgetary constraints and greater emphasis by governments on land forces limit the force accretions mainly to those vital for conventional threats. This implies that platforms will be equipped for their traditional tasking and the crew will be trained accordingly. A non-traditional tasking undertaken by the navy, therefore, would compromise either the tasking or the navy’s operational requirements.

Training. While it is impractical and unaffordable to presume that a dedicated maritime security force should be set up for non-traditional security tasks, some viable solutions must be sought. These could include training capsules for handling non-traditional threats, as well as the incorporation of additional personnel specialising in maritime law, forensics, maritime surveillance, intelligence and information sharing.

Role of Coast Guard. There is often a reluctance on part of Coast Guards to take full responsibility for their mandate, citing limited resources. They tend to limit their operations to coastal areas and concentrate mainly on regulating SAR, fishing activities and marine pollution within the EEZ. Since a large number of maritime crimes and illegal activities occur on high seas beyond the EEZ, the Coast Guard, which is mandated with constabulary authority and power of arrest by law, should be equipped to intervene effectively on behalf of a coastal state.

Maritime Domain Awareness. Cooperative engagement is the only way to effectively monitor the vast expanse of the IOR for illegal maritime activities. The ReCAAP, IFC-IOR and RMIFC have enhanced transparency

and awareness of the maritime domain within IOR considerably. However, there are still many littoral nations that do not participate in these initiatives. The lack of awareness among the common populace and sea blindness of policymakers of coastal nations causes them to concentrate on land-based issues over maritime issues. The challenges of operating in the ocean medium and the achievements of maritime security agencies in facing man-made as well as natural calamities at sea, need to be highlighted.

Capacity Building for HADR, Salvage and Medical Aid. Due to budgetary constraints and limited utility, most navies refrain from investing in platforms capable of carrying out HADR, salvage operations and medical duties, thereby deploying warships to either undertake or supplement these efforts in times of natural calamity and disaster. Under the aegis of IONS, it may be prudent to develop a regional capability shared among participating nations, where one or more navies or coast guards could procure salvage ships, submarine rescue vessels, hospital ships and cargo carriers. Private companies could also be encouraged to develop these capabilities and lease them to maritime security agencies on an ‘as required basis’ to augment benign roles.

Maritime Accidents. The last two decades have seen a significant rise in the number of warship and submarine disasters as well. These have exposed the inadequacy of submarine rescue and maritime salvage capabilities globally (Tribune, 2021). As more navies in the IOR acquire submarines and expand their navies, the availability of salvage and rescue vessels and technology in the region would require greater attention.

Recommendations

- Effective implementation of the SAGAR initiative, which provides an overarching framework on all major aspects of maritime security, would be key to the IOR’s response to NTS threats.

- Enhance collective maritime competence in IOR through cooperative surveillance and monitoring of NTS threats not only by state-owned means but also by private agencies, NGOs and UN-backed initiatives.
- Strengthen IONS by focusing on deliverables which effectively enhance maritime security. Share responsibility and authority by creating functional sub-groupings with expertise and capability to tackle specific challenges.
- Establish linkages between IORA and IONS by combining diplomatic and military efforts for better cooperation among member nations.
- Enhance information exchange between IFC-IOR and ReCAAP for better regional Maritime Domain Awareness.
- Launch a regional initiative through IORA to plug loopholes in UNCLOS III, especially in IUU fishing, contraband trade and marine pollution.

Conclusion

The maritime security institutions and forums have a formidable task in tackling non-traditional security challenges in IOR. UNCLOS III also has some limitations in implementation, which increases the difficulty of ensuring ‘good order at sea’. However, the majority of national and international agencies involved in maritime security act according to their respective priorities instead of a larger, coherent purpose. If navies also refrain from proficiently discharging their constabulary and benign roles, the seas would become more susceptible to exploitation by inimical forces. Limited budgets, a collective legacy of sea blindness, and critical human and economic development compulsions will continue to limit the growth and diversification ambitions of military forces in the region. Enhanced effectiveness of IONS, SAGAR and IORA hold the key to future success. It is, therefore, imperative that IOR nations and maritime security agencies adopt a collective approach through cooperative mechanisms to develop

capacities to effectively tackle non-traditional maritime security challenges in the region.

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Author

Commodore Jai Bedi was commissioned into the Indian Navy on 01 July 1994. He is a Navigation and Direction specialist and has held various specialist appointments on frontline warships. He has commanded the guided missile destroyer INS Ranvijay and missile boat INS Vinash. He also served as Executive Officer and Principal Warfare Officer of the guided missile frigate INS Trishul. His staff appointments include two tenures each the naval headquarters and at a joint services Command headquarters. An alumnus of 84th National Defence Academy Course, he has done 64th Staff Course at Defence Services Staff College, Wellington and 29th Naval Higher Command Course at Naval War College, Goa. He has also been an instructor at Navigation Direction School, Kochi and Directing Staff at DSSC, Wellington. The officer participated in National Defence Course 2021 at NDC, Bangladesh. His educational qualifications include one MPhil, two Master of Science, one Master of Social Science, and one Bachelor of Science degree. He has also a qualified Associate Professor in Defence and Strategic Studies. The officer is a keen sportsman and plays Tennis and Golf. He likes reading and is fond of travelling and music.

CLIMATE CHANGE AND FOOD SECURITY IN PAKISTAN - IMPACT ANALYSIS AND WAY FORWARD

Commodore Zahid Farooq, SI (M), ndc, nswc, psn

Introduction

Climate change is a worldwide phenomenon with its significant effects in South Asia over the past several decades, posing problems to food safety. South Asia is one of the most susceptible regions in the globe and is prone to disasters that account for 80% of the total population impacted by the catastrophe and 86% of the overall damage caused by the drought (Spijkers, 2011) but the dietary energy consumption has improved not enough emphasising the fact that the growth rate is not sufficient to tackle the emerging challenges in addition to population pressure. Ensuring food security in the future requires a great deal of additional efforts in yield improvement, with limited scope for expanding area under cultivation. FAO has revealed recently. This region is the home of the world's 1/5th population with the highest concentration of the world's poor (40%) and houses (45 %) of the world's undernourished population. Climate change projections have shown that the temperature in the region would rise by 3–4°C by the end of the 21st century (Spijkers, 2011) but the dietary energy consumption has improved not enough emphasising the fact that the growth rate is not sufficient to tackle the emerging challenges in addition to population pressure. Ensuring food security in the future requires a great deal of additional efforts in yield improvement, with limited scope for expanding area under cultivation. FAO has revealed recently (2008 and the occurrence of extreme events would intensify.

The overwhelming climate conditions in most of the poor nations are due to environmental pollution. Climate change, particularly in third-world nations such as Pakistan is becoming a fairly frequent phenomenon around

the globe. In the front lines, Pakistan is confronting regular yearly droughts and floods, particularly since 2010, despite being a small contributor to climate change. Pakistan is regularly cited as one of the top ten countries affected by extreme climate events although it is simultaneously identified as one the countries, most affected by climate change (Govt of Pakistan, 2020, p.305). Pakistan only contributes 0.8% of global emission which means that it is not the main contributor to global warming (2010, p.13). High levels of food and nutritional insecurity complement the hazards that face it. As climate changes, weather patterns become more frequently & unpredictable with extreme climatic disasters will raise food insecurity rates to even higher levels.

Pakistan is an agrarian country of more than 220 million people and according to Pakistan Economic Survey 2020-21, agriculture contributes 19.2% to Pakistan's GDP, employs 38.5% of the labor force and provides livelihoods to 65-70% of the population of the country (Ministry of Finance, 2021, p.17). Apart from other factors, climate change is posing a greater challenge in retarding agriculture development to around 2.77% against the target of 2.8% and once compared to preceding years (Ministry of Finance, 2021, p.18). As evidenced in important policy materials like the National Development Plan, and Vision 2025, food security is, therefore, a critical priority for Pakistan. Thus, it must also be a priority to address climate concerns regarding food security.

Over time, agro-climatic conditions and livelihoods have improved, which will enhance food security, however, COVID-19, severe monsoon rain and floods, and rising food prices have been somewhat offset by this improvement in 2020/21.

Objectives

The objectives of the research are:

- To understand the nature and extent of climate change in Pakistan.

- To understand the relationship between climate change and food security in Pakistan.
- To understand the impact of climate change at various AEZs and the livelihood of the population with their adaptation capacity in the face of food insecurity in Pakistan.
- To identify a set of recommendations to enhance the adaptive capacity of the agriculture sector for food secure Pakistan and mitigate climate-related food insecurity among the most vulnerable population of Pakistan.

Questions

The main research question is “How the climate change in terms of changes in temperature and precipitation will impact Food Security in Pakistan?” The main question covers the elementary problem of food security resulting from climate change in Pakistan. In relation to the main research question, the supplementary research questions are:

- What is the nature and extent of climate change in Pakistan?
- What is the situation of food security in Pakistan?
- How the climate change under a rise in temperature and variable rain patterns interface with food security in Pakistan?
- What are the impacts of climate change at various AEZs and the livelihood of the population with their adaptation capacity in the face of food insecurity in Pakistan?

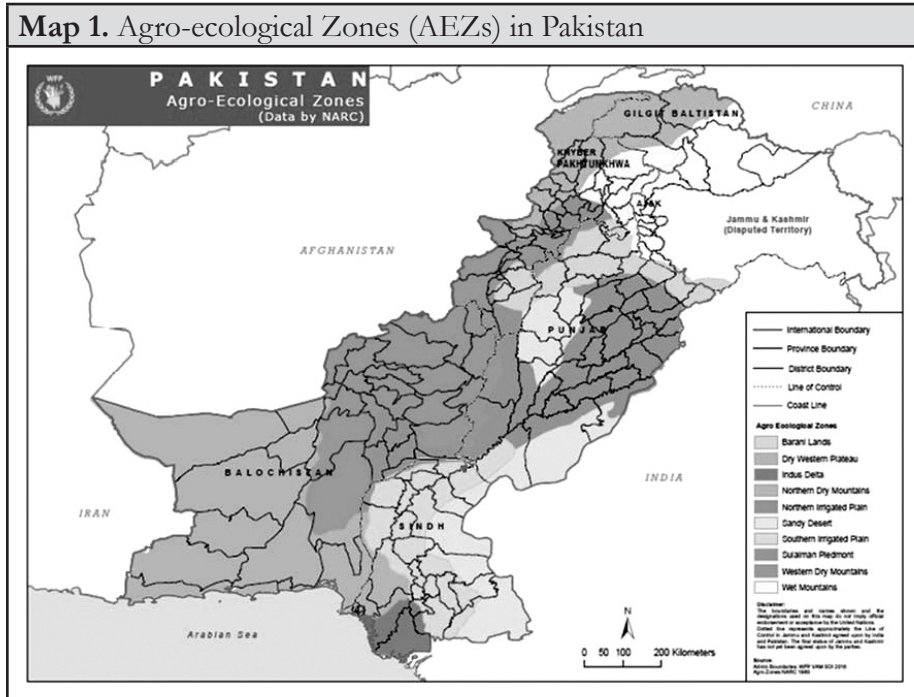
Methodology

This paper is primarily based on literature study and aimed to provide a logical understanding of climate change affecting food security in Pakistan, therefore, under descriptive research, a qualitative method/approach has been utilised. Using different qualitative research tools; the

secondary sources of data in the forms of books, surveys, reports and studies available from various sources have been examined and results are made part of the paper along with original data from conversations with stakeholders. Utilising spatial analysis for long-term climatic factors and food security indicators from global and national data sets to find “hot areas” for food insecurity. In addition, the consequences of climate change on agricultural output and food security have been determined, in particular, with respect to the application of production functions (Amin, Ahmad and Iqbal, 2013a).

The report is also strongly supported by talks with stakeholders to identify vulnerabilities in AEZs. It utilises local climate vulnerability knowledge in this manner. 10 agroecological zones are shown in the map below.

Map 1. Agro-ecological Zones (AEZs) in Pakistan



Vulnerability Maps

A participative mapping technique was utilised for the geographical analysis required to identify vulnerability. In order to validate the findings, the current dataset and literature have been compared with the local knowledge available in each AEZ through interactions with the local population.

Classifications of AEZs with respect to Vulnerability and Livelihoods

The degree to which a system can or cannot handle the influence of climate change, including climate variability and extreme circumstances, is characterised as vulnerability. The vulnerability analysis of the study is based on the methodology of the IPCC i.e. exposure, sensitivity and capability of the livelihood to climate change.

The study thus included markers on exposure and climate variability sensitivity, such as weather variability, extreme weather occurrences and weather/ intensity variations. The report utilised economic factors in determining the ability of adaptation to meet climatic hazards, such as rainfall dependence, non-agricultural income, occupational/cultural diversity, property ownership, and migrating options for livelihood groups and agroecological areas.

Scope and Limitations

During meetings with stakeholders, the vulnerability analysis is based on participant feedback. Moreover, the research does not provide a thorough list of livelihood activities in each agroecological area. Relevant secondary data were analysed in order to address these deficiencies and make the results more trustworthy. To ensure their correctness, they were compared with the results obtained from discussions with the stakeholders.

Results and Discussion

Relationship of Climate Change with Agriculture in Pakistan

One of the sobering findings of the IPCC report of August 2021 is that the polar and mountain glaciers are likely to continue to melt, irreversibly, for decades to come. Pakistan has more glaciers outside of the polar ice caps than anywhere on earth. The glaciers feed one of the oldest and most fertile valleys on the planet – that of the Indus Basin, split between India and Pakistan. Roughly 75% of Pakistan's population is settled on the banks of the Indus River. Its five largest urban centres are entirely dependent on the river for industrial, agricultural and domestic water. This makes Pakistan one of the top 10 countries most vulnerable to adverse climate change effects.

For the purpose of research and owing to the diverse climatic conditions, Pakistan has been subdivided into eleven geographical, ten agroecological and nine major ecological zones (Amir et al., 2011). The climate varies considerably across the nation, given its vastness and varied geography. While 75% of Pakistan's territory is made up of dry zones and is arid, a very minor proportion of Pakistan's land is humid. Moreover, due to the varying topography of the agricultural lands of the country, the temperature variation is also considerable resulting in cooler and warmer temperatures in the highlands and lowlands respectively. Rainfall follows the path of the summer monsoon from East to West, from India to Pakistan's Eastern belt, with a West depression from Afghanistan entering Northwest Pakistan in winter.

Research has demonstrated a rise in the average annual temperature of Pakistan, increasing rainfall unpredictability in recent decades, and increased and intensified climate-related natural catastrophes. These changes are projected to continue, leading to more regular climatic shocks, heat and water suppression conditions, with serious implications for agricultural production and food security.

Past Climate Trends

As a result of its diverse geography, temperatures fluctuate considerably across Pakistan. The Southern Sindh, Baluchistan, and Punjab average temperature between 1981 and 2010, was over 24°C. In the same period, the average temperature was 18°C in the North and North West (WFP. 2017b). Vulnerability Analysis and Mapping Unit, WFP Headquarters). Some of the hottest temperatures in the globe have been recorded in part of the nation. Studies have shown that Pakistan has raised its overall average temperature. (Mitchell et al., 2004) have shown that the average yearly temperature in Pakistan has increased by 0.6°C from the start of the 20th century using the multi-modelling system. Since the 1960s alone, temperatures have increased by 0.35°C, at the rate of 0.07°C a decade. In Sindh and Southwest Baluchistan, a more than average rise is noticeable.

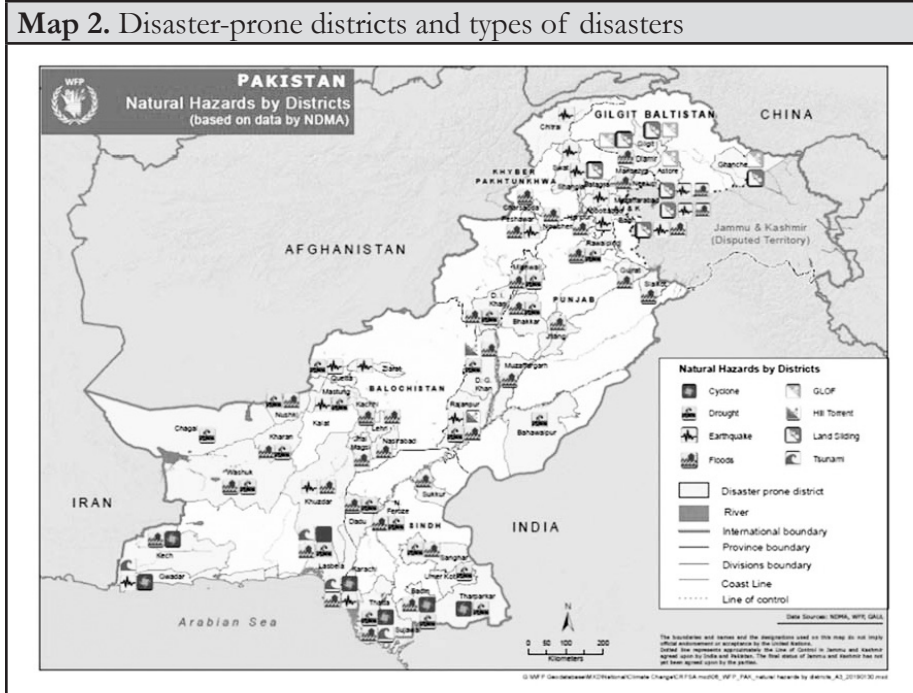
With regards to rainfall, its amounts vary from region to region annually. Northern areas receive more rain (1,000 mm per year) than the far drier south (200 mm). There are no significant changes in yearly precipitation levels generally; nevertheless, the rain patterns vary, and the seasonality in areas of Punjab and Sindh has somewhat changed. The past 20 years' data has demonstrated a rainfall shift towards the heart of the nation and South, with a marginal rainfall increase that is nearly negligible over the long run. (Haensler, Saeed and Jacob, 2013a) find that the total average annual precipitation in Pakistan increased slightly in the 20th century. Although there is a significant increase in rainfall (15-25%) in the North, especially during the monsoon season, in dry regions of Southern Pakistan the amounts of precipitation decreased. Drought in the late 20th century can be blamed. In Baluchistan, Sindh and erstwhile FATA average annual rainfall has increased, however in Khyber Pakhtunkhwa (KPK) and Punjab it stayed consistent (WFP. 2017b). Vulnerability Analysis and Mapping Unit, WFP Headquarters). In Pakistan's coastal areas and dry plains, declining precipitation amounts are seen.

The yearly monsoon causes significant precipitation in Pakistan in the summer. The fluctuation of the Monsoon has major ramifications in the agricultural sector of the nation, with the inter-seasonal and variable time-frames for monsoon precipitation. Survey shows how the maximum frequency of severe rainfall in Pakistan has occurred in 50 years and how more than 50 mm of rainfall has fallen daily. This indicates an 'active' shift in the behaviour of the monsoon's Southern belt. In the same area, the monsoon season's overall duration has decreased. Different rainfall patterns delay the seed-sowing period for various crops, extending the lean season for home farmers. This is rocketing food costs, causing food insecurity among impoverished households that are dependent on farm livelihoods. The effect is most evident in rural regions, where there are limited livelihood diversification possibilities.

Historical Perspective of Climate-Related Disasters

In the past 20 years, Pakistan has been affected by several climatic disasters. The frequency and intensity of severe climatic occurrences have risen compared to the time before 1995. Integrated Context Analysis (ICA)) shows regions that have been susceptible to natural catastrophes such as floods, GLOFs, drought, earthquakes, hill torrents, cyclones and tsunamis. National studies anticipate that in the next several decades these incidents will take place increasingly and more frequently.

Map 2. Disaster-prone districts and types of disasters

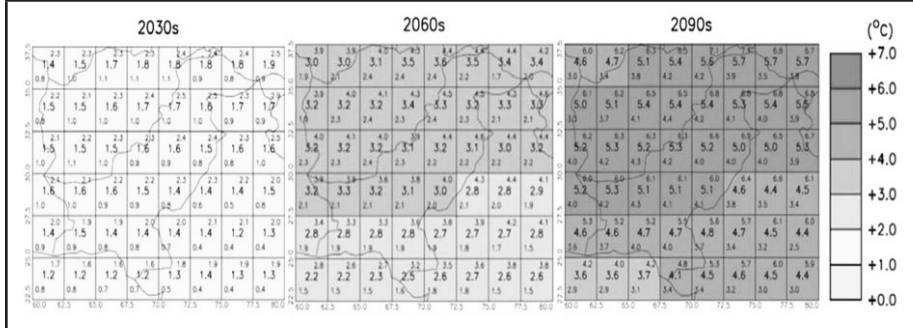


Future Climate Projections

In Asia, particularly South Asia, the Intergovernmental Panel on Climate Change (IPCC) anticipate increasing temperatures, severe precipitation and a shift in the monsoon season (Stocker et al., 2014).

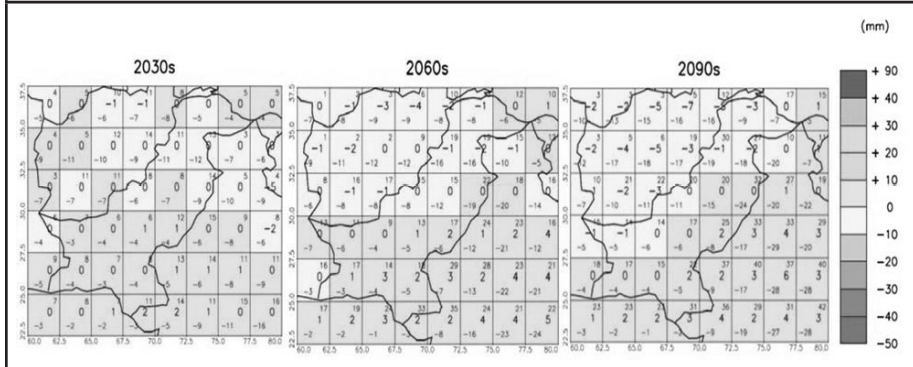
Pakistan's climate forecasts suggest that temperatures rise between 1.4 and 3.7°C by the end of the 2060s (Mcsweeney et al., 2010) shows a significant rise in the frequency of “hot” days and nights, as shown in Figure 1 and a decrease in “cold” times and nights. This pattern implies a substantial temperature shift over the course of this century, which is constantly increasing and covers half of Pakistan.

Figure 1. Mean annual temperature projections for Pakistan (°C)



Annual averages of rainfall also indicate a large number of positive and negative precipitation variations (figure 2) (McSweeney et al. 2010). By the end of this century, a decrease in average rainfall is anticipated across north and West Pakistan. Average annual precipitation will increase in the rest of the nation, by 10 mm in 2030.

Figure 2. Mean annual rainfall projections for Pakistan (mm)



The Condition of Food Security in Pakistan

Despite Pakistan's strong agricultural base, food insecurity is widespread wherein 18% of Pakistanis are undernourished and 44% of households consume less than 2350 Kcal per adult equivalent per day, the accepted normative standard set by the Ministry of Planning Development & reforms of Pakistan (2019, p.1). The state of food security and nutrition

in the world asserts that undernourishment affects 20% of Pakistan's population while the Global Hunger Index 2019 (GHI) estimates that 28.5% are undernourished. The GHI also notes that approximately 45% of Pakistani children under age 5 suffer from stunted growth. It ranks Pakistan 94th out of 119 countries, equating it among states with high incidents of hunger worldwide (Global Hunger Index Pakistan, 2019, pp. 1–2). The Economist's Global Food Security Index 2020 ranks Pakistan 80th out of 113 countries with an aggregate score of 52.3 out of 100 for food affordability, availability, quality, safety, natural resources and resilience. However, among countries in South Asia, Pakistan only performs better than Bangladesh on this index (2020, p.1).

Food security differences across the provinces of Pakistan and administrative regions are substantial. Households are relatively more food-insecure than those in the Punjab (37%), the Islamabad Capital Territory (ICT) and the erstwhile Federally Administered tribal areas (FATA) (69%) and the GB (68%) and the KPK (49%), Baluchistan (63%) and the Sindh (52%) (Mohamed, 2017).

The Interplay of Climate Change and Food Security

Pakistan's food security is particularly vulnerable to climate change. Changing weather patterns and climatic calamities have severe repercussions on agriculture, food supply, access to food, its use and food stability. For example, even little adjustments at the start of the sowing & harvest season might harm returns, lengthen the lean season, and increase people's dependence on the market. The first people in the harm way by climate change are a majority of the rural populace having sole dependence on agriculture for their livelihood and lack of alternate means of income.

Evidence shows the harmful impact on agriculture in Pakistan of climate change. For example, (Amin, Ahmad and Iqbal, 2013b) claim that total agricultural returns in the country are being lowered by climate change. Their investigations analyse the influence on agricultural production and

income per hectare of several climatic variables. The results conclude that the agricultural industry in Pakistan is considerably negatively impacted by climate change and weather shocks, thus necessitating a robust response by Pakistan to tackle the negative impacts of climate change on the food security of its populace.

As mentioned earlier in the paper, Pakistan is one of the most affected countries by climate change. Pakistan contributes only 0.8% of global GHG emissions, therefore, Pakistan is not a major contributor to global warming. However, Pakistan should concentrate on adjusting to changing climate by reinforcing population resilience and appropriate adaptive mechanisms. Strengthening food security and nutrition resilience should be a priority for development, focusing on vulnerable communities, especially the poor and rural and urban fragile or disaster-prone individuals. Their capacity needs to be improved on a variety of livelihood systems at various levels. This will need gender-neutral investment at the individual, domestic, communal, institutional and ecological levels looking after the interests of people from varied religious, social and cultural backgrounds. The strengthening of absorption, adaptation and transforming capacities might improve resilience (Bosetti, Ivanovic and Menaal, 2016).

In order to increase the resilience of the agriculture sector for food security, it is imperative to understand the impacts of climate change on all 4 dimensions of food safety i.e. availability, access, use and stability. As availability relates to the production and the other three dimensions relate non the production part of food security, therefore it is generally difficult to measure the impact of climate change on non-production aspects of food security. In the next section, the impact of temperature and rain will be discussed on the production pillar of food security.

The Interface of Temperature and Food Security

The rise in ambient temperature poses far-reaching consequences for Pakistan's food output and food safety. Research demonstrates that the

linear and non-linear responses to climatic factors impact crop growth, development and monetary returns. As (Wheeler et al., 2000) noted, “the rate of many development processes is a positive linear temperature function between a base temperature, which is zero, at and below which is the rate of a specific process, and optimal temperature (Summerfield et al., 1991). These connections are followed by many agricultural plant growth processes”.

The impacts on farm earnings of climatic factors are beneficial as well as negative. To date, climate change variable like the temperature has been favourable in food production in Pakistan (Ahmad, Siftain and Iqbal, 2014). Sivakumar and Stefanski (2011) reported that an increase of 1°C in temperature would reduce wheat yield by 5-7% in Pakistan.

In terms of size and direction, the long-term average temperatures differ between locations and seasons (Amin, Ahmad and Iqbal, 2013b). In arid locations with poor water availability, heat has an especially destructive effect on plants and cattle. The area of Tharparkar in Sindh remained under the Food insecurity scenario due to persistent and prevalent higher levels of heat stress and lack of water. In Pakistan, the average temperature is increasing and strong heat waves are getting more frequent with short-term high temperatures that can drastically affect agricultural production.

Wheat is the largest Rabi season cultivation crop in Pakistan; it is essential to food security as the country's mainstay food. Being the staple food, wheat is grown by the majority of the farming community all around Pakistan to the tune of around 80% and this crop caters for the energy requirement of 37% of the population (Prihodko and Zrilyi, 2013). Minimal temperatures and low rainfall are characteristic of this season. Where temperatures climb beyond this range, the processes of wheat cultivation flatter and diminish (Porter and Semenov, 2005). (Sultana et al., 2009) concluded that the increasing temperature of crops will reduce wheat yields in dry, semi-arid and sub-humid zones in Pakistan. The impacts of temperature change on wheat production in Pakistan also appear to

differ across its growth stage (Munir Ahmad et al., 2014). For instance, a prolonged increase in temperatures by 1°C during the vegetation period increases wheat production by 6.4%, however, during the maturity phase, increased temperatures do not appear to affect crop yields significantly. Conversely, a long-term temperature increase damages wheat plants in the periods of germination and tillage phases. Moreover, the shifting weather phenomenon also pushes farmers throughout the country to revisit sowing wheat seasons.

Rice is also an important grain crop, cultivated throughout Sindh and Punjab during the Kharif season. As a food source, and as a cash crop, it is significant. In the scorching summer months, rice cultivation depends on a dependable water supply. The rice output declines as summer temperatures slowly increase and the water supply reduces in rice-growing areas of Sindh and Punjab (Siddiqui et al., 2012).

Global warming leading to warming in Pakistan's cooler areas will also harm agricultural productivity. A lot of environmental factors influence the optimum temperature for growth. Temperatures above 30°C are linked to lower rain-fed crop yields. Such high temperatures diminish yields by prematurely speeding crop growth, harming plant cells and worsening water loss.

Food Security and Rainfall Interface

The variation in temperatures on the higher side is expected to prevail around the globe and thus will impact the pattern of precipitation significantly globally. The shifting patterns of precipitation consequently have a considerable influence on agriculture. The influence of climate change on regional precipitation is not easily predicted by changes in air circulation. However, studies believe that precipitation in higher latitudes will rise and in lower latitudes will decline (Parry et al., 2007).

Intensive, frequent and unpredictable precipitation trends have a detrimental impact on agricultural output and can alter crop suitability. Rain-dependent agriculture practices are rampant in Asia to the tune of 60%; this makes the region highly susceptible to any change in precipitation patterns (FAO, 2015). Agricultural-dependent South Asia means that any change in monsoon rain patterns, its timing, frequency and intensity will have serious repercussions on livelihoods and food security. The shift in the setting of the rainy season and the amount of total rainfall might significantly affect crop production. Since farming is important to Pakistan, research shows the country is particularly sensitive to shifting precipitation patterns (Ali et al., 2017, p. 39).

In South Asia, annual precipitation and severe events during the rainy season are also growing. These trends are projected to continue with rainfall variability. This entails more severe dry spells, prolonged droughts and intensified floods, which pose significant food safety risks. Drought decreased rice output in India by 15% in 2002. In Pakistan, 0.5 million tonnes of wheat was wasted due to the 2010 floods and 881,000 hectares of agricultural land were damaged by floods in 2011 (Authority, 2011).

Over the monsoon, weather forecasts predict increased precipitation, severe precipitation and dry spells during the 21st century (Haensler, Saeed and Jacob, 2013b). A somewhat earlier, and slightly later than normal, beginning of the monsoon season. These changes in the start and decline of the yearly monsoon generate uncertainty for farmers about seeding - a huge problem in terms of rural subsistence, cultivation and available food.

As far as the rainfall impacts on individual crops are concerned, (Ahmad et al., 2014) discover a non-linear ratio of normal precipitation to rice production is not relevant to the influence of temperatures over rice production. High precipitations lower crop yields during the second stage of rice cultivation; yet, during two other stages of production, they boost the output of Basmati rice. During the germination and tilling stages, while precipitation has a favourable influence on the productivity of wheat, additional rainfall affects very poorly the yield of wheat.

Agro-Ecological Zones and Climate Vulnerability Analysis

In Pakistan's 10 agroecological areas, the following key insights were offered by the key informers through discussions on climate vulnerabilities. Consultations imply that the monsoon is small in duration than before. Rainfall fluctuation is strongly impacted by farmers who rely on rain-fed farmers like in former FATA and GB. This in turn impacts livelihoods and people turn to casual wages and seasonal migration to cities. Crop and animal livelihood as in most rural Pakistan is undermined by Sindh's drought and GLOFs (Glacial Lake Outburst Floods) in Northern Pakistan. There is a high risk to mountain communities from landslides and glacial outbursts. According to International Centre for Integrated Mountain Development (ICIMOD), the rising quantity and dimension of glacial lakes in South Asia are being caused by glacier melting in the Hindu Kush (Vaidya and Sharma, 2014). In this regard, households take various steps to tackle the irregular, unexpected impacts of climate change. In the arid Western hills of Baluchistan and the KPK, people diversify their livelihoods and rely exclusively on agriculture and cattle are shifting to the cottage industry. The rising numbers of people are taking seasonal migration from Sindh's Tharparkar district and neighbouring areas. Farmers are using less water-intensive agricultural practices in some places. Therefore, talks with officials of important climate, livelihood and food security organisations, undertaken in each province reveal that these agroecological areas need to be revised and categorised using the latest knowledge to improve the programme design and support contemporary research.

Recommendations

- Use of modern communication techniques that includes mobile phone networks so that a connection is maintained between local farmers and disaster management officials as well as with agricultural institutes. This reduces the danger to farmers by receiving early alerts and weather updates as the temperatures increase.

- Review agroecological regions in agricultural systems that are likely to result in increased heat-related crop failure and identify susceptible areas including drought and floods.
- Developing a new type of heat-tolerant crops and subsequently ensuring their spread among masses and most affected areas.
- Create units of climate change for agricultural research institutes which should develop adaptive methods to deal with the expected effects on agriculture of climate change.
- Encourage preventative measures against heat stress, particularly among susceptible populations such as children, women and the elderly.
- Enhanced capacity of PMD to develop climate models to estimate climate change consequences and develop adaptive methods for each agroecological area.
- Drought-resistant crops and fodder types are to be developed and introduced in drought-prone areas of AEZ.
- Develop a nationwide strategy to implement best practices for soil and water conservation.
- Develop and introduce short-rotation crops and hybrid crop varieties.
- Promote sustainable irrigation water conservation, rain harvesting, water storage reservoirs and water management techniques.
- Strengthen embankments in floods vulnerable areas in AEZ to reduce the danger of crop losses caused by floods.
- Identification and development of small to medium water reservoirs to store flood water in AEZ during water-stressed periods.
- Strengthen effective market and pricing control systems in the events of floods/ natural calamities to reduce the effects of floods.

- Ensuring physical access for commuters to highways, bridges and traffic infrastructure is one of the important tentacles of food security.
- Prompt provision of means and availability of safe drinking water on a sustainable basis.
- PPP to enhance early warning and weather update systems with the integration of modern technologies and initiate disaster risk insurance cover for farmers.

Conclusion

Natural hazards, as a result of climate change, have increased both in frequency and intensity worldwide. These include flash floods, unpredictable urban flooding and droughts which pose a great risk to the existence of sustainable food supply systems ranging from livestock to crop cultivation and harvesting. And in the case of the climate fragile areas, the variations in climate elements disproportionally affect the populations living therein by challenging their coping mechanisms. This invariably can result swiftly in food and nutrition crises. And with the absence of proper mitigation methods, the situation is only going to get worsen. In case of Pakistan, a steady rise in mean temperatures and variations in rainfall have been observed particularly in the last three decades. These variations have resulted in reduced rainfalls in coastal areas of Pakistan as well as its arid areas thereby inviting longer-than-usual droughts. Monsoon season has also been delayed particularly in Eastern parts of Pakistan thereby severely affecting agriculture.

Pakistan's food security is extremely climate-sensitive. This paper has examined climate changes that have happened in the past as well as the future forecasts; the condition of food supply, access, use and stability; and the relationship that exists between climate trends and all four aspects of food security. With regards to the extent of the impact that climate change can have on food security, it cannot be tangibly measured since

weather patterns cannot be accurately forecasted. However, it has been established that the mean temperature has risen and it will continue to rise in future. Therefore, the effect of temperature rise is directly related to the amount of precipitation. But how much precipitation would increase or decrease, cannot be forecasted. This is why, it has been recommended to focus on adaptability rather than focus on short-term measures and amend our agriculture procedures according to the climate change.

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Author

Commodore Zahid Farooq SI (M), ndc, nswc, psn is an alumnus of National Defence College at Dhaka, Bangladesh and has attended National Defence Course 2021. He joined Pakistan Navy as Naval Cadet in 1989 and got commissioned in the Operations Branch of Pakistan Navy on 1st July 1993. The officer volunteered to Join Naval Aviation as a helicopter pilot in 1996 and remained associated with Naval Aviation for over two decades under various capacities. During his naval career, he has served on various command, staff and instructional appointments besides having over 4000 flying hours onboard PN helicopters. A few of the pertinent appointments include, Flying Instructor at Army Aviation School, Gujranwala, Fleet Aviation Officer to Commander Pakistan Fleet at FHQ, Karachi, Command of a Naval Aviation Squadron and ACNS (Training) at NHQ, Islamabad. The Commodore is SME in aviation matters and holds a Master's Degree in National Security & War Studies from National Defence University, Islamabad.

INTEGRATION OF “MISSION COMMAND” IN THE MULTI-DIMENSIONAL BATTLEFIELD OF THE 21ST CENTURY: BANGLADESH ARMY PERSPECTIVE

Colonel Faruque Ahmed, afwc, psc

“Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity”

- General George Smith Patton

Introduction

Think about a situation in which the enemy had successfully blocked the Hilli-Ghoraghat-Gaibandha neckline and made the 66 Infantry Division geographically isolated in the north-western sector of Bangladesh (BD). The same could have happened if Feni waist line is cut-off and the 24 Infantry division and 10 Infantry Division are devoid of effective communications in the south-eastern region. In both cases, the commanders probably will have to rely on intuitive initiatives within the overall intent of the Army Commander. This, in other words, is the essence of “mission command”. The battlefield of the 21st century is characterized by a combination of precarious uncertainty, non-state actors leveraging power asymmetrically, and persistent applications of modern technologies (Martin, 2000). This volatile and complex environment will generate huge “fog and frictions” where independent decision-making would be extremely crucial. Again, in the “Total War” phase of the campaign, the central direction of the war effort would be greatly plagued by the dispersed location of the under command formations, looseness of the organizational structure, poor communication and decentralized command and control (C2). In these situations also, following the philosophies of “mission command” the higher commander’s intent could be made clear to the sub-ordinate

commanders, who then should be left free to conduct their operations (GSTP-0032).

“Mission Command” is often articulated with the near-peer phraseological expression “decentralization of command” that commanders in BD Army talk about frequently. Do these two terms bear the same meaning? Perhaps the answer is a mix of “yes” and “no”. Though this is pronounced but in practice the subordinates are rarely given the freedom of action. “Mission command” is a fundamental feature of the land forces’ operations. The concept of “mission command” aids the senior leaders exploit the capability of individual soldier to undertake responsibilities, to improve the condition and incorporate armed forces maneuvers to attain the intent of the higher commander and anticipated outcome or result. It is the implementation of power and directives by the leaders utilizing the task guidelines to allow controlled enterprise contained by the intent of the higher commander or senior leaders to enable responsive commanders in carrying out joint or combined battles (Army Doctrine Publication 6-0, United States of America).

In BD Army the command style is mostly based on direct and detail order (“Befehlstaktik”) structure. The complex battlefield environment of the present era will erupt conventional communication system and set major challenges for the leaders in implementing effective command (Jubayer, 2021). Both operations and sustainment are likely to be based on a certain geographic area only. In those cases, leaders have to plan and operate independently (Ziaur, 2021). More so, taking on conventional and unconventional warfare simultaneously would compel commanders to make radical changes and innovations to fight the adversary. To address the chaos, confusion and unanticipated consequences of the battlefield “mission command” has been preached in BD Army publications. But explications and implications are somehow missing. Therefore, it is imperative to decipher the “Mission Command” concept, and remedy the misperceptions. It is not merely a C2 methodology but also an organizational culture of vesting responsibilities and trusting in under

command’s ability to perform the assigned mission even in the absence of specific guidance. This concept seems novel to many and the mindset of BD Army leadership needs essential transformation in accepting the spirit (Matiur, Abedin, Ziaur and Faizur, 2021).

Review of the Literature

ADP 6-0 (2019) enumerates a deliberate argument on the fundamentals of mission command, C2, and the warfighting criteria. This version of ADP pronounces how the senior leaders, assisted by the staff, use the science and art of C2 to comprehend circumstances, prepare the conclusions, prescribe the way-outs, and then direct the armies to achieve the mission.

Granåsen et al. (2016) articulate that future C2 should be both active and robust to cope with volatile and changeable operational environments and to utilize technological advances properly. He further opines that the operational atmosphere in the 21st era looks for organizational alertness, thus changing the fundamentals for mission command.

Brick (2016) recognizes that mission command is crucial because of Von Moltke’s maxim that no plan survives in the conflict. When under commands are allowed to apply initiative, they are capable to adjust to the needs of the operational atmosphere they have been allocated, not the situation they planned for. It allows them to frame a more prompt and decisive reaction without having to delay for senior leaders to issue instructions.

Shamir (2010) opines that mission command has both practical and social dimensions. The practical part of mission command is relatively easy to describe, as militaries frequently assume overseas tactics. On the contrary, the social or cultural dimensions originate from the general characteristics of the nation, the social and institutional practices. Hence these are tougher to translate. To solve the difficulties and complications, the military or non-military outfits should not abstain from integrating the “mission command” concept.

Liyanage (2015) arguably denotes that military leaders have often preferred detailed command, but a clear idea of the pattern of the present-day battles along with the schemes of the previous accounts undoubtedly speaks about the benefits of “mission command”. The Sri Lanka Army has gained a wealth of experience in operating under complicated and multifaceted situations by fighting and defeating terrorism for more than three decades. Mission command has been found useful in the Sri Lanka Army to increase its fighting efficiency.

Research Design

Research Type. This is a descriptive research with a cross-sectional type design. For this research, a mixed-method approach (a combination of quantitative and qualitative research) has been followed. Being a descriptive research, no hypothesis has been made; rather, answers to a set of questionnaires have been pursued.

Research Parameters

- **Case.** BD Army.

Variables

- **Independent Variable.** Integration of mission command.
- **Dependent Variable.** Enhancement of operational effectiveness.
- **Intervening Variable.** Multi-dimensional battlefield of 21st century.

“Mission Command” and its Origin

The start of the “mission command” has been found out in the Armies of Prussia. The Prussian Army Leader, General Johann David Scharnhorst taught in the Staff College of the Prussian Army from 1806 to 1810 that the victories of the French Military in the years of 1806 and 1807 had been attained through “complete and aggressive responsiveness of

French commanders to the will of Napoleon, even without orders, and miles distant”. In the mid-nineteenth century, one of the most prominent Prussian Army Commanders, Field Marshal Helmuth Von Moltke perceived the absolute difficulties of monitoring forces comprising 2,00,000 soldiers or even more. He assumed that the generals or the senior leaders should be “assigned general missions, related to clearly understood objectives, and then instructed to accomplish those missions by carrying out the fight aggressively with the enemy”.

The “First World War” ultimately experienced decentralized command and decision-making up to the lowermost probable tiers. Infiltration tactics, which was the German reply against the static trench warfare, mostly relied on the sub-group leaders. Even the individual combatant acted on a singular initiative to support the mission and intent of the higher commander. In “Second World War” Germans’ blitzkrieg combined with mission command caused rapid success in Poland and French. Great military leaders like Heinz Guderian and Rommel displayed their archetype leadership of conducting operations within broader guidance and the concept of mission command (Lucian, 2019).

“Mission Command” and its Essence

“Mission command” may be considered as a philosophy of command, in which under commands are provided clear direction of a higher commander’s intent. It means the clear pronouncement of the expected outcome, the responsibilities to be assumed and any restriction or constraint. This also necessitates the assets to be allocated to achieve the results. “Mission Command” highlights central intent and distributed execution through disciplined inventiveness. This principle guides commanders at all levels toward mission achievement. Figure 1 shows the fundamentals of the “mission command”:

Figure 1: Fundamentals of Mission Command



Mission Command in the Multi-Dimensional Battlefield of the 21st Century

Chaotic and Fluid Battlefield. The future battlefield will be chaotic and fluid requiring commanders at all levels to be able to operate independently within an overall concept (GSTP-0032). Speed in decision-making and execution can only be achieved by decentralized decision and execution keeping command intent in mind. An initiative by commanders at all levels is crucial in this regard.

Disruption of Command, Control and Communication. Due to the immense effect of electronic warfare and fluidity in battlefield units and sub-units at any level of wars/conflicts may fail to communicate or contact radio with their higher organizations and may become isolated substantially from them (Jubayer and Tamjidul, 2021). Thus, decision-making by the

commanders at lower tiers to handle tactical scenarios will be very crucial in the future days.

Nonlinear and Dispersed Battlefield. The general tempo of war has increased significantly. In numerous instances, the lower-level or mid-level commanders will get no time to obtain guidelines from higher commanders before taking action. Much greater dispersion will be faced by the subordinates than in the past conflicts. The C2 system in the modern battlefield must be prepared to function in the unsystematic, ambiguous and chaotic environment of war.

Need for Use of Individual Initiative and Creativity. The future operation will be highly demanding on leaders/commanders who will be required to react to fast-changing situations and take independent decisions based on broad guidance and mission-type orders (GSTP-0032). The system requires commanders to stipulate what is to be done, leaving it to the subordinates to decide how it is to be done.

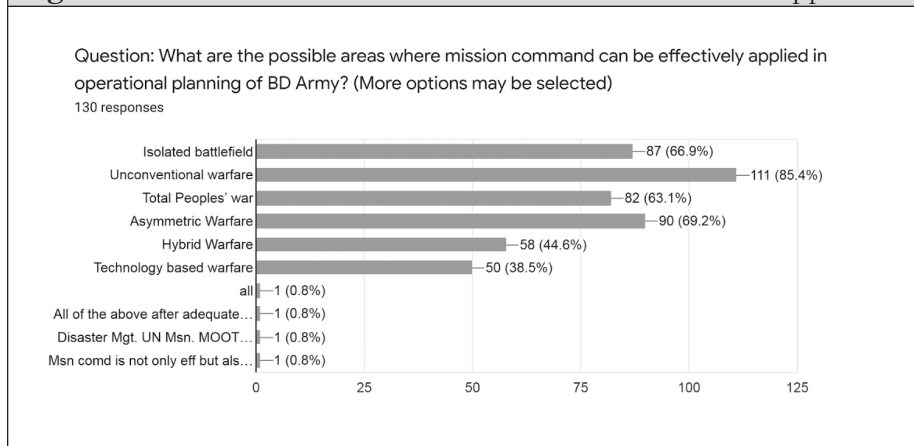
Relevance of “Mission Command” in BD Army

BD Army is presently undergoing major organizational restructuring keeping in view the future days’ battlefield challenges (Forces Goal 2030). Mission Command is a dire need of the current and anticipated future operational environment. Defensive operations, generally, are the main strategy of a small state like BD, and as offensive operations require more coordination in space and time to attain anticipated effects, mission command may be easier to implement in defensive operations. Decentralization of decisions may save time, as every decision does not have to travel through the chain of command (Abedin, 2021). The foremost relevant issues of mission command in BD Army are described in the subsequent paragraphs.

Mission Command is a Culture. In BD Army this culture has not been planted yet. Mission command means a huge responsibility in the

C2 structure (FGD, 2021). Figure 2 identifies the relevance of mission command in some areas, such as isolated battlefields, unconventional warfare, total people's war, asymmetric warfare, hybrid warfare, and technology-based warfare. This command may also be applied successfully in counter-insurgency operations in Chittagong Hill Tracts (CHT), United Nations Peace Keeping, Peace Enforcing and Peace Support Operations and Disaster Management (Abedin and Ziaur, 2021)

Figure 2: Possible Areas where “Mission Command” can be applied

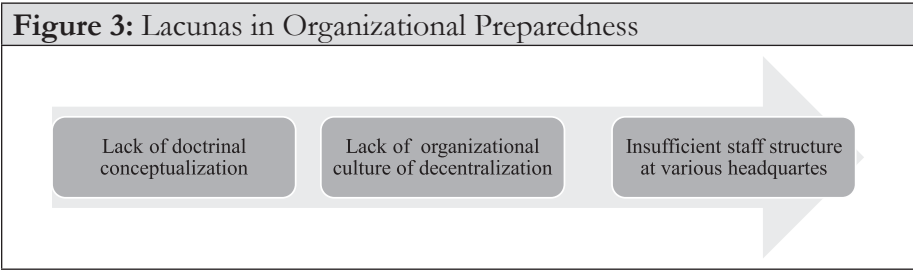


Preparedness of BD Army in Adopting Mission Command

Mission command dictum is new in BD Army and it is not yet fully ready to incorporate this command concept (Abedin and Ziaur, 2021). Mission command entails a holistic harmonization of organizational preparedness, positive command climate and professional excellence of both leaders and followers. There are many stumbling stones on the way to adopt mission command in BD Army from organizational, command climate and professional competency perspectives.

Organizational Preparedness Perspective

From an organizational perspective, BD Army needs to develop an organizational culture of decentralization, the doctrinal conceptualization of the mission command concept and reorganizing staff sections at various headquarters to support, sustain and foster the concept (Figure 3). However, there are a number of lacunas on the way. A few noteworthy issues are discussed below:



Lack of Doctrinal Conceptualization. A well-understood C2 doctrine is very much essential to adopt mission command. Understanding a common doctrine and standardized training throughout the organization enhances mutual trust between commanders and creates a command climate that fosters decentralization and delegation. BD Army is yet to develop any C2 doctrine for decentralized command (Matiur, 2021).

Lack of Organizational Culture of Decentralized Command. BD Army has inherited an organizational culture of highly centralized command control procedure from the colonial era. The commanders or even the commanding officers are often very keen to keep the steering of everything in their hands and are averse to accepting mistakes. BD Army’s command structure is officer centric. Therefore, capacity building of the junior leaders (particularly JCOs and NCOs) has not taken place as expected (Abedin, 2021).

Insufficient Staff at Headquarters. The mission command concept is commander-centric but the operational process is staff driven. In mission command, the commander receives the higher commander’s intent and

the mission assigned to him. The staff section drives the rest of the operational process duly guided by the commander. The existing staff structures at various headquarters are not sufficient for timely decision-making procedures. Hence the staff organization needs restructuring to adopt mission command.

Command Climate Perspective

Mission command necessitates a positive command climate of mutual trust, respect and confidence between leaders and followers, shared vision, sharing responsibilities and harmonious interpersonal relationships which encourage the initiative of junior leadership (Jubayer, 2021). Adaptive and flexible leadership can foster a positive command climate. The challenges in this regard are enumerated below:

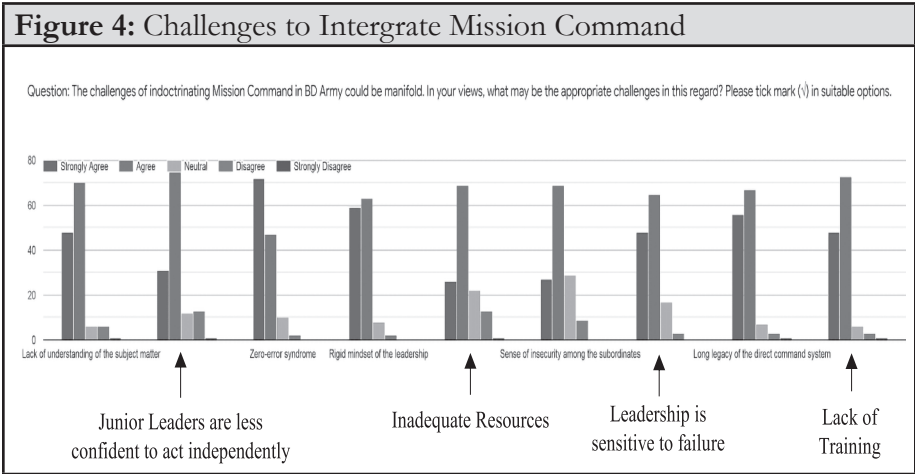
Zero Error Syndrome. This is a well-discussed issue by leaders at all levels. But zero error syndrome still prevails almost in all cases. Leaders do not want to accept any mistake or failure. Thereby junior leaders and other ranks lose initiatives (Ziaur, Sajedur, 2021).

Play Safe Psyche. The leaders in the hierarchy do not feel safe in giving the responsibility to the appointed junior leaders for the task. Their attitude at times forces the subordinate leaders to adopt the approach of no risk, no trouble, and maximum chance of career opportunity.

Declined Interpersonal Relationship (IR). It is felt that IR among the leaders and led is deteriorating in the Army. Less interaction, the effect of technological advancement, command climate, fading values and lack of sharing responsibilities are a few of the reasons for declining this relationship. A declined interpersonal relationship is an impediment in adopting mission command as mutual trust and respect is a key component of fostering mission command.

Challenges to Integrate Mission Command in BD Army

Lack of understanding of the subject matter, lack of confidence of the junior leaders, zero-error syndrome, inadequate resources, sense of insecurity among the subordinates, the sensitivity of the leadership to failure, long legacy of the direct control system, and lack of institutional and organizational training are the main challenges in incorporating mission command in BD Army (Figure 4). The possible barriers in integrating mission command are deliberated in the subsequent paragraphs.



Lack of Understanding the Subject Matter at all Levels of Command.

This is no denying the fact that commanders at all levels of BD Army have either shallow knowledge or insufficient understanding of Mission Command (Sajedur, 2021).

Inadequate Preparedness of Junior Leaders to Act Independently.

Mission Command demands a greater degree of responsiveness in the exercise and training of the junior leaders i.e., young officers, junior commissioned officers and non-commissioned officers, to hastily evaluate and assess the development of the conflict. BD Army seriously lacks in this aspect since leaders at all levels are mostly oriented towards a direct C2 system (Sajedur, 2021).

Lack of Positive Mindset of the Senior Officers. To ensure ‘no mistake’ in any training, administrative or operational event at least two levels higher ranking officers start supervising and advising the officer in charge wasting their valuable time. This is a cultural legacy of the BD Army, and to most of the key informants, it appeared as the serious bottleneck in indoctrinating mission command (Faizur, and Imran, 2021).

Sense of Insecurity among the Subordinates. “Mission Command” needs meticulously chosen, great professional and proficient commanders along with the strength of honesty to stand by their judgments without being very conscious about their career. A sense of insecurity among the junior leaders offers a great challenge while indoctrinating mission command (FGD, 2021).

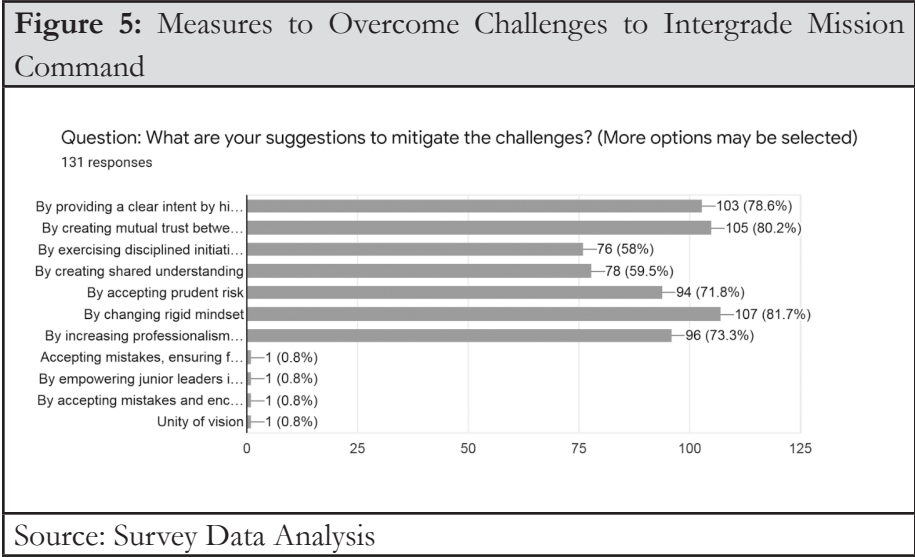
Long Legacy of Direct Command System. It is evident that BD Army follows the top-down C2 system, boundless rules and regulations, and continuous supervision focused on processes rather than the ultimate products. These are contrary to what is actually required for the implementation of the mission command (Matiur, 2021).

The Anxiety of Lawsuit. When a leader senses that he might be put under the law for his activities, then the individual commander is likely to act traditionally without initiative and innovation to escape any risk. In some situations, the senior leaders might purposely be so vague that they cannot be apprehended for what their under commands actually do.

Strategic or Politically Important Issue. “Mission command” cannot be effectively applied when there is a necessity for immediate action or where the strategic or political leadership cannot afford a mistake that can simply lead to severe political or strategic consequences. Examples of such circumstances in the present era are conflict avoidance/management, post conflicts, and peace enforcement or peace support operations.

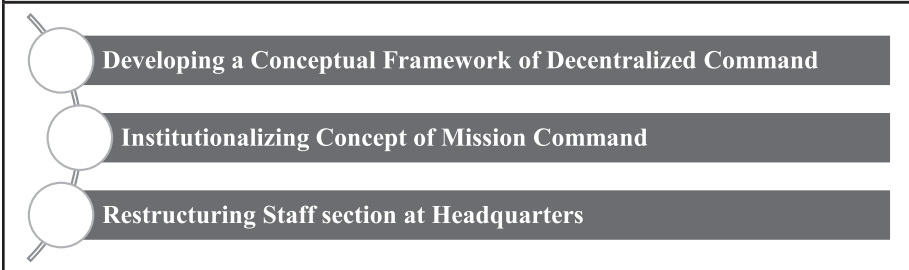
Measures to Overcome Challenges

The challenges in incorporating mission command can be overcome in a number of ways. The following figure shows that primary means are providing a clear intent by the higher command, creating mutual trust between the leaders and the led, exercising disciplined initiatives, creating shared understanding, accepting prudent risk, and changing rigid mindset etc (Figure 5). The mitigating measures are discussed in the subsequent paragraph.



Organizational Action Plan. From an organizational perspective, BD Army needs to develop a conceptual framework of decentralized C2, institutionalizing the concept and restructuring the organogram of staff sections at formation headquarters to support and sustain mission command in the multi-dimensional battlefield of the 21st century (Matiur, and Faizur, 2021).

Figure 6: Organizational Preparedness to Incorporate Mission Command



- **Developing a Conceptual Framework of Decentralized Command.** Mission command is comprehended and practised in different ways in different militaries due to the influence of specific strategic backgrounds and structural values (Shamir, 2010). BD Army is yet to develop a conceptual framework for decentralized command keeping in view its organizational realities. Hence, the conceptual framework for decentralized C2 is to be formulated immediately.
- **Institutionalizing Concept of Mission Command.** The presence of mission command in doctrinal publication will not fetch any dividend unless it is coined in the heart and mind of the people and practised in day-to-day life. BD Army needs to promote, exercise and reward initiative and creativity so that an organizational culture of decentralized C2 is developed (Jubayer, 2021).
- **Restructuring Staff Section at Headquarters.** A well-orchestrated staff set-up is essential to fulfil the necessity of mission command. The existing staff structure is primitive and not well organized to conduct a deliberate decision-making process. Therefore, staff sections at various headquarters are to be restructured and reorganized.

Creating a Positive Command Climate

A positive command climate of mutual trust and respect, close interpersonal relationships, adaptive and dynamic mindset are essential to foster mission

command (Sarwar, 2021). All these factors restrict leadership from micromanaging and allow maximum decentralization.

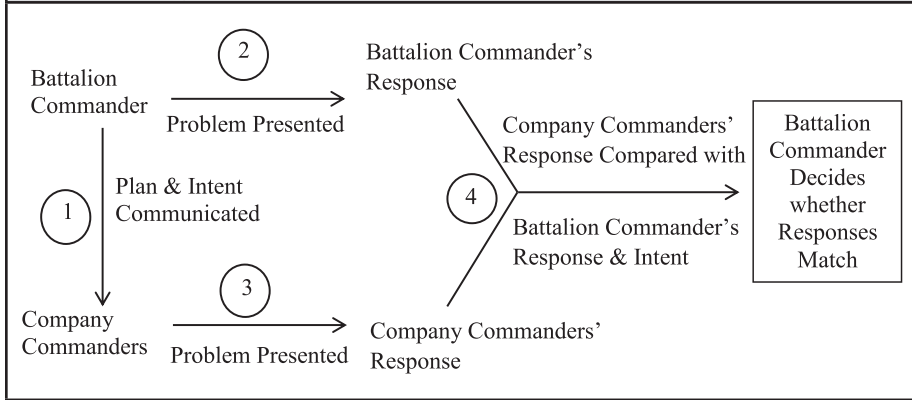
The core issues related to a positive command environment in fostering mission command are discussed below:

- **Developing Mutual Trust between Commanders and Subordinates.** Unit and formation-level training should pay more attention to developing mutual trust between seniors and subordinate commanders. Complete comprehension of commanders’ intentions should be achieved through field exercises (Faizur, 2021).
- **Developing Close Interpersonal Relationships.** Interpersonal relationship between officers and men is very crucial to integrate mission command in BD Army. Practising regimental life, arranging social events, adhering to military customs, ethos and values, taking care of under commands, and training together can be instrumental in developing close interpersonal relationships.
- **Developing Adaptive and Dynamic Leadership.** “Mission Command” demands highly active and vibrant leadership who can acclimatize to rapid changing battlefield scenarios. Hence, commanders at all tiers should develop an adaptive and dynamic attitude to integrate mission command philosophy in the 21st-century battlefield atmosphere.

Development of Professionalism

Institutional Training for all Levels of Command. Leadership training curricula at all training institutions, units, brigades and formations should boost the development of individual initiative, freedom of action, independent decision-making, judgment, foresight and willingness to assume responsibilities. A model of simulation training for practising mission command is given in Figure 7. Though the model is for the battalion level, it can be applied at any level of command with little modification.

Figure 7: Sequence of Events for Tactical Simulation



Developing Intellectual Domain of the Commanders and Under Commands through Higher Education. Apprehending a commander's intent and thereby translating it into action is not very easy. Besides traditional military training, it demands intellectual maturity (Jubayer, 2021). The JCOs and even NCOs will have to lead teams in the future battlefield. In mission command, every soldier is to possess the capability of understanding the environment and take decisions independently. Therefore, the intellectual domain of both the commanders and under commands is to be developed through civil education.

Recommendations

Based on the findings of the research, the following are recommended:

- BD Army should formulate a comprehensive doctrine on Mission Command to test the feasibility.
- Commanders at various levels should encourage junior leaders to develop an adaptive and dynamic mindset by arranging study periods and seminars on CLM.
- BD Army should leapfrog from traditional warfare training to realistic and modern warfare training. The curriculum of the Army Staff

Course, Junior Command and Staff Course and other courses should be revised and the suitability of mission command philosophy is to be tested.

- Units and sub-units should practice mission command in the summer, winter and other collective training.

Conclusion

Warfare against traditional and hybrid opponents in this century is creating situations which were never seen before. Today’s conflict offers momentary opportunities that fade away very swiftly if the commanders, from General to Subaltern or even JCOs/NCOs, fail to grasp those in appropriate time and space. This reality actually looks for ‘Mission Command’. Future day’s battlefield environment, the doctrine of blending conventional and unconventional warfare, total people’s war, and perceived asymmetric threat etc. establish the necessity of mission command in BD Army.

Adopting mission command in BD Army entails enormous challenges. The tendency of close monitoring and supervision by the superior authority of BD Army is endemic which severely curbs and curtails the initiative, creativity and flexibility of the subordinates. The existing hierarchical system of C2 suffers from ‘zero error syndromes’, unable to exploit fleeting opportunities and mostly a ‘one man show’. Lack of apposite training on mission command is also a barrier to integrate mission command in BD Army. So, to integrate mission command it needs a complete refurbishing of BD Army’s C2 system and a paradigm shift from direct to directive control.

BD Army needs a time-suited and well-organized C2 structure which provisions and infuses philosophies of “mission command”, more precisely empowering the production of shared faith, mutual trust and controlled inventiveness. In addition, the junior leaders necessitate a structure that intelligently recognizes, reflects and shows an officer’s or junior commander’s unique talents, skills, professionalism, competency, and

credentials as a part of the task process. Adopting mission command needs organizational preparedness, a positive command climate and professional excellence of both leaders and followers. Holistic harmonization of organizational preparedness, a positive command climate and professional competency at all levels are essential to foster mission command.

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Author

Colonel Faruque Ahmed, afwc, psc was commissioned in the Corps of Engineers in Bangladesh Army on 12 June 1997. His military career began at Shaheed Salahuddin Cantonment, Tangail with the Valiant Sappers. He served in different Division Engineer Battalions in various capacities and commanded the Elite Sappers, the Pioneer Engineer outfit of Bangladesh Army at Chattogram Cantonment. As a Staff Officer, he served as Private Secretary to the Principal Staff Officer, Armed Forces Division, and General Staff Officer Grade-1 at Army War Game Centre. As an instructor, he served as Platoon Commander in Bangladesh Military Academy, and Instructor Class B at Engineer Centre and School of Military Engineering. As a peacekeeper, he served as a contingent member in South Sudan. Additionally, he commanded an Explosive Ordnance Disposal (EOD) Contingent in Kuwait under Operation Kuwait Punargathan.

Colonel Faruque is a graduate of Armed Forces War Course, National Defence College, Mirpur and Army Staff Course, Defence Services Command and Staff College, Mirpur. He holds two Master’s Degrees in Defence Studies and Social Science in Security and Development from Bangladesh University of Professionals. He also earned his Bachelor of Science Degree in Civil Engineering from Military Institute of Science and Technology, Mirpur. He attended a number of professional courses at home and abroad including in the United States of America and Australia. Colonel Faruque is married and blessed with a son and a daughter. He has visited 24 countries in Africa, America, Asia, Australia and Europe. He loves reading and travelling.

IMPACT OF DEMOGRAPHIC VARIABLES ON POTENTIAL MILITARY LEADERS' SELECTION SYSTEM: BANGLADESH ARMY PERSPECTIVE

Lieutenant Colonel Muhammad Nurul Amin, afwc, psc

Introduction

Recent technological advancement, globalisation, modern education system, and diversified career option have changed the perception of young adults worldwide and in Bangladesh. Notably, the fourth industrial revolution has added diversified options to choose a career for young adults. These all are directly and indirectly connected with demographic variables. So, the impacts of the demographic variables on young Bangladeshi adults are evident. Thus, analysing the candidates' military leadership potentials to develop a further effective selection system for Bangladesh Army is the need of time.

Inter Service Selection Board (ISSB) being a dynamic organisation keeps records of the selection system. Having three years of service experience as Deputy President (DP) and Graded One Staff Officers (GSO-1) of the Research & Development (R&D) branch of ISSB, the researcher had the opportunity to conduct various seminars as well as the study on the selection system. However, there is hardly any study on the demographic variables and their impact on the selection system. This necessitates the study on the relationship between demographic variables of young adults and military leadership potentials. This may help to establish an effective motivational program and set the most appropriate eligibility criteria for becoming an officer in the Bangladesh Army. It may also suggest a necessary modification to the selection system of the ISSB in evaluating the potential military leader. As a whole, the outcome of this research may assist in reviewing or modifying the existing selection systems of potential military leaders of the Bangladesh Army.

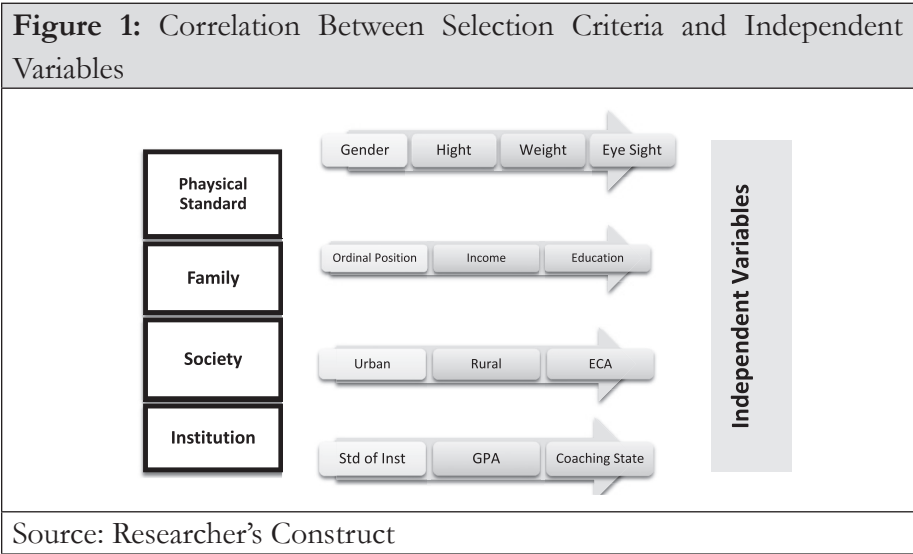
Research Methodology

Research Design

Research Type. This is descriptive research with a cross-sectional type design. For this research, a mixed-method approach (a combination of quantitative and qualitative research) has been followed.

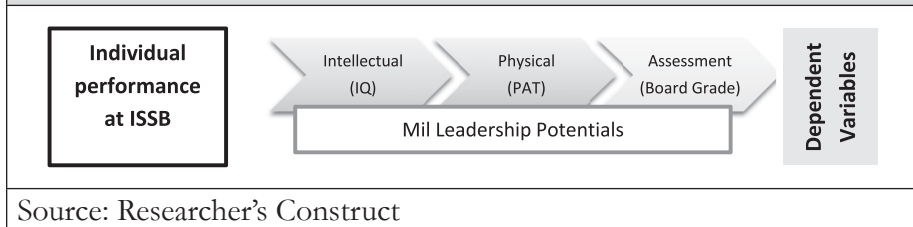
Variables

Independent Variables. In this study, the specific demographic variables used in the selection system have been taken as independent variables. The impact of demographic variables remains constant and independent. So, the candidate's basic or primary demographic information provided to the selected organisation (ISSB) has been considered as independent variables.



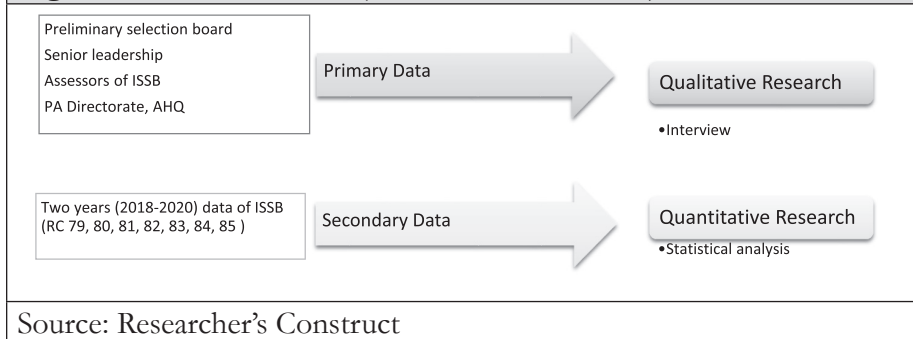
Dependent Variables. Different outputs and scores of the candidates in the selection system (ISSB) have been considered as dependent variables. In other words, the military leadership potentials of the candidates in the form of (IQ Score, PAT Score, and overall board grading) are the dependent variables.

Figure 2: Correlation Between Individual Performance and Dependent Variables



Sources of Data

Figure 3: Sources of Data (Researcher's Construct)



Sample Calculation. The study population is fairly large and diverse. Therefore, keeping a 1% margin of error and a 90% confidence interval, a sample of around 8750 candidates represents the population. The following formula has been used for sample calculation (Islam, 2014):

$$n_0 = \frac{z^2 pq}{d^2}$$

Where, n_0 = Desired sample size, with a large population

z = Standard normal deviation (1.64)

p = Assumed target population with desired characteristics (0.5)

q = $1-p$

d = Allowable maximum error (1%)

$$\text{Calculating above we get, } n_0 = \frac{(1.642)(0.5)(1-0.5)}{(.01^2)}$$

$$= 6724 \text{ (without the size of the population)}$$

$$\text{Again, } n_0 = \frac{Nn_0}{N+n_0}$$

For the Primary Sample

Where, N = Number of ISSB candidates, 8750 (referred to sample criteria from total 6 terms)

$$= 6724$$

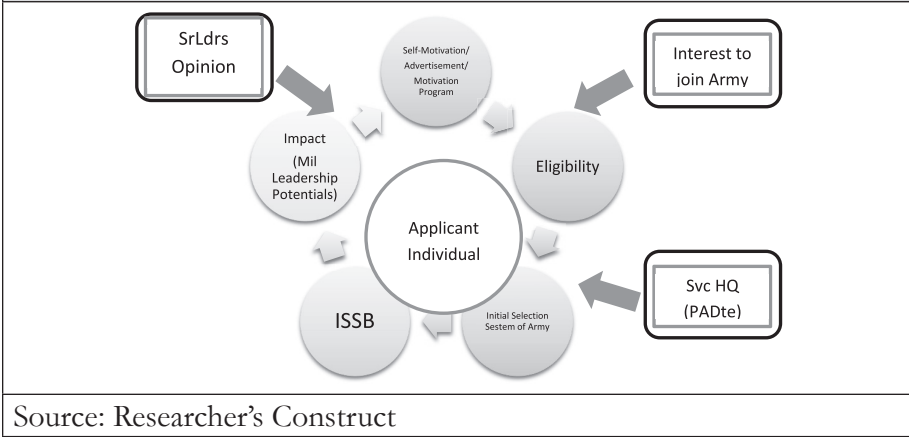
Calculating what we get,

$$\text{Again, } n = \frac{(8750)(6724)}{8750+6724}$$

$$= 3802 \text{ (minimum number of samples)}$$

Data Analysis. Firstly, the secondary data have been analysed statistically to identify the impacts of demographic variables on the potential military leaders' selection system. While doing so, focused demographic variables were considered. These are available in the form of general information about the candidate. Then, the interviews have been conducted to collect the primary data from the experts involved directly with the process to get qualitative responses. The results of the secondary data analysis have been used in framing the interview questionnaire to make a further inference from the qualitative data. Finally, the outcome from the primary and secondary data have been discussed based on the significant outcome that directly impacts the policies, guidelines and modalities concerning the potential military leaders' selection system in the Bangladesh Army. The researcher has also made the relevant subjective analysis of various interviews, related books, articles and publications.

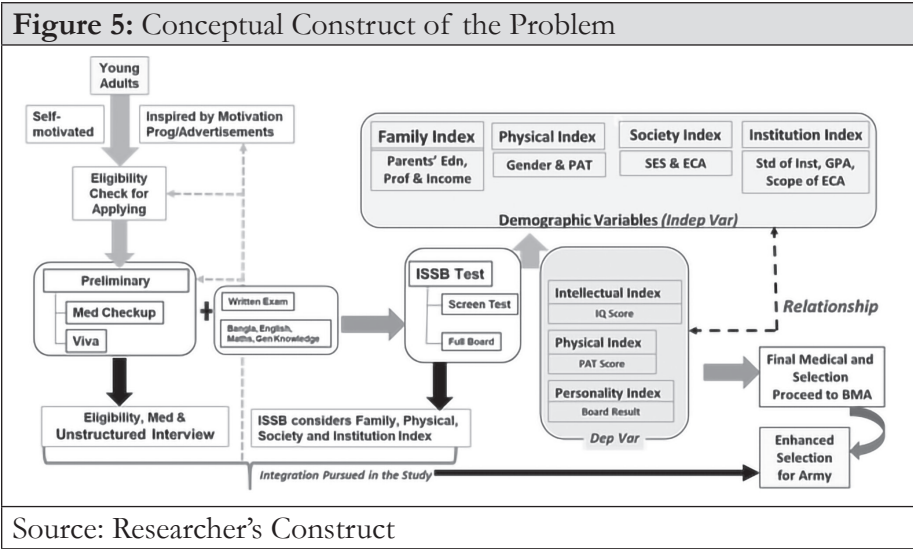
Figure 4: Conceptual Construct of Data Analysis



Source: Researcher's Construct

Conceptual Framework. The conceptual framework of this research is developed based on the demographic variables that shape military leadership potentials and influence their selection system. The candidates, who report at ISSB, provide their individual 'demographic variables' as 'personal information' in the form of Bio-data. The demographic variables are considered as different indexes like family, physical, society and institution index. In this study, the impacts of these demographic variables (independent variables) will be measured (if any) by analysing the outcomes of ISSB's different standardised selection systems as IQ (intellectual index), PAT score (Physical index) and Board Result (Personality index). These indexes are (dependent variables) and also indicators of candidates' military potential. So, the impacts of each demographic variable on the selection of military potentials will be evaluated from ISSB candidates' data. But the preliminary selection system mainly focuses on the fundamental physical index, academic results, unstructured viva and written exam, not specifically mentioning each of the demographic variables as ISSB. So, the present study will find out the missing and unaddressed demographic variables, their indexes, and their impacts on the preliminary selection system of the Bangladesh Army. Thus, it will assist in modifying, re-structure and implementing the positive changes in the preliminary selection system. It will also assist in integrating both the selection system (Preliminary and ISSB) to assess the military potential of

the suitable candidates. These impacts will be statistically analysed to find out the answers to the research questions. Final recommendations will be made considering the service requirements for potential leaders at various stages i.e. advertisement, eligibility criteria for applying (long course only) and the primary selection system. The following figure illustrates the concept:

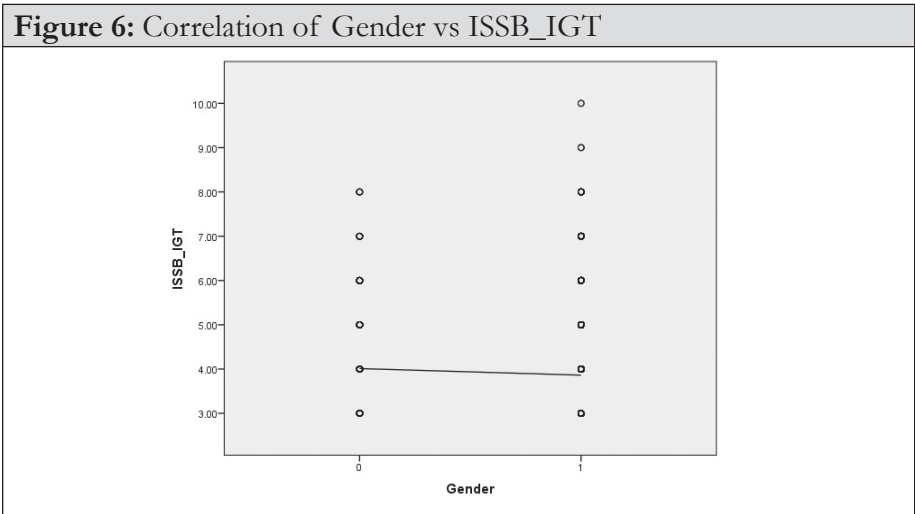


Impact of Demographic Variables on Potential Military Leaders

Simple correlation and regression analysis are used to estimate the relationships between the dependent variable and one or more independent variables. It is utilised to assess the relationship between variables and for modelling the future relationship between them. The IBM SPSS 20 version advanced statistical analysis software is used to calculate the correlation. Correlation ‘**’ is significant at the 0.01 level (2-tailed) and correlation ‘*’ is significant at the 0.05 level (2-tailed). The Correlation between the independent variables as Gender, Standard of Educational Institute including result, Parent Education, Profession and Income, BIR/ IQ, Socio-Economic Status (SES) and PAT with the dependent variable ISSB_IGT are shown in table 1.

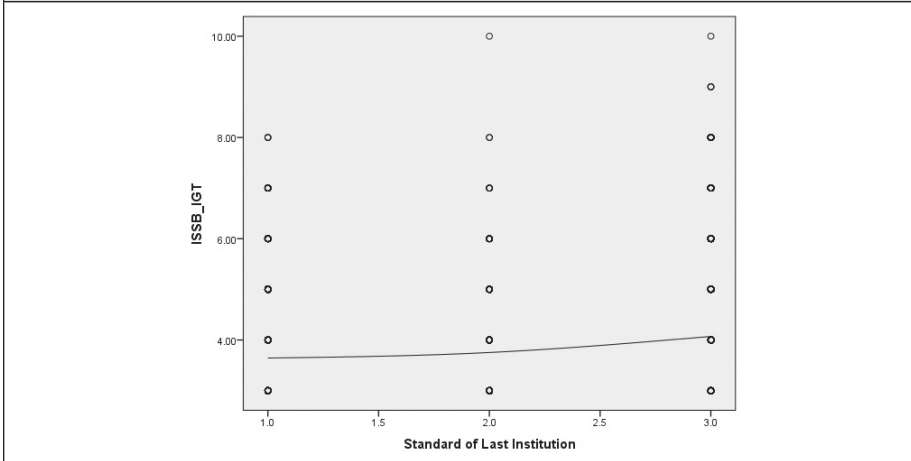
Table 1: Summary of Correlation Analysis									
		Gender	SSC	HSC Edn_2	Father				
					Profession_2	Income			
ISSB_IGT	Pearson Correlation	-.042**	.056**	.003	.241**	.133**	.078**		
	Sig. (2-tailed)	.007	.002	.888	.000	.000	.000		
	N	4043	3147	1956	4043	4043	3811		
Edn_2		Mother			IQ	SES	PAT		
		Profession_2	Income						
ISSB_IGT	Pearson Correlation	.225**	.078**	.102**	.273**	.252**	.276**		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		
	N	4043	4043	3547	4043	4043	2274		

Correlation of Gender vs ISSB_IGT. The correlation coefficient between Gender and ISSB_IGT is $-.042^{**}$, which is significantly negative. Gender was grouped into two different subcategories as Male (1) and Female (0). The negative but significant correlation coefficient indicates that the proportion of appeared and selected female (0) candidates is more but in the same way male (1) is less. The present statistics indicate that the female candidates are performing better in the ISSB test. In other words, the selection rate of reported females is more in ISSB than the reported male candidates for Bangladesh Army.



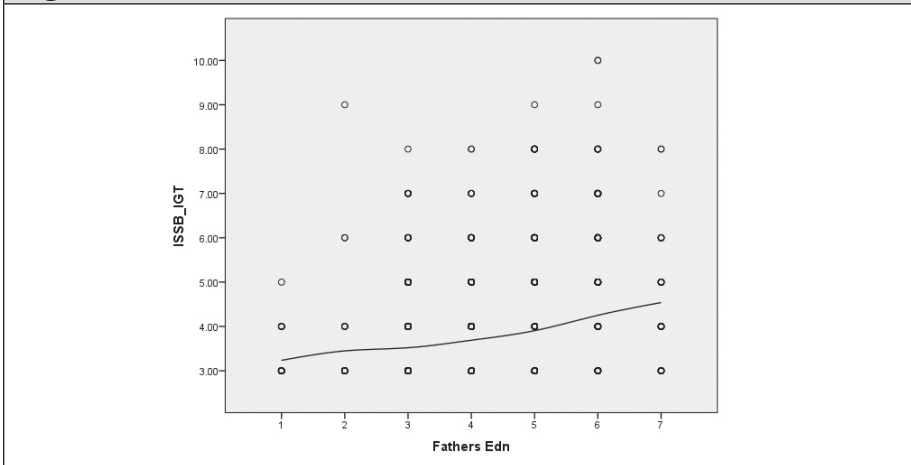
The correlation coefficient between the Standard of Last Educational Institution and ISSB_IGT is 0.181^{**} , which is significantly positive. Standard of Last Educational Institution was grouped into three different subcategories as Good Colleges of Dhaka & other Divisional Cities (1), MCSK & Cantt Colleges (2) and, Cadet College and Best Colleges of Dhaka City (3). The standard of the candidate's last educational institution is positively related to the ISSB selection rate and is significant. That explains that the more standard educational institution, the more he or she is groomed well, learned better educational materials and is better disciplined.

Figure 7: Correlation of standard of Institution vs ISSB_IGT

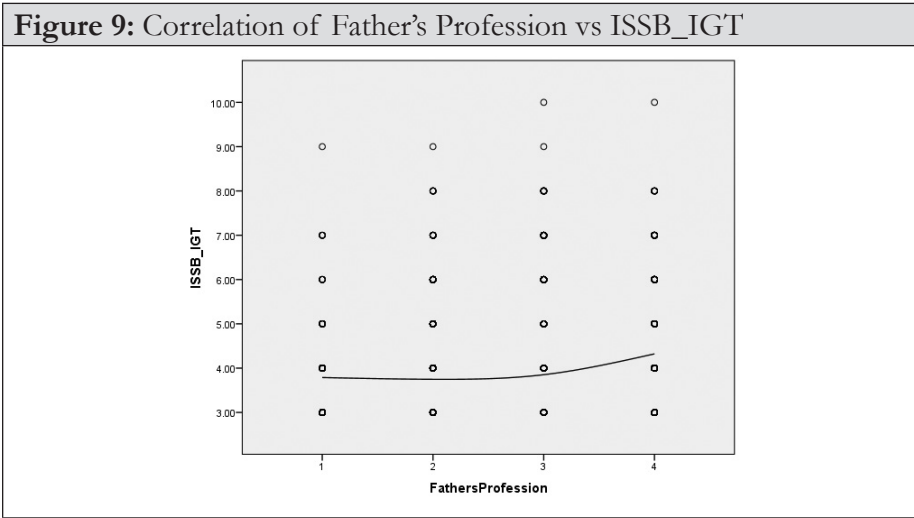


The correlation coefficient between Father's Education and ISSB_IGT is 0.241**, which is significantly positive. Father's education was grouped into seven different subcategories as Illiterate (1), Up to Primary Education (2), Up to SSC (3), Up to HSC (4), Up to Graduate (5), Up to Masters (6), Masters & above (7). The consecutive upper level of the father's education positively related to the ISSB selection rate, and it is significant. It explains that the more father is educated, the more he is taking care of the children and the more he will encourage his children to join in armed forces.

Figure 8: Correlation of Father's Education vs ISSB_IGT

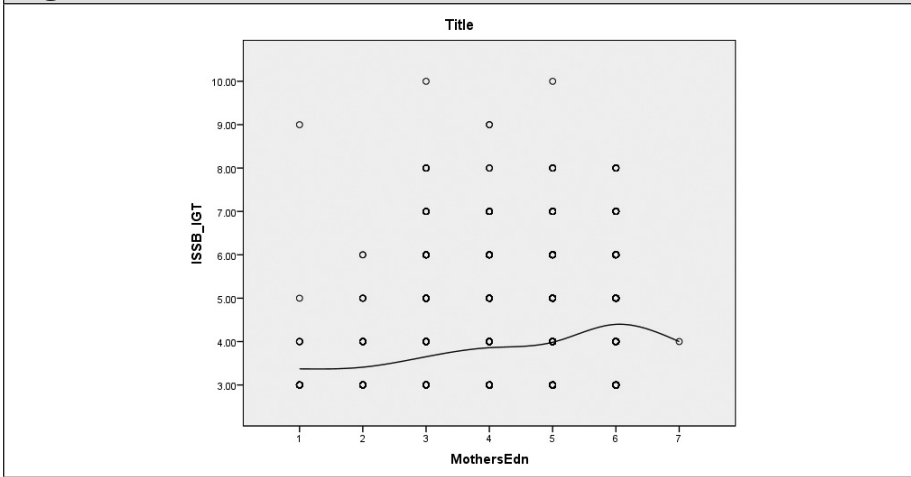


The correlation coefficient between Father's Profession and ISSB_IGT is 0.133**, which is significantly positive. Father's education was grouped into four different categories as Humble (1), Service/Business with Low Status (2), Service/Business with Average Status (3), and Service/Business with High Status (4). The consecutive upper level of the father's professional/business status, rank and standard, is positively related to the higher ISSB selection rate. That explains that the more father is in a better profession or business, the more he is taking care of the offspring and the more he will encourage his children to join the armed forces.



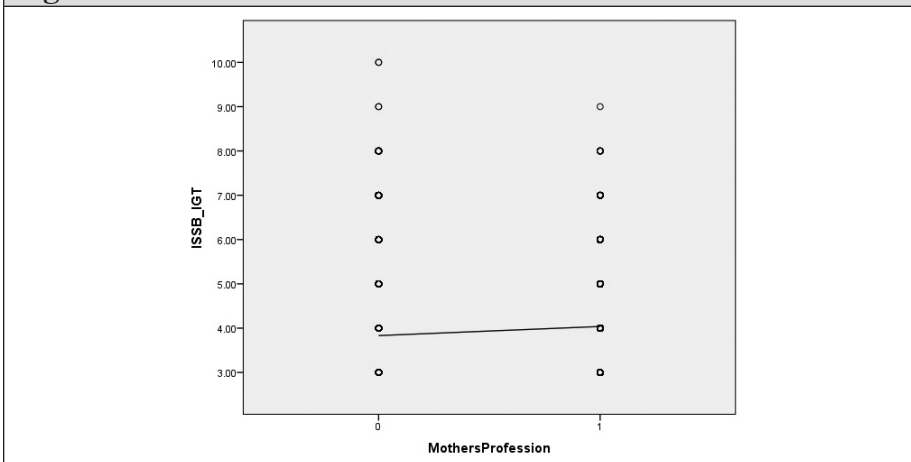
The correlation coefficient between Mother's Education and ISSB_IGT is 0.225**, which is significantly positive. Mother's education was grouped into seven different subcategories as Illiterate (1), Up to Primary Education (2), Up to SSC (3), Up to HSC (4), Up to Graduate (5), Up to Masters (6), Masters & Above (7). The consecutive upper level of a mother's education is positively related to a higher ISSB selection rate, and the relationship is significant. That explains that the more mother is educated, the more he is taking care of the children and the more he will encourage his children to join in armed forces.

Figure 10: Correlation of Mother's Education vs ISSB_IGT

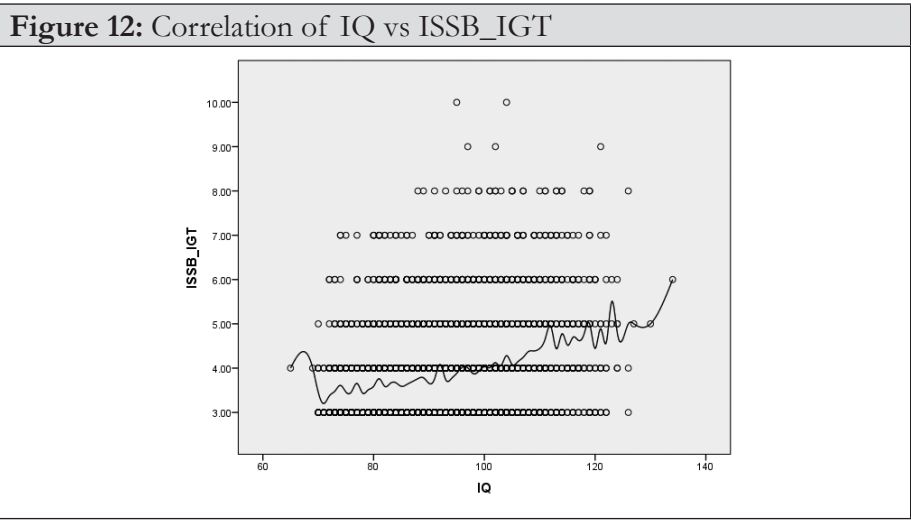


The correlation coefficient between Mother's Profession and ISSB_IGT is 0.078**, which is significantly positive. Mother's education was grouped into Housewife (0) and Service/Business with High Status (1). The consecutive upper level of the mother's professional/business status, rank and standard positively related to the higher ISSB selection rate, and the relationship is significant. That explains that the more mother is in a professional or business role, the more she is taking care of the children and the more he will encourage his children to join in the armed forces.

Figure 11: Correlation of Mother's Profession vs ISSB_IGT

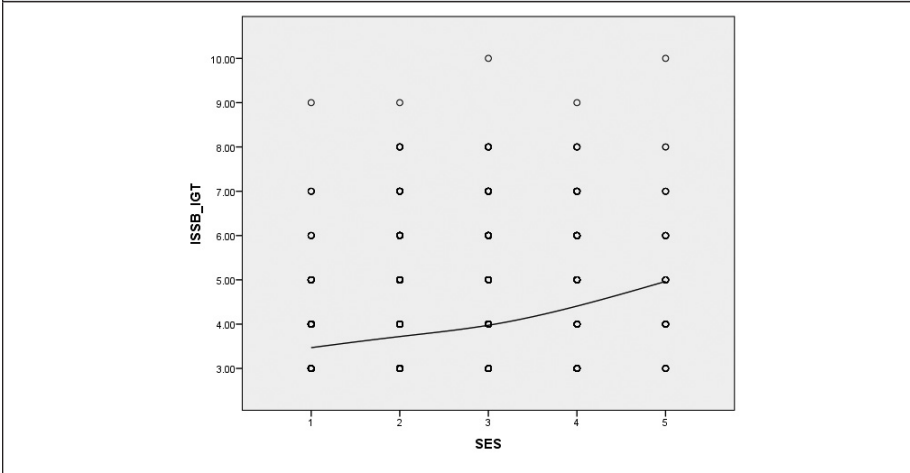


The correlation coefficient between BIR/IQ and ISSB_IGT is 0.273**, which is significantly positive. BIR/IQ positively related to the ISSB selection rate, and it is significant. That explains that a higher level of intelligence level (BIR/IQ) ensures better selection chances at ISSB.



The correlation coefficient between Socioeconomic Status and ISSB_IGT is 0.252**, which is significantly positive. Socio-economic status was grouped into five different subcategories as Humble (1), Lower Middle Class (2), Middle class (3), Upper Middle Class (4) and High Class (5). The gradual upper level of Socio-economic Status is positively related to the ISSB selection rate, and it is significant. That explains that the more the candidate comes from, the better socio-economic status and established family, the more the possibility to be selected at ISSB.

Figure 13: Correlation of SES vs ISSB_IGT



Proposed Module for Preliminary Selection System

Guidelines for Preliminary Interview Board. The general instructions for the preliminary board members circulated by the PA directorate need to be revised. Due to scanty guidance, there are scopes of confusion that prevails. A board of officers may form to formulate practical guidance for preliminary board members by the PA directorate. However, the proposed guidance is appended below, considering the preliminary board members' observations, practical necessity, and proposition collected through this research survey. This may be circulated to all Board members for further observation with the latitude of inclusion and deletion within the summer 2022 session. When finalised, it may be circulated officially by a director from the winter 2022 session onward.

Serving the nation as a commissioned officer of the armed forces had always been the most prestigious and highly demanding opportunity for all since long. The actual picture gives a different indication of a definite declination of quality candidates in the Bangladesh Army.

The shortage of officers in the Bangladesh army is a matter of great concern at this moment. Within the last decade, Bangladesh Army has expanded

manifold in terms of infrastructural and organisational development. However, the number of officers has not been increased at the same pace. In this connection to address the issue, several pieces of research were carried out by several military organisations and individuals to address the issues related to the shortage of officers in the Bangladesh Army.

In some studies, it was found that it is not the quantity, but the quality of candidates selected by the preliminary board that can increase the overall selection for Bangladesh Army. Hence, as a board member, one needs to understand the intricacy of the preliminary selection process. Some guidelines are appended below to have a synergistic understanding. Nevertheless, it is to be remembered that these guidelines are not exhaustive and need to be periodically reviewed by the appropriate authority.

Look for the Basics. The Preliminary Selection Board looks for the basic qualities of a potential military leader, which encompasses honesty/integrity, determination/motivation to be a military officer, emotional state, sense of responsibility and other leadership qualities. As these are mostly intangible in nature, the interviewer must not draw any conclusions from the answer. Neither he should expect any straightforward answer from the candidate.

Trainable and Non-Trainable Qualities. The interviewer must understand the difference between trainable and non-trainable qualities. As trainable qualities can be improved upon over time, thereby those can be viewed leniently. Like general smartness/casual attitude, vocabulary/English speaking ability, general knowledge, self-confidence, physical aspect (obesity or any minor health issues) etc.

Observe Candidates' Insight. Generally, a candidate at the preliminary level is assessed by their overt outlook/behaviour. Instead, a deep observation is necessary to pick the right candidate. For example, a candidate from a rural background is less likely to have general smartness, a good vocabulary and a polished outlook. So, in these circumstances interviewer should look for their determination/motivation to join

Bangladesh Army. Because a determined candidate can always attain those trainable qualities.

Focus on Uniqueness. Instead of looking for the limitations for all cases, the board should concentrate more on the candidates' overall personality pattern, which will be useful to determine the candidates' merit for selection or rejection. One Candidate should not be compared with the other one. Each of them needs to be treated as a unique individual. Academic attainment, in many cases, may not project the actual merit of a candidate. Thus preliminary boards need to probe such matters with additional care.

Look for the Potential. Besides the present performance of a candidate, the preliminary board should foresee the innate potential within them, which is likely to be exposed in due course of time. The focus should be on 'what he or she would be', not on 'what she or he is'. Thus the board should relate candidates' projected performance with their background, environment and the facilities they are used to. A candidate with less exposure to the facility (like a candidate from a rural background) is likely to have temporary shortcomings. If they get better facilities, may come up later. Such an aspect needs to be considered with the correct perspective. On the contrary, the candidates who had enough opportunities but could not flourish as expected may rather be considered less qualified.

Be Aware of Moral Turpitude Issues. Any glimpse of moral turpitude cases like drug addiction, violation of law and unusual sexual habit and involvement must be viewed in the proper manner. Involvement in the cyber world and/or platform may also act as an important tool to assess the candidate.

The interviewer must understand the psyche of the present generation. One must not compare the candidate's quality with his own. Because of the generation gap, the present generation's behaviour, choice of words and lifestyle may not be commensurate with the interviewers' own.

Put on the Candidate's Shoes. These are general guidelines only. An interviewer must use his vast experience and judgement ability therefrom. The core issue is that a candidate has to be assessed to see or identify the inner soul. Minor issues may be overlooked at this stage. Due to our social structure, many candidates appear preliminary to judge themselves. When found qualified, prepare themselves for the military. More so, after the preliminary, there are three major steps to mould/ train a candidate to make a military officer.

Central Briefing. Before the commencement of each session, the Preliminary Board members may be briefed centrally by the DPA and/ or concerned staff officer of the PA directorate, including experts from various stakeholders, to keep all the board members' understanding in the same platform. Video teleconferencing (VTC) may be used to save time and reduce administrative arrangements. The query and confusion of the board member can also be addressed at this conference. As implementation of this system does not entail any early preparation, thus this system can be introduced from the summer 2022 session onwards.

Reviewing the Eligibility Criteria. Eligibility criteria set by the authority may be reviewed through a board of officers comprising representatives from all stakeholders. The requirement set for the eye-sight, knock knee, overweight, skin, and other temporary/minor physical aspects may be considered leniently at preliminary medical. As these are temporary and curable, a candidate may be allowed to recover from the deficiency in due time.

Candidates' Information Form. From the previous discussion, it is evident that early preparation before the interview assists the interviewer to assess the candidate better. The current information provided to the preliminary board member are little scanty, inadequate and to some extent redundant. So the proposed format for the information will enhance the interviewer to have a better idea about the candidate before they appear before the board. Most importantly, no additional effort is needed for such

development. As any candidate applying for Bangladesh Army provides all necessary information through the online application system, only minor adjustments in the software will allow the board members to have such ready reckoner during the interview. A suggestive form is appended below. This may be introduced from the summer 2022 station by the PA directorate.

Table 2: Proposed Candidates Information Form for Preliminary Interview Board				
Name of the Candidate	Date of Birth	SSC Result & Institution	HSC Result & Institutions	Extracurricular Activities
(a)	(b)	(c)	(d)	(e)
Favourite Subject	Father's Education, Profession & Income	Mother's Education, Profession & Income	Contact Information (Mobile & Mail Address)	Remarks
(f)	(g)	(h)	(j)	(k)

The board members may also have a structured or semi-structured interview format based on which the interview may be conducted. This will allow the interview board to conduct more interviews in the minimum possible time. As an outcome of this research, a structured interview questionnaire is appended below. This structure may be used as a test and trial basis from the summer 2022 session for two years/ four sessions in particular boards only. If it is found effective, it may be circulated centrally by PA Directorate.

Structured Interview. The answer to the question set for the Structured Interview can mostly be obtained from the candidate information form. However, most of those questions can be asked again to the candidate. As these are very generic information of the candidates, they will be in their comfort zone. In other words, it will make the candidate very relaxed

in the interview board. This informal response is very much essential to judge candidates' compatibility with military services. The interviewer will mark the candidate's response with 1 to 5 against each question. The candidate getting below 15 in total may not be considered for selection at the preliminary level. The questionnaires are as follows:

- a. Patentability of the candidate (Details in table-4):

i. Highly presentable.	05
ii. Presentable.	04
iii. Average.	03
iv. Less presentable.	02
v. Not presentable.	01

- b. Standard of educational institutions:

i. Best colleges of Dhaka city.	05
ii. Best colleges of Divisional City.	04
iii. Good colleges in the country.	03
iv. Other colleges of the country.	02
v. Not reputed colleges in rural areas.	01

- c. Background (Father and/or Mother)

i. High Officials of Government Organizations/ Joint Secretary and above/ Brigadier General and above or equivalent of Armed Forces/ Businessman with very high status like CIP/ Ranked between 1-21 in the warrant of precedence.	05
ii. BCS officer/1st Class Gazetted Officer/Professor of University / Reputed Businessman/Ranked between 22-25 in the warrant of precedence.	04
iii. 2nd class government officials/teachers of High School and Primary School/Junior Commissioned Officer of Armed Forces.	03

iv. Class III Government Officials/Non-Commissioned Officers and below of Armed Forces/ Business with average slandered.	02
v. Class IV Government Officials or any other humble background.	01
d. Family Income (Monthly)	
i. 2 Lacs and above.	05
ii. Above 1 Lacs and below 2 Lacs.	04
iii. 51 Thousand to 1 Lacs.	03
iv. 31,000 – 50,000.	02
v. 5000 – 30,000.	01
d. Involvement in extracurricular activities	
i. Highly involved with outdoor and indoor extracurricular activities	05
ii. Highly involved with only outdoor activities.	04
iii. Highly involved with only indoor activities.	03
iv. Sometimes get involved with extracurricular activities.	02
v. Not at all involved with any extracurricular activities.	01

The term presentability is often used, which is comparative and blurry. As it varies from individual to individual, thus it demands further explanations. Category-wise indicators of the candidate's presentability are appended in table 3.

Table 3: Category-Wise Indicators of Candidate's Presentability		
Serial	Category	Indicators
1.	Highly presentable.	• Outstandingly mature and presentable. • Very well-groomed and polished. • Can set an example everywhere. • Well equipped with mannerisms and knows courtesy. • Always cheerful and optimistic-minded.
2.	Presentable.	• Always neat and clean. • Smart and well-polished. • Mature in his behaviour and action. • Can present himself well. • Lively and amiable.
3.	Average presentable	• Generally smart and polished. • Usually presentable. • Generally cheerful and pleasant. • Presentable and sober character. • Shows mannerisms and courtesy.
4.	Less presentable.	• Not quite smart and polished. • Untidy and less sophisticated. • Cheerless and dour. • Has idiosyncrasy. • Irritating verbal and physical expression.
5.	Not presentable	• Unkempt hair and shabby. • Shows ill manners. • Unpolished and outsmarting. • Uncouth and repulsive. • Squint eyed.

Limitation and Challenges

Guidelines given in proposed general instruction and modalities of structured interview questionnaires must be explained through VTC meetings. Otherwise, reading it in isolation may generate more confusion and thereby aim of developing proposed general instruction may be jeopardised. Besides, it needs to be regularly updated as the education system and society undergoes rapid changes. Thus the proposed instructions for preliminary Board members need to be reviewed periodically.

Integration of software or software-based interviews would allow the board members to access candidates' information and upload the result quickly. Nevertheless, it may take some time to develop the system. And most importantly, candidate information needs to be synchronised; otherwise, the scope of the dual effort remains.

Conclusion

Demographic data assist in understanding and assessing human personality through the inferential attributes of demographic variables. So it is one of the most critical indicators to analyse a larger population of a sample. It can predict the potential of an individual. For any organisation, having the right human resources with the right quality is of utmost importance. Thus the present study demands a time-worthy update of the preliminary selection system to include demographic variables as the aid for the selection tools.

Bangladesh Army conducts preliminary tests under the overall supervision of the PA Directorate to select potential leaders for Bangladesh Army. In the current study, a holistic analysis has been carried out starting from setting up the eligibility criteria up to joining Bangladesh Military Academy. In between the existing advertisement procedure, preliminary medical, viva voce and written tests are also analysed. It was found that there is a need for detailed guidance and a systematic approach to identify and

evaluate the demographic variables during the preliminary interview. In reality, the demographic variables are evaluated passively without enough background knowledge at this stage. This leaves the scope of incorporating the scientific method to draw logical deductions against each candidate.

The current study found that in the absence of comprehensive guidance for the preliminary board member, the interviews are being conducted in different modalities. Due to the absence of harmonisation, the duration and pattern of the interviews also vary from board to board. It necessitates methodological guidance for the preliminary Board members, which will enable the interviewer to concentrate more on the focused demographic variables. More so, conducting a central briefing by the PA directorate prior to each station through VTC would bring synergy among the boards. This will also enable the PA directorate to disseminate their expectations besides the core issues of selection and board members to clarify their queries.

From this study, it was identified that a well thought structured interview questionnaire is necessary for the Preliminary Selection Board. The questionnaire should include the demographic variables that need attention to decide upon a candidate's selection or rejection. As the Board members hardly possess any academic knowledge and/or professional experience in conducting such interviews, it will assist them in conducting their interviews more professionally. The structured questionnaire would be objective-oriented. This will allow the board members to evaluate a candidate more objectively without any prejudice. The selection of potential military leaders for the Bangladesh Army is the most vital step for developing the Bangladesh Army. In other words, it can be considered the first window through which potential military leaders are assessed and selected. So, evaluating demographic variables proved unquestionably crucial by the present study for a dynamic organisation like Bangladesh Army.

This research has set course under the prelude that demographic variables (Independent Variable) have considerable impacts on the potential military

leaders' selection system (Dependent Variable), and this condition will imply for Bangladesh army (Clause of the dependent variable). The outcome of the statistical analysis of this research proved significant giving definite indications about the impact of the demographic variables in the ISSB selection system. In other words, demographic variables have a positive influence on the ISSB selection system. It gave further inference that using the same demographic variables in preliminary selection will enhance the performance of the candidates in the subsequent test i.e. at ISSB. To prove this inference, KII's response was analysed with a structured interview questionnaire (primary data source). Through the discussion, most of the respondents opined that demographic variables are critical in all the phases of the preliminary selection system but not implemented structurally like ISSB. Based on the survey findings and considering all the data regarding the impact of demographic variables a module has been proposed. Thus the current study has confirmed that an integrated selection system considering focused demographic variables during preliminary selection would enhance the performance at ISSB and thereby, increase the overall quality as well as quantity of potential military leaders in the Bangladesh Army. Nevertheless, this hypothesis can only be full proved if tested and analysed in the practical domain.

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Author

Lieutenant Colonel Muhammad Nurul Amin was commissioned on 08 June 1999. He served in many diversified and coveted appointments in his career. This includes 5 years of service in CHT under operation UTTARAN & DABANAL and 2 times service in RAB as Operations Officer and Company Commander. He was the Zone Commander of the Laxmichari Zone while Commanding a Field Regiment. As a staff, he was Brigade Major; 66 Artillery Brigade and General Staff Officer-2 (Formation Training and Evaluation); ARTDOC. He is privileged to be a proud member of “Blue Helmet Family” once in Cote de Ivory & Liberia as Military Observer. Besides all mandatory courses, he did CSRT course in the USA & he is a MIRPURIAN. He achieved the Gallantry Award BSP by leading a successful operation at CHT. He also secured the first position in the ‘Army Essay Competition-2016’.

INFLUENCE OF CHANGING SOCIO-ECONOMIC DYNAMICS ON SOLDIERING: NEED FOR SUITABLE LEADERSHIP APPROACH FOR THE MID-LEVEL OFFICERS OF BANGLADESH ARMY

Lieutenant Colonel Iftekhar Ahmed, SGP, PPM, afwc, psc

“From today you are going to be the leaders of the Army. You have responsibilities to the nation, to the people, to the country, to your subordinates and your commanders.”

- Father of the Nation (In his maiden speech at BMA)

Introduction

“The soldier is not chiefly a military figure; he/she is primarily a social figure. No matter what may be installed in him in the army, the soldier will retain the character which he derives from his environment. He will reflect, primarily, the national character of his country. Anything which weakens the national character weakens the Army’ said Field Marshal Montgomery. The socio-economic environment of Bangladesh has undergone a steady transformation in recent years causing substantial changes in social structure and cultural values. Whether these changes manifest positive or negative influences on soldiering depends on the congruity and incongruity of societal and military culture. The military is very much part of society and can no way ignore the effect of changing the socio-economic environment of the country. If the changes conform to the normative culture of soldiering, then the effects will grow stronger on the other hand the negative impacts may transcend the perception, attitude and behaviour of soldiers beyond defined parameters, offering multi-pronged challenges for leadership. Hence, it is essential to make a comprehensive study on this issue and take appropriate remedial measures for ensuring a healthy organizational climate in Bangladesh Army.

Today micro environment of the Bangladesh Army focuses on making enlightened soldiers while the macroenvironment poses a strain on the process caused mainly by urbanization, a growing economy, decaying ethical standards, growing individualism, IT obsession and cultural aggression. Such dichotomy brings multi-pronged impacts on traditional soldiering culture and challenges to command (Ahsan, 2014). To deal with such challenges leadership today must be resilient, marked with unquestionable leadership superiority which is focused on the dignity of subordinates and devoid of the play-safe syndrome. Generally, leadership researchers suggest that an effective leader should be able to articulate the vision, instil trust, belief, loyalty and lead employees' talents directly towards achieving the organizational goals (Kirkpatrick & Locke, 1996; Strange & Mumford, 2002; Levin, 1999; Bennis, 2002; DePree, 2002).

It was found that a general weakness prevails in Bangladesh Army regarding the judicious and balanced application of leadership and motivation theories and functions. The culture of accepting 'resistance to change' as a natural phenomenon and managing the resistance by applying the right strategy/ methods is not yet in practice' (GSTP, 2012). Albert Einstein said, "We cannot solve our problems with the same thinking we used when we created them." The military domain is one of the main areas where leadership is applied on a day-to-day basis, therefore its leadership practices will certainly be impacted as well. As the military role becomes broader and more complex, it becomes harder to specify with any degree of certainty what knowledge and skills might be required of military leaders. However, leadership involves concern both for task performance and for people's needs, aspirations and expectations which require paying attention to, and knowledge of, the influence which motivates people as members of the group as well as an individual (Sadler, 2005). Given changes in the socio-economic landscape and associated changes in the units of the Bangladesh Army, a thorough study is, therefore, necessary to identify the prevailing leadership challenges in the units and look for a suitable leadership approach to manage the apparent complexity of the changing socio-economic dynamics on soldiering to keep the leadership and professional standards intact.

Significance of the Research Problem

Being part of society, soldiers cannot be completely insulated from the effects and influences of changing socio-economic phenomena that occur in and around them. Today's soldiers are much better aware, educated and aspiring than their predecessors. Rising awareness and education have increased the aspirations and expectations amongst them and soldiers are now becoming increasingly perceptive about dignity and the need of self-esteem. The economic solvency of the families has also improved their social standing as well as their expectations. Moreover, the most significant effect of the socio-economic change is also observed due to the inception of social media, the availability of information and communication technology and multicultural exposure. These external factors affect the psychological spectrum of soldiers and brought about a paradigm shift in their behavioural patterns. The existing leadership practice of the Bangladesh Army is inherently conservative. Soldiers are expected to follow orders and instructions without many questions and queries. Leaders at different levels expect the soldiers to behave according to their orders and expectations. Thus, the effects of changes due to 21st-century socio-economic design are likely to contradict the existing leadership perception. This study will also enable the mid-level officers of the Bangladesh Army to assess the present psychological gap with their under commands due to changing societal dynamics. This will eventually help them to find an appropriate leadership approach that will reinforce their interpersonal relationships and thereby enhance the organizational performance.

Literature Review

Schein (1991) in his book 'Organizational Culture and Leadership' opined that groups and organizations within a society develop certain cultures that affect in a major way how the members think, feel and act. Organizational culture is developed considering the organizational requirement to harness maximum output from its members for task accomplishment. Certain changes in core ingredients of organizational culture will adversely affect overall organizational efficiency.

William (1988) in his book *Sociology In a Changing World* and Wole Akande (2002) in his book 'The Drawbacks of Cultural Globalization' asserted that aggressive and negative consequences of globalization are blurring distinctions of collectivism or interdependence of non-westernized culture by individualism or independence of European American culture.

Fullan (2001) in his widely commended study described five components: moral purpose, understanding change processes, relationship building, knowledge building, and coherence making which define a successful leader. He also articulates three personal characteristics i.e. energy, hope and enthusiasm which all leaders must possess. His study further suggests that the suggested characteristics will also be useful to lead in a culture of change in complex times.

Ahsan (2014) in his article "Impacts of changing socio-cultural environment on soldiering and corresponding challenges to command: Bangladesh Army Perspective" broadly discussed the soldiering culture in the army as a sub-set of larger socio-cultural environment that helps mold one's attitude and behaviour. Rapid urbanization, growing economy, decaying ethical standards, growing individualism, etcetera are impacting traditional soldiering culture and thereby increasing challenges to command. Finally, the article suggested a few measures to broadly address these challenges but he did not mention any specific model or suitable leadership approach to deal with the changing leadership environment.

Aziz (2018) in his research "Effective leadership: required traits and style for Commanding officer of BD army" described the traits approach, middle of the road or team management of style approach, and situational (behavioural) approach. He proposed for transformational leadership approach to meet the likely future battlefield scenario. However, he did not mention the influence of changing socio-economic dynamics on the behaviour of under commands and its impact on the command environment. One of the chapters of his research highlights the leadership challenges that Commanding Officers face in the present day. But he did

not mention how the proposed leadership traits will mitigate the existing leadership challenges.

Specific Objectives

- To identify the socio-economic changes that are taking place the society.
- To analyze the contemporary leadership styles and prevailing leadership practices in the units of Bangladesh Army.
- To identify the emerging leadership challenges for the mid-level officers in the units of Bangladesh Army in view of changing socio-economic dynamics
- To Identify leadership attributes necessary to address the prevailing leadership challenges and suggest a suitable leadership style for the mid-level officers of Bangladesh Army.

Research Methodology

This is exploratory research where mixed (both quantitative and qualitative) methods were applied. Data were collected from both primary and secondary sources. Content analysis was done through the secondary data collection method. Qualitative analysis was done by analyzing different documents like a research reports, books, articles in the Periodical/ Journals, documents from open source, GSTP/ATPs, etcetera. For the survey, one set of questionnaires was circulated to the Commanding Officers and mid-level officers of some selected units of fighting and supporting arms all over the country where a total of 200 officers responded. A Multifactor Leadership Questionnaire (MLQ) was also served to them to ascertain the leading trend in the units of Bangladesh Army. The second set of questionnaires was also circulated to the Junior Commissioned Officers (JCO) and Other Ranks of some selected units

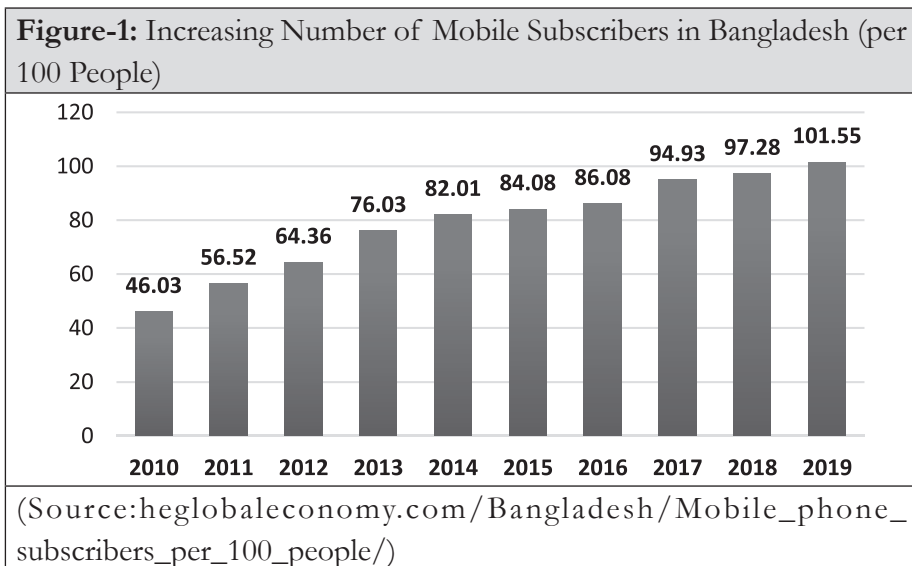
of fighting and supporting arms of various formations within the country where a total of 300 JCOs and Other Ranks responded. Senior Officer's interview was also conducted as the primary data collection method. The researcher conducted the interviews based on an open-ended structured questionnaire. However, the unstructured interview was also conducted in a few cases (mostly the senior officers) with few modifications in the questions. Data and information on the units were collected from Army Headquarters and concerned military units by personal and telephone/WhatsApp communication for conducting case studies. Two FGDs (one with the former/experienced COs and one with current COs) were carried out to identify the challenges and expected leadership attributes from mid-level officers of Bangladesh Army. Officers with command experience were the primary focus of the FGD. Data analysis was carried out based on frequencies, descriptive correlations and charts which are represented by graphs, charts and tables.

Negative Effect of Changing Socio-Economic Dynamics

The society of Bangladesh is gradually transforming from its agro-based mindset to a moderate industrialization society. The cumulative effect of socio-economic changes like the communication revolution with cheaper cell phones, affordable electronics, internet connectivity, the effect of satellite television, cultural aggression and globalization etcetera have a great influence on our society. These aspects gradually change the definition of moral and ethical values in society which ultimately affects the social and cultural system resulting in a society of corruption, insecurity, materialism, and disorder (Hasan, 2018).

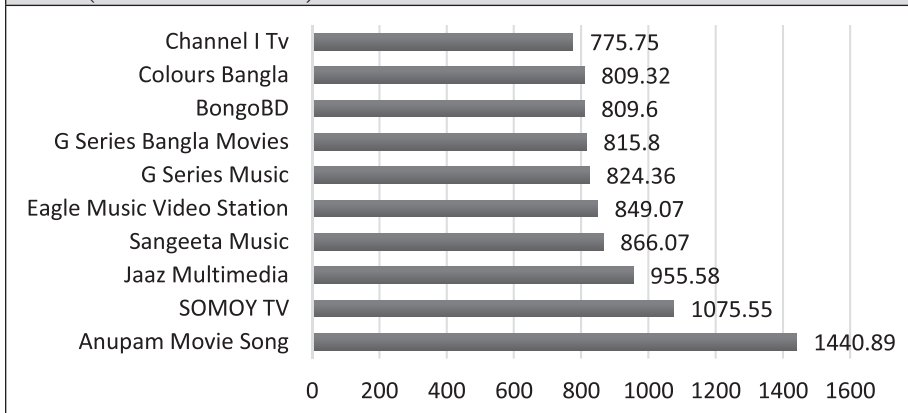
The 21st century has observed phenomenal changes in information and communication technology. The mass population has accepted mobile phones as an inseparable part of their daily life (Figure 1). IT has resulted in a significant shift in communication, business, education, entertainment, and lifestyle, all at a lower cost and with greater accessibility. However, although IT has facilitated virtual interactions between individuals but

also declined personal contact. Now, we are content with life in a ‘virtual world,’ and our connections with other organization members usually continue to worsen. As of October 2021, the total number of internet user in Bangladesh is 112.715 million (Commission, 2021).



Moreover, the rising interest in the cultures of others is also impacting the new generation’s psychology, which is usually referred to as cultural aggressiveness. Our society is very much subjected to this trend. The ingress of foreign culture has a pervasive effect on our behaviour and conduct, our interaction with society, our attitude to life, social norms, practices and rituals. Soldiers of our army, being the elements of the same society, are also affected by multicultural aggression.

Figure 2. Most popular YouTube channels in Bangladesh as of August 2020 (millions of views)



(Source: <https://www.statista.com/statistics/937304/bangladesh-leading-youtube-channels-by-number-of-views>)

Socio-economic dynamics are the social and economic events that shape one's values, personality, and way of life. In addition to the positive effect of technological advancement, educational development, the negative effects like corruption, multicultural aggression, increasing materialistic views etcetera are also impacting the core values of our society. Soldiers of our army, being the elements of the same society, are also affected by these changes.

Commonly Practiced Leadership Approaches

Various types of leadership styles can be found all over the world, and the leaders of the BD Army are following them either consciously or unknowingly. Characteristics and traits differentiate leadership styles. Some characteristics are common, whereas others are unique. Some are learnable, while others are innate. Five contemporary and acceptable leadership styles are discussed in the following paragraphs to draw lessons.

Transformational Leadership. Transformational leaders motivate others to do more than they originally intended and often even more than they thought possible. They set more challenging expectations and

typically achieve higher performances. Moreover, transformational leaders empower followers and pay attention to their individual needs and personal development, helping followers to develop their leadership potential (Brass and Riggio, 2005).

Servant Leadership. A servant leader is motivated by the desire to serve others. This is a philosophical approach to leadership that includes a collection of practices for forming a cohesive organization. It improves people's lives and makes the company more just and compassionate.

Visionary Leadership. First defined by Goleman (2002), the visionary leader is a type of leader who inspires others with a vision and helps them realize how they can contribute to that vision, allowing the leader and followers to collaborate on a shared vision for the future. Visionary leaders are frequently charismatic and tenacious in the pursuit of their goals. (Statisus, 2021).

Transactional Leadership. A transactional leader, according to Bass and Avolio (2021), consider the relationship between him and his subordinates as a transaction in which followers' needs are met if their performance comes up to the explicit or implicit contract with the leader. He respects the needs and desires of his subordinates but makes it clear that their fulfilment is contingent on the types of efforts they will make to achieve the organization's goals.

Situational Leadership. Situational leadership is a leadership style in which a leader adapts their leadership style to the existing work environment and/or team demands. This leadership style is not focused on a leader's abilities; rather, it is based on a leader's ability to adapt to the needs of a team or organization to become a better and more effective leader.

Leadership Style in Practice by the Midlevel Officers of Bangladesh Army

Many leadership styles are practised by military leaders all over the world. In this research, Multifactor Leadership Questionnaire (MLQ), developed

by Bass and Avolio was applied to 200 mid-level officers including the Commanding Officers of Bangladesh Army through a survey questionnaire to determine their leadership practices. When their leadership attributes are compared to the benchmark, it is found that most leaders endeavour to follow the transformational leadership style, yet many fall short of fulfilling the desired attributes of transformational leadership. On the other hand, it was found that mid-level officers of Bangladesh Army have a bias toward a transactional leadership style. Hence, a blend of transformational and transactional leadership styles is prevalent among the mid-level officers of Bangladesh Army with a preference for transactional leadership. Surveys, interviews and FGDs during the study also validate the findings. It can be concluded that presently mid-level officers of BD Army follow a varying leadership approach and under commands frequently have to adjust with their leaders which affects their performance and leadership environment in the unit.

Challenges Faced by Present Mid-Level Leadership in Army due to Socio-Economic Changes in the Society

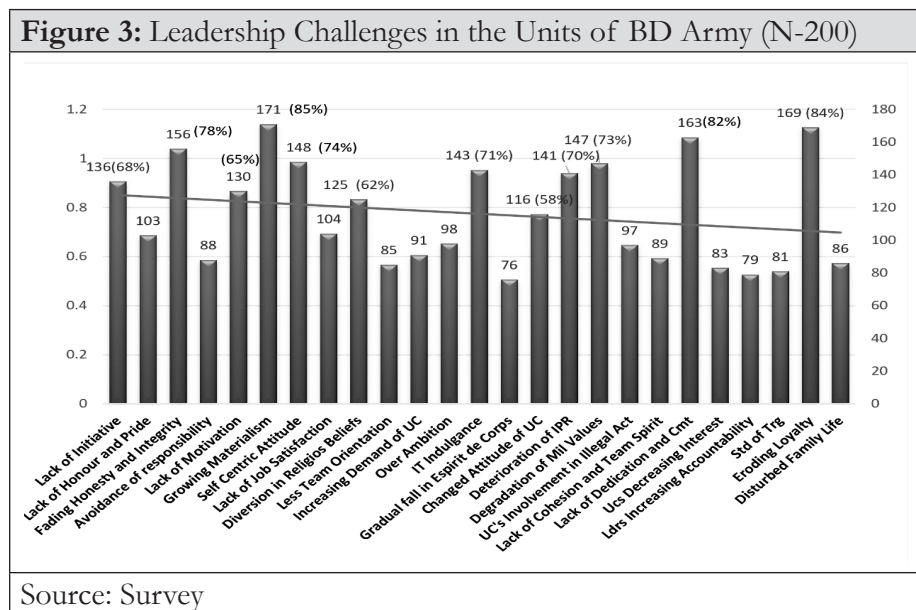


Figure 3 shows a total of 25 leadership challenges which were identified from content analysis and literature review. The perceived challenges were further evaluated and validated through a survey and FGD. Some of the most significant and relevant leadership challenges found during the survey and FGD are highlighted below:

Growing Materialistic Attitude. A growing sense of materialism infuses materialistic attitudes among present-day soldiers. The pursuance of materialism keeps soldiers obsessed with materialistic thinking, allowing less time and attention for soldiering. More worrying, over materialistic attitude may act as a de-motivator to the soldiers of the unit (Sadi, 2021).

Eroding Loyalty. Loyalty bears true faith and allegiance to the country, the army, the unit and other fellow mates. A loyal soldier supports leadership and stands up for fellow soldiers (Rahman, 2019). Growing liberalism, increased demand for dignity, and over-consciousness of own rights are gradually diminishing the trend of unquestionable loyalty.

Degradation of Military Values. Army culture is built on a foundation of customs, traditions, values, ethos, and standards. Lack of patriotism and pride, individualism, and the general decline in society's values are the root causes of the Army's ethos and values degradation (FGD-2).

Lack of Motivation. In the military, motivation is a critical component for winning wars and overcoming adversity. Motivation drives an individual to take responsible actions even in the absence of orders; it has a direct bearing on the formulation of esprit-de-corps and morale. The results of the survey also indicate a downward trend in dedication and sense of responsibility among all ranks of the military.

IT Indulgence. IT has altered the traditional social structure, resulting in the formation of new "Facebook Generations," and soldiers have been impacted by this trend to varying degrees. The excessive use of smartphones, social media, and other technologies is also contributing to a social disorder where increasing illicit relationships, extramarital affairs, sexual abuse, and perversion remain a major concern.

Fading Honesty and Integrity. Honesty and integrity do not always refer to financial matters, but also to an individual's ability to carry out the duties and responsibilities bestowed upon him or her. Some people have become greedy, selfish, and immoral because of the increasing need in society. Exposure to economic and social changes and a consequent growing sense of insecurity has led some of our soldiers inclined to unhealthy and corrupt practices to accumulate wealth (Rahman, 2019).

Diversion from Religious Beliefs. Religious beliefs are the core values of a human which guide him to the right path. Easy access to IT gadgets, rapidly growing cultural aggression, the rise of corruption, materialistic attitude etcetera are a few of the root causes of diversion from religious beliefs.

Suitable Leadership Approach for the Mid-Level Officers of Bangladesh Army

Future leaders are likely to face complex challenges influenced by changing socioeconomic realities. Moreover, the expectations from the leaders by the senior leadership as well as both mid-level officers and under command are likely to be higher in the future days. The expected leadership attributes from the future mid-level military leaders by our senior officers are highlighted below. All the expected leadership attributes by the senior officers were also largely agreed upon by both mid-level officers, JCOs and ORs respondents.



Judgement and Decisiveness. Judgment and decisiveness are fundamental leadership attributes which contribute to decision-making. Decisiveness can be viewed in two contexts: firstly, judgment and the decision-making process and secondly, acting decisively to exploit opportunities. Many times, Commanders will have to make decisions in the absence of necessary information and in the face of limited time (FGD).

Vision. A leader needs to have a clear goal and vision based on the organizational goal and his leadership philosophy. The leader is responsible for effectively articulating and outlining the vision for the unit. Leaders must ensure that the unit’s internal environment is also aligned with the vision once the vision has been properly defined. Asad (2021) opined that the unit’s vision acts as the glue that holds under commands together and maintains momentum despite adversity.

Professional Competence. Leaders must be tactically and technically competent at their level and search for opportunities for self-improvement regularly. A primary prerequisite of a successful leader is the development of expert professional competence that leads to professional mastery. According to Manekshaw (1998), professional knowledge and professional

competence is a sine qua non of leadership. Unless one knows what, he is talking about, unless one understands his profession, he can never be a leader.

Uprightness. The ability to stand tall in front of subordinates is a key attribute of leadership. To speak the truth to his men, a leader must be truthful and upright. Many officers agreed that uprightness is a critical leadership quality that allows a leader to remain authentic and strict (FGD).

Innovative and Encourage Creativity. An innovative leader will create new possibilities within the battalion's framework to maximize the positive potential of the new generation of soldiers. Simultaneously, he understands how to inspire a soldier while still protecting him from the negative influence of socioeconomic changes in society.

Coach/Teacher. Organizational fitness and mission accomplishment depend on its every member's ability and competence to perform to a defined standard. Through teaching, coaching, and counselling, leaders must mentor their subordinates. Military leaders should be able to recognize the deficiencies of UCs, define organizational goals, design and implement action plans, and provide guidance and encouragement throughout the process. (Rahman, 2021).

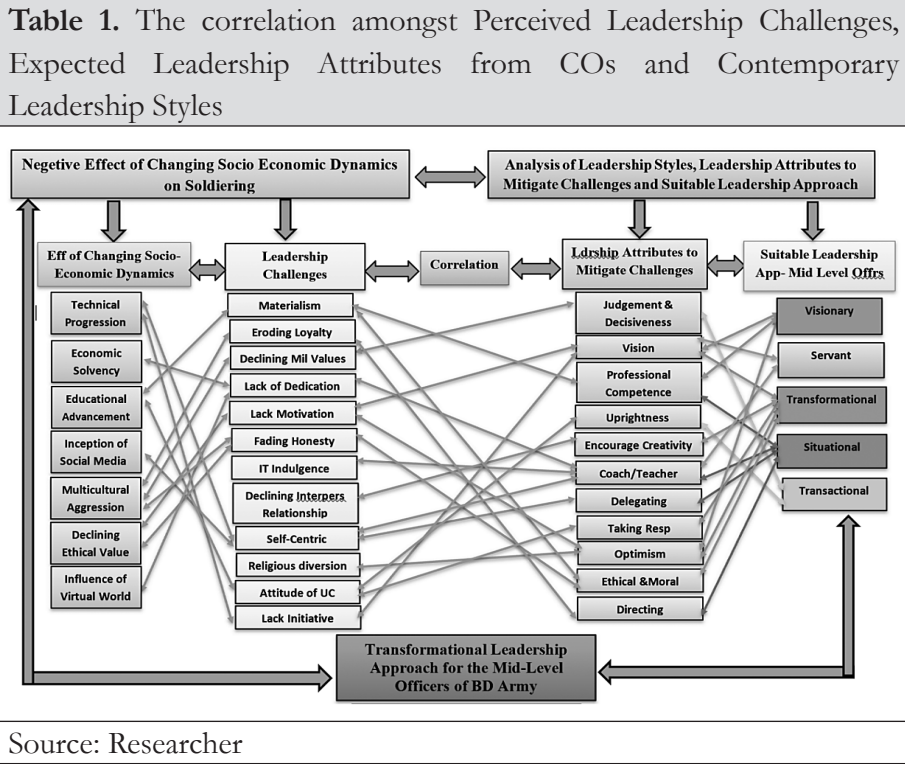
Delegating. Delegating is 'allowing subordinates to have substantial responsibility and discretion in carrying out work activities, handling problems, and making important decisions. The principle in delegating is to understand the strengths and weaknesses of the subordinate. The leader must also decide what to delegate with an awareness of what can and cannot be assigned to someone else and finally, the leader must be an effective communicator.

Optimistic. Optimistic leaders often look for the bright side of a situation. An optimist is someone who believes in a brighter future. Instead of focusing on challenges, they concentrate on opportunities. They know what motivates and drives them to live happy and successful life. Leaders

who are optimists have the potential to foresee a better future and can encourage and motivate others to work for the common goal (Sandford, 2021).

Uphold Ethical and Moral Values. Leaders play a crucial role in establishing and maintaining a strong ethical and moral climate that can resist both peacetime and operational soldiering pressures. This can only be accomplished by demonstrating honesty and leading by example. It entails sincerity, dependability, selflessness, and consistency of approach. (Maksud, 2021).

The correlation amongst Effect of Changing Socio-Economic Dynamics, Perceived Leadership Challenges, Expected Leadership Attributes from COs and Contemporary Leadership Styles



Source: Researcher

From the above correlation study, it is obvious that a transformational leadership approach is likely to be most effective in addressing the challenges posed by changing socio-economic dynamics on soldiering and meeting the expectations of the senior leadership of Bangladesh Army. According to the survey, both senior officers and mid-level officers including Commanding Officers, Ex Commanding Officers, Second in Command opined for the Transformational Leadership Approach as the most suitable leadership approach for the mid-level officers of Bangladesh Army

Leadership Approach Suggested by the Mid-Level Officer Respondents. A survey of 200 mid-level army officers, including Commanding Officers, Ex Commanding Officers, Second in Command and Company Commanders was also conducted to ascertain their views on the most appropriate leadership approach that mid-level officers of the Bangladesh Army should follow to meet the leadership challenges emanating from changing socioeconomic dynamics of the society. Figure 5 shows the response matrix where 52% of the respondents opted for the Transformational Leadership Approach and 38% opined for the situational leadership approach.

Case Study: Relationship between Unit Performance and Leadership Styles of Commanding Officer

An endeavour was also made to see the relationship between unit performance and the leadership style of the individual COs of those units. To do this, the marks of unit fitness inspection, achievement in games and sports, results of soldiers in army level courses in a year, unit discipline state, state of MT accidents, etcetera were comparatively analyzed. The results of the survey revealed that most of the Commanding Officers suggested to follow a Transformational Leadership Approach to effectively address the influence of changing socio-economic dynamics on soldiering. But, almost all the COs more or less were found practising the attributes of either Transformational and/or Transactional leadership approach. However, The COs practising Transformational Leadership could contribute comparatively better to address the challenges of the unit

and thus achieve good results. Their very good score in FI, good discipline record, good results in games and sports as well as army courses, less MT accidents, etcetera also validate the assertion.

Conclusion

The socio-economic environment of Bangladesh has undergone a steady transformation in recent years causing substantial changes in social structure and cultural values. Being part of society, soldiers cannot be completely insulated from the effects and influences of changing socio-economic phenomena that occur in and around them. Today's soldiers are much better aware, educated and aspiring than their predecessors. Besides, the inception of social media, the availability of mobile phones with the internet, information and communication technology and multi-cultural exposure, etcetera have a profound influence on shaping the behaviour pattern and attitudes of the present generation. Hence, an appropriate leadership style may be needed to mitigate the emerging complexities of changing society. There are multiple contemporary leadership styles followed by the mid-level officers of Bangladesh Army. This study is expected to assist the mid-level officers of Bangladesh Army to find an appropriate leadership approach that is likely to reinforce the interpersonal relationships with their under commands and thereby enhance the organizational performance.

The society of Bangladesh is gradually transforming from its agro-based mindset to a moderate industrialization society. The cumulative effect of socio-economic changes like the communication revolution with cheaper cell phones, affordable electronics, internet connectivity, the effect of satellite television, cultural aggression and globalization etcetera have a great influence on our society. These factors gradually alter the understanding of moral and ethical values in society affecting the social and cultural system and culminating in a society marked by corruption, insecurity, materialism, and disarray. Soldiers of our army, being the elements of the same society, are also affected by these changes.

For decades, thousands of academics have studied leadership and many new ideas about leadership styles and methods have emerged. This study aimed to find the best leadership strategy to be adopted by the mid-level officers of Bangladesh Army. Therefore, this research examined the five most contemporary and widely tested and practised leadership approaches. In doing so, to understand the existing leadership trends in Bangladesh Army units, MLQ questionnaires were applied to 200 mid-level officers of Bangladesh Army and it was found that mid-level leaders at the unit level follow a variety of leadership styles with many showing biasness towards transactional leadership.

Socioeconomic changes in the twenty-first century have several negative consequences impacting military culture and professional requirements. Different literatures and research on leadership identified numerous challenges for the leaders of the 21st Century. This research dealt with a total of twenty-five challenges and identified their relevance in the present context. A few noteworthy challenges identified are UCs growing materialistic view, eroding loyalty, degrading military value, lack of dedication and commitment, IT indulgence, fading honesty and integrity and so on.

An in-depth knowledge of the organization and a futuristic mindset is necessary to lead the under command in the changing socio-economic environment. At this point, the leadership attribute required to address the negative effect of changing socio-economic dynamics on soldiering was determined considering the senior officers' and UCs expectations from the leaders. Identified key attributes were then correlated with the previously discussed perceived leadership challenges and popularly practised leadership styles to identify the most suitable leadership approach for the mid-level officers of Bangladesh Army. After carrying out a detail analysis, this study identifies that while the negative impact of changing socioeconomic dynamics poses considerable demands on leadership and consequently has a detrimental effect on the unit environment, the transformation of such a situation is better achievable through the COs'

practice of transformational leadership. Therefore, it can be concluded that the Transformational leadership approach is likely to contribute much better to address the influence of changing socio-economic dynamics on soldiering as well as to meet the expectations of the senior leadership of Bangladesh Army.

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Author

Lieutenant Colonel Iftekhar Ahmed was born on 30 March 1978 in Dhaka. The officer was commissioned in the Regiment of Artillery on 02 December 1999 with 41 BMA Long Course. Besides serving in all the regimental appointments including Chattogram Hill Tracts, he also served in Rapid Action Battalion in various capacities. He commanded one Artillery Regiment and the Support Wing of Army Aviation Group. As a staff, he served as General Staff Officer (GSO) Grade-2 in Military Operations Directorate of Army Headquarters, as GSO-1 in the Army Training and Doctrine Command (ARTDOC) and as Scenario Developer in Army Wargame Centre. He is a graduate of Defence Services Command and Staff College, Mirpur as well as National Defence College, Mirpur. He also obtained Master in Defence Studies and Master of Social Science in Security and Development from Bangladesh University of Professionals (BUP), Mirpur. The officer participated in two United Nations assignments in the capacity of contingent member and military observer. He also visited several countries throughout the world. He is married and blessed with a son and a daughter. His hobby is travelling and reading books.

THE EVOLVING INDO-PACIFIC SECURITY ARCHITECTURE AND DEFENCE DIPLOMACY: FOSTERING NATIONAL INTEREST OF BANGLADESH

**Captain Mahmudul Haque Majumder, (L), NPP, afwc,
psc, BN**

Introduction

Coined a decade ago, the Indo-Pacific geopolitical construct has gained prominence by connecting two important water bodies of the world- the Indian Ocean and the western Pacific Ocean. The concept of dynamic coupling of the seas goes back to the time of the Mughals when Prince Dara Shikoh described the convergence of the Indian Ocean and the Pacific Ocean (Abe, 2007). Although the Indo-Pacific as a geographical entity has existed for centuries, many recent engagements in the region, especially for the US and its allies, are in response to China's political, economic and military expansion (Paskal, 2021).

While the US sees huge opportunities to expand its trade in the region, it is apprehensive about the growing economic influence of China in the region. Some of its most important allies are from the Indo-Pacific, whose security is at stake owing to Chinese assertiveness in the South China Sea and in the Indian Ocean, as perceived by the US. The rise of China's economic and military might, the narrower Asia-Pacific framework's inadequacy to incorporate India in the security calculus and the emerging significance of the Indian Ocean which is at the heart of Asia's claim as the "continent of the twenty-first century" are some perceived reasons for the creation of this broader maritime framework. Therefore, the creation of the Indo-Pacific can be seen as a geopolitical compulsion for the US and its like-minded countries. Consequently, the Quadrilateral Security Dialogue referred to as the 'Quad', an informal security dialogue between

the US, Japan, Australia and India was formed largely to promote freedom and prosperity in the Indo-Pacific region.

National interest is inextricably linked to the national identity, core values, national aim and objectives of a nation-state. While realists champion the primacy of state interest with a belief that the interests and preferences are pre-fixed by states, neo-liberalists advocate for mutual interdependence with an assertion that the interests and preferences are shaped by international institutions. Nevertheless, whether the protection of physical, political, economic and cultural identity (Morgenthau, 1978) or the values, desires or interests (Dyke, 1972), the national interests of a state frame its foreign policy. The behaviour of a state is always fashioned by its national interest.

Derived by a country's national interest, the military has been used as an instrument of foreign policy. Defence diplomacy is not considered an isolated discipline but only an extension of public diplomacy, which emerged as a separate field of study after the end of the Cold War (Bhatia et al, 2016). Perhaps Sun Tzu gave the essence of defence diplomacy by asserting, "The supreme art of war is to subdue the enemy without fighting" (Sun Tzu, 2008). Within the framework of Clausewitzian philosophy, which holds that war is the continuation of politics by other means (Clausewitz, 1976), the military was always linked to the diplomatic realm. Although there is no universal definition of what constitutes defence diplomacy or military diplomacy, it can be considered as any military activity that aims for the diplomatic purpose to further national interests. John F Kennedy said, "Diplomacy and defence are not substitutes for one another, either alone would fail" (Davar, 2018).

While the prevailing security architecture of the Indo-Pacific engenders a myriad of security challenges, it also offers some opportunities for the littorals. Bangladesh's physical connection (through the Bay of Bengal) keeps a string attached to the overall ambit of the Indo-Pacific, and the security concerns emanating thereof are likely to shape its national interests, whether the nation desires it or not. The enormous geo-economic potential of the region cannot be simply disavowed. The transnational

security challenges that cannot be curbed by any single nation, pose threat to the sovereignty and development process of any country. It warrants enhanced cooperative engagements. Under such a geopolitical impulse, Bangladesh needs to charter a plausible way to connect to this emerging geopolitical construct to further its national interests.

Bangladesh's strategic balancing with the major powers, especially China, India and the US remains the principal concern for such an endeavour. However, defence diplomacy could be a viable option, which the Bangladesh Armed Forces have been practising for decades with positive outcomes. The broader framework of the Indo-Pacific conceivably provides a greater opportunity. Carefully charted constructive defence diplomacy is likely to foster Bangladesh's national interest without hindering its balancing strategy with the major powers.

The Indo-Pacific Security Architecture: Prospects and Challenges for Bangladesh

Indo-Pacific: An Overview

Genesis. In the fifteenth century, the famous Chinese Admiral Zheng He's multiple voyages connected China with the Indian Ocean region. The European colonial powers established trade in the region that stretched from the Indian Ocean to East Asia. Later, the British took control of the Indian Ocean and connected it with Australia and Singapore. American footsteps to this region actively began during World War II. In the Cold War era, the Persian Gulf's identity as a critical energy node, a general consensus on the gradual emergence of the Indian Ocean in economic and strategy calculus, and the Soviet engagement in Afghanistan began to draw major powers' interest in this region. In the post-Cold War milieu, the Indo-Pacific as a contiguous zone has started to come forefront within the ambits of geopolitics, geo-strategy, geo-economics and different security architectures (Hoyt, 2014, pp.4-11).

Pre-eminence. The pre-eminence of the Indo-Pacific lies in its representation of the centre of gravity of the world's economic and strategic interests (Kaushiva and Singh, 2014, p.3). It holds vital chokepoints and sea routes including the Straits of Malacca. This region houses more than half of the world's population generating a third of the global economic yield, more than any other region of the world (Cliff, 2020, p.1). Since 2010, the concept of Indo-Pacific has gradually taken its share in the foreign policy lexicon of some states, notably Australia, India, Japan and the US (He and Li, 2020, p.1). Some argue that the major sea routes along with the maritime extension of this region have perhaps already made it more significant than the European Union (Gulia and Devi, 2018, p.85).

Security Architecture. Cornelis (2020) claims that the US-led system of formal alliances remains the centrepiece of the regional security architecture. However, the burgeoning cooperation amongst nations, largely centred on the maritime conceptualisation of the region, is also noticeable. The architecture has become more fluid owing to the divergent interests of the nations – both regional and extra-regional. The US and its allies pursue a free, open, prosperous and stable region, institutionalised by forming Quad. However, analysts believe that such a formal coalition is a response to China's economic and military influence in the region. Some scholars (Bishwas, 2021) claim that the situation might lead to a new Cold War. There are growing non-traditional security threats that might seriously undermine the sovereignty, territorial integrity and economic interest of the nations.

Prospects in the Indo-Pacific

The Indo-Pacific construct offers numerous prospects for an emergent economy like Bangladesh; some are enumerated below:

- Capitalising the strategic significance of the Bay of Bengal in Bangladesh's favour.

- Geo-economic potential of the Indo-Pacific and leveraging impressive economic growth of Bangladesh.
- Opportunities to promote the Blue Economy Initiative of Bangladesh.
- Military cooperation amidst cross-cutting and transnational security challenges.
- Maritime security initiative to maintain good order at sea.
- A free, open and rule-based order to augment Bangladesh's peaceful engagement and aspiration of a developed country.
- Regional integration, creating possibilities for coalition and consensus.

Challenges in the Indo-Pacific

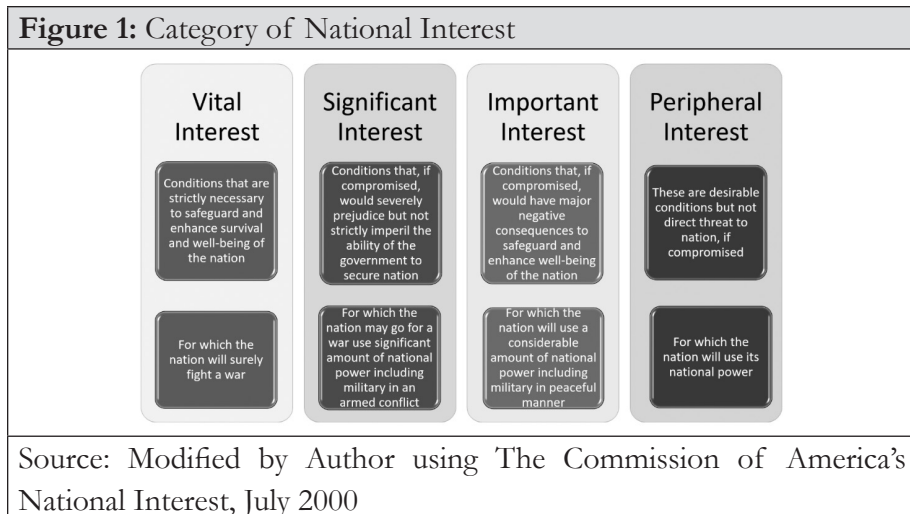
While there exist various opportunities, the Indo-Pacific framework is entwined with numerous challenges as highlighted below:

- Strategic balancing with major powers, especially China, India and the US.
- The BRI and China factor in Bangladesh's strategic calculus.
- The growing strategic partnership with India.
- The US interest in the region and endeavour to bring Bangladesh on board.
- Rapid militarisation and nuclearisation of the region.
- Economic and energy security – a concern for the blue economy and sustainable development of Bangladesh.
- Non-traditional security threats.
- Towards a neo-Cold War?

National Interests and Defence Diplomacy in the Indo-Pacific: Bangladesh Context

National Interest: An Overview

Modern diplomatic practices can be traced back to medieval and early modern Europe. The Treaty of Westphalia in 1648 created the first modern diplomatic legislature based on the nation-state and was motivated by Raison D'état or National Interest as its ultimate purpose. Morgenthau (1978) postulates that states pursue national interests in terms of power, and along the same line, the realists have been advocating the concept of national interest. Nye (1999) argues that the formation of power or security does not reveal state interest alone, rather it includes economic concerns as well. There are many ways to categorise national interest. The one commonly practised in the Bangladesh military institutions is given in Figure 1.



National Interests of Bangladesh

Analysing Bangladesh's Constitution, foreign policy principles, defence policy and the government's goals, this study identifies some components of the national interest of Bangladesh (Table 1).

Table 1: Components of National Interest of Bangladesh

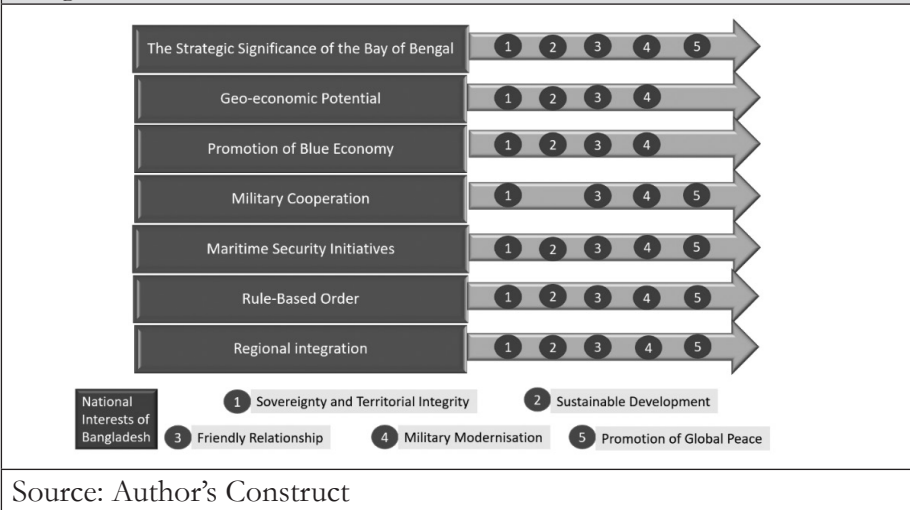
Components of National Interest of Bangladesh	Sources	Category
Sovereignty and Territorial Integrity	Constitution, Liberation War, 1971	Vital Interest
Sustainable Development	Vision 2030, Vision 2041, Delta Plan 2100	Significant Interest
Friendly Relationships with Other States	Constitution, Foreign Policy	Important Interest
Modernisation of Military	Forces Goal 2030	Peripheral Interest
Promotion of Global Peace	Constitution, Foreign Policy	Important Interest

Source: Author's Construct

National Interest and the Indo-Pacific

The relationship between prospects in the Indo-Pacific and the components of the national interest of Bangladesh is given in Figure 2. It shows that military modernisation is related to all the prospects in the Indo-Pacific, a manifestation of the significance of defence diplomacy in the region.

Figure 2: Prospects in the Indo-Pacific and National Interests of Bangladesh



Defence Diplomacy: Conception and Genesis

Conceptual Underpinning. The principal functions of diplomacy include, inter alia, preventing war and violence, and strengthening relations between nations (Anon, 2011). Kissinger (1994) defines diplomacy as the art of restraining power. Clausewitz (1976, p.87) defines military force as a “true political instrument,” and provides a foundation for the relationship between politics and the military. In its broader sense, any peaceful engagement by the military with other militaries as a tool of foreign and security policy can be termed as Defence Diplomacy. Some argue that the term appears to be an oxymoron as the military is meant to deal with the ‘hard power’ of the state, whereas diplomacy is within the realm of ‘soft power’ (Davar, 2018). Nonetheless, defence diplomacy offers a ‘hybrid’ element of national power combining both ‘military’ and ‘diplomacy’ (Sullivan, 2019). Defence diplomacy encompasses wide-ranging activities –dialogue or staff talk, military exercises, military cooperation, training exchange, goodwill visits, security cooperation and humanitarian assistance, etc. It follows three main steps – Activities by defence institutions/establishments; Pursuing foreign policy interests and Implementing defence diplomacy through activities.

Genesis. Sun Tzu (5th Century BC) set the tone of the contemporary notion of negotiation and conflict resolution by the military throughout his seminal work ‘The Art of War.’ In the sub-continent, it was Kautilya who crafted defence diplomacy that contributed to the expansion of the Mauryan dynasty in the 3rd Century BC (Kumar et al, 2016, p.9). The true essence of modern-day defence diplomacy can be traced back to the ‘Thirty Years’ War (1618 to 1648) when French military officers were assigned to liaise with allies, observe military developments and gather intelligence (Law, 2007). Assigning Defence Attachés (DA) to embassies was formalized in the 18th century (Fris, 2013). In 1907, President Theodore Roosevelt dispatched his ‘Great White Fleet,’ comprising sixteen battleships and 14,000 men to circumnavigate the world. This historic voyage, which steamed 43,000 miles making 20 port calls on six continents, was meant to

establish US global presence, garner international goodwill and generate enthusiasm for the Navy by promoting it as an instrument for diplomacy and global partnership (National Museum of the US Navy, 2021). After the end of WWII, the US military leadership led the recovery of war-torn Europe under Marshall Plan. The same was observed in Japan as well. As a separate discipline, it became more prominent since the end of the Cold War. Institutionally, the British were the first to generate the idea of defence diplomacy in the 1990s (Islam, 2017).

National Goals through Defence Diplomacy

By its very nature, defence diplomacy is low-cost yet high-impact (Jaishankar, 2016, p.19). In today's international relations, defence/military diplomacy is regarded as an indispensable element of national power. National objectives and goals through defence diplomacy are figured in Table 2.

Table 2: National Goals through Defence Diplomacy	
Objectives	Goals through Defence Diplomacy
National Security Objectives	1. Conflict prevention/management 2. Strategic engagement with potential adversaries to reduce risk of conflict 3. Military cooperation with regional and extra-regional major powers to gain assured assistance in time of need 4. Military operations other than war (MOOTW) to combat non-traditional security threats 5. Cooperation in counterterrorism
Foreign Policy Objectives	1. Promoting international peace through PKO 2. Confidence building measures and partnership on security issues 3. Strategic balancing with major powers in military/security matters
Humanitarian Assistance	1. HADR 2. Search and Rescue 3. Prevention of pandemic and other health issues
Military Capability Enhancement	1. Learning new skills, tactics, techniques and procedure as well as enhancing interoperability through training/exercise 2. Information sharing including Maritime Domain Awareness 3. Cyber capability enhancement 4. Capacity enhancement in research and development
Source: Author's Construct	

Why is Defence Diplomacy an Option for Bangladesh in the Indo-Pacific?

The application of defence diplomacy does not warrant a larger force with state-of-the-art technology. It rather depends on the political will of a state and the skill of the military leaders. There are several reasons why defence diplomacy can be seen as a viable option for Bangladesh in the Indo-Pacific.

First, the past narratives affirm Bangladesh's success in the field of defence diplomacy – be it the Army's contributions to the UNPKO that inspired a country located about 7,000 miles away (Sierra Leone) to adopt 'Bangla' as a state language; or the Navy's effort to conduct maiden naval exercise under the aegis of Indian Ocean Naval Symposium (IONS) in the Bay of Bengal bringing regional and extra-regional powers, and at the same time, planning to organise first-ever International Fleet Review in Bangladesh's water in 2022; or the Air Forces response in the global humanitarian assistance.

Although Bangladesh's global engagement is mostly premised on the diplomatic and economic instruments of national power, military involvement in the diplomatic sphere has been rather successful (Ahmed and Talukder, 2013). Many scholars question the effectiveness of traditional diplomacy in some specific areas, especially with neighbours, like the Rohingya issue. A dedicated military-to-military talk could find a solution to it. It is worth mentioning that, in 2008, when Myanmar illegally started the exploration of offshore resources in the then-disputed maritime area, after diplomatic measures failed, the Bangladesh Navy dispatched its fleet exhibiting a classic notion of 'gunboat diplomacy.' It forced Myanmar to withdraw from the disputed maritime zone.

Second, being a hybrid instrument of national power, defence diplomacy can be related to all instruments of national power, i.e. DIME (Diplomacy, Information, Military, and Economic). The cornerstone of Bangladesh's

foreign policy “friendship to all, malice to none” allows the Armed Forces to peacefully engage in the regional and global stages. The military is inherently related to information and linked to the economy by protecting the sea lines of communication and maintaining good order at sea/land/air facilitating a wide range of economic activities and safeguarding key installations. Hence, the military in a way is related to the other three instruments of national power. Bangladesh can manifest such attributes of the military to foster its national interest in the Indo-Pacific.

Third, strategic balancing with major powers is a great concern for Bangladesh. Any attempt to align with one major power may upset its relationship with another. Analysts opine that engagements with major actors at the military level might have a lesser impact than the same at the political level. It is worth mentioning that China is militarily engaged (within the purview of defence diplomacy) with both the US and India (Table 3). It is an observer nation of the IONS established by India and regularly participates in IONS forums and exercises. Again the Quad countries are increasingly engaging with non-Quad countries in Asia with whom China maintains healthy economic and military relationships. Hence, defence diplomacy in the Indo-Pacific is unlikely to create any mistrust in China.

Table 3: PLA's Top Ten Military Diplomatic Partners (2002-2018)

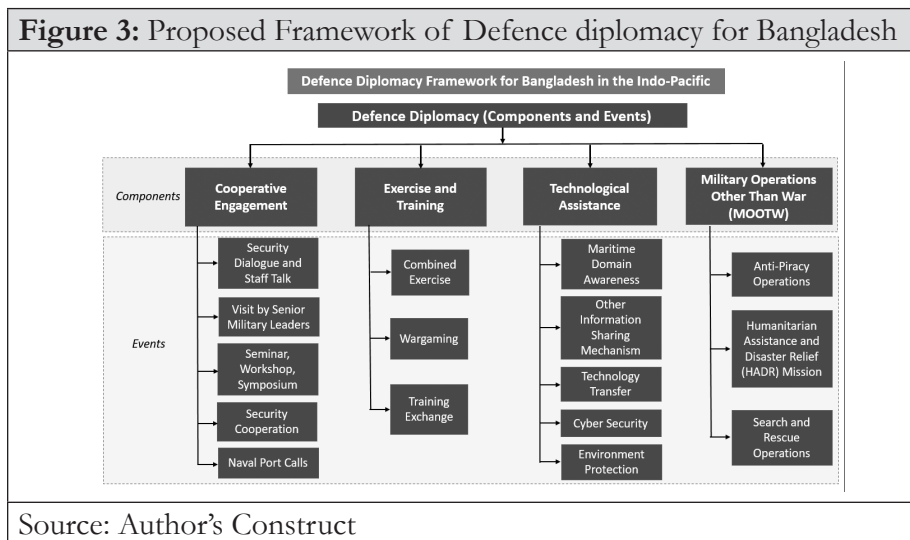
Ranking	Country	Military Exercise	Naval Port Calls	Senior-level Meeting	Grand Total	Remarks
1	Russia	42	1	72	115	Non-Quad
2	United States	15	6	92	113	Quad
3	Pakistan	36	10	61	107	Non-Quad
4	Thailand					Non-Quad
5	Australia	19	8	46	73	Quad
6	Singapore	9	9	41	56	Non-Quad Strong tie with Quad countries
7	Vietnam	2	4	46	52	Non-Quad
8	New Zealand	5	6	37	48	Non-Quad Strong tie with Quad countries
9	India	13	4	30	47	Quad
10	Indonesia	8	5	32	45	Non-Quad

Source: Modified by Author using Data from McDonald & Burgoyne, 2019

Finally, once properly orchestrated, defence diplomacy can form a strong edifice for the relationship with other states. It can gradually transcend the boundary of the security paradigm to other elements of national interest. It can facilitate economic ties with other countries. As an example, Bangladesh desires to enhance its relationship with the US towards a strategic level including development and economic partnerships, even towards a durable solution to the Rohingya crisis (MOFA Press Release, 2021), where defence diplomacy may play a critical role.

Proposed Defence Diplomacy Framework in the Indo-Pacific

Given Bangladesh's national interests in the Indo-Pacific, Figure 3 shows different components and events related to defence diplomacy. The proposed framework includes some events that are already practised but can be enhanced and some are new arenas in the Indo-Pacific.

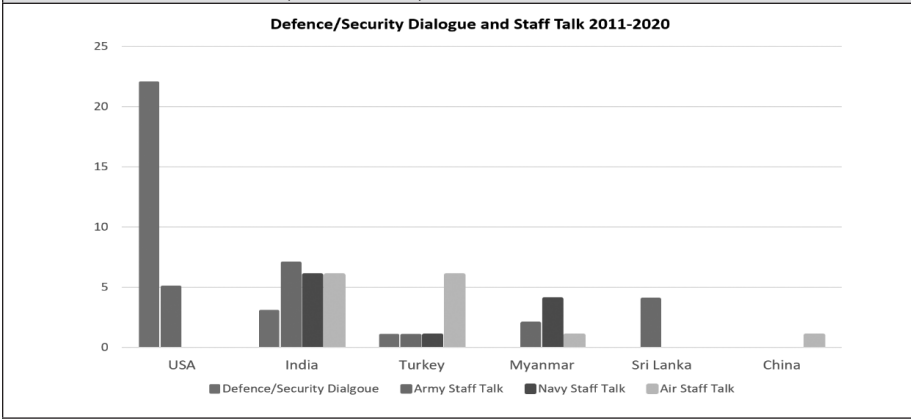


Cooperative Engagement

Security Dialogue and Staff Talk. Security dialogues and staff talks help to promote mutual trust, understanding and learning that can shape

Bangladesh’s security agenda. Statistics for the last ten years show defence/ security dialogue and staff talk by Bangladesh Armed Forces are mostly confined to a few countries with meagre numbers (Figure 4). Within the broader Indo-Pacific framework, Bangladesh may venture into unexplored or least explored countries, such as Australia, Japan and ASEAN and Middle East countries, and even more with Myanmar.

Figure 4: Security Dialogue and Staff Talk by Bangladesh Armed Forces with Other Militaries (2011-2020)



Source: Armed Forces Division

Visit by Senior Military Leaders. Visits by senior military leaders can augment overall diplomatic efforts to maintain a harmonious relationship with other nations. Statistics reveal that while the number of visits by Bangladeshi senior military leaders is considerable, visits made by foreign senior military leaders in Bangladesh are discouraging. In the last 10 years, senior officers holding the appointments of Chief of Defence Staff/equivalent, service chiefs or combatant commanders from only 13 countries visited Bangladesh on different occasions. Bangladesh needs to enhance such visits across the Indo-Pacific and build partnerships in multiple fields including defence industrialisation and technology transfer.

Seminar, Workshop and Symposium. Seminars, workshops or symposiums can help to learn others’ experiences and general practices, which can be implemented for own improvement. The last 10 years’ data

indicates opportunities to enhance such engagements with China, Japan, Australia, Malaysia, Indonesia, Sri Lanka and other ASEAN countries.

Security Cooperation. Security cooperation is not necessarily a defence treaty/pact or becomes an obligation (Jaishankar, 2018). Such cooperation can accomplish some objectives, such as sharing of information, domain awareness, improving partners’ capacity through training, technological assistance, equipment sales, enhancing interoperability through sharing of own best practice/experience, harmonising communication and other operating procedures. With limited cooperation at present, Bangladesh has greater prospects to utilise the wider Indo-Pacific region. Security cooperation in the maritime domain is significant for the blue economy vis-à-vis the sustainable development of Bangladesh.

Naval Port Calls. Figure 5 shows visits of Bangladesh Navy ships are mostly limited to a few countries. Bangladesh needs to enhance such port calls in the Indo-Pacific region. It can provide opportunities to build confidence, and exchange training and cooperation in other fields. It may gradually create prospects for the economy and development. Similarly, the Bangladesh Navy has also the scope to invite more foreign naval ships to Bangladesh (see Figure 6).

Figure 5: Number of Port Calls Made by BN Ships (2010-2020)

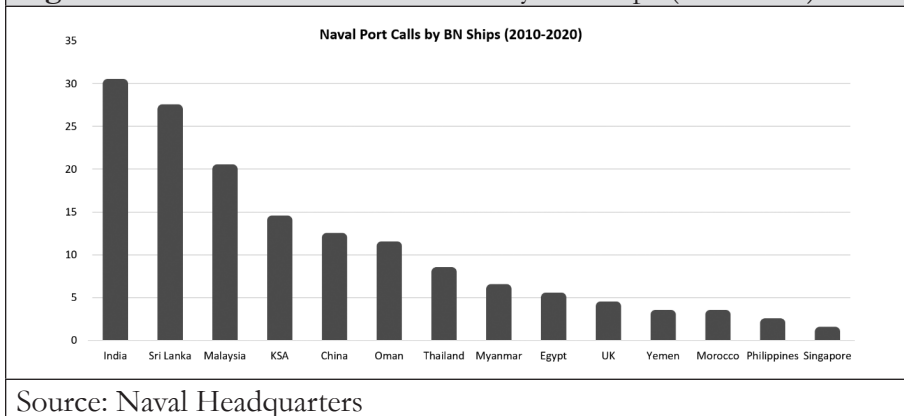
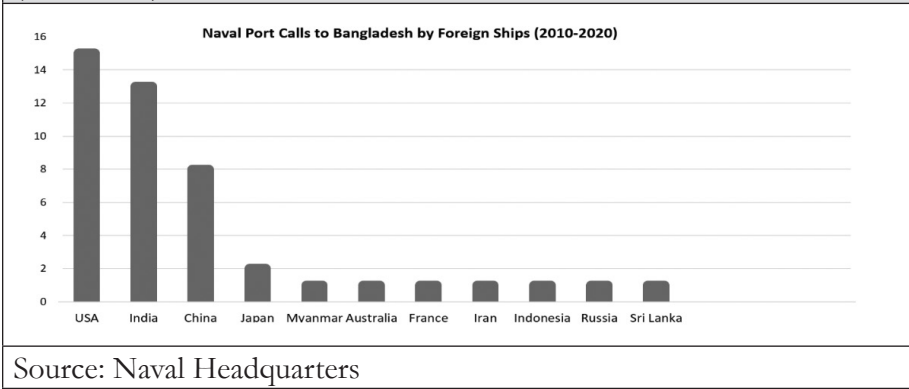


Figure 6: Number of Port Calls Made by Foreign Ships to Bangladesh (2010-2020)



Exercise and Training

Combined Exercise. At present, all Services conduct limited exercises with friendly militaries, which can be enhanced by incorporating Indo-Pacific countries. Apart from forecasting Bangladesh's image in the global arena, these exercises will help combat non-traditional security threats and receive assurance of support during any crisis. Bangladesh may even conduct such exercises with Myanmar involving all three services. It will help to improve bilateral relations and solve disputes including the Rohingya crisis.

Wargaming. At present, no such practice is observed except very recently some arrangements are made with Turkiye. Else, officers undergoing training abroad can only have the opportunity to learn wargaming practices of other countries. The Armed Forces will be benefitted by learning the wargaming process from other Indo-Pacific countries.

Training Exchange. Although a substantial increase in the number of foreign training over the last ten years is witnessed, however, less participation (including less number of countries) is observed in NDC/ equivalent and Staff Courses abroad. Statistics show that, in the last 11 years (2011-2021), 122 officers from Bangladesh Armed Forces attended

NDC/equivalent courses, while Bangladesh received 337 (nearly 3 times more) course members from friendly countries. Likewise, in the last 9 years (2012-2020), Bangladesh sent 208 officers for Staff Courses but received 489 (2.3 times more) from foreign militaries. Hence, more participation in foreign NDC/equivalent and Staff Courses can be organised.

Technological Assistance

Maritime Domain Awareness. Maritime domain awareness (MDA) is the intelligence and situational awareness of anything associated with the maritime domain. It has three broad objectives: early threat detection, decision support and monitoring adherence to international laws (Canyon and McMullin, 2020). As the blue economy is one of the major cornerstones of Bangladesh's sustainable development, MDA is very essential for the country. Bangladesh needs to join different information-sharing centres operating within the Indo-Pacific region like the Singapore-based Information Fusion Centre (IFC).

Technology Transfer. In tandem with Vision 2041, Bangladesh needs self-reliance on military hardware. With the growing footsteps of the Fourth Industrial Revolution, modern technologies, such as artificial intelligence, smart munitions and unmanned systems are the need of time. For indigenisation, technology transfer is also necessary. Bangladesh may venture into technologically-advanced countries, such as the US, Japan, Singapore, South Korea and Australia.

Cyber Security. Table 4 shows the top ten cyber security index countries in Asia-Pacific. A few recent incidents demonstrate Bangladesh's vulnerability to cyber threats. Cooperation with other cyber-resilient countries through military engagements will help in building national-level cyber security measures including the Armed Forces.

Table 4: Top Ten Cyber Security Index Countries in Asia-Pacific

Global Cybersecurity Index (GCI): Ranking of Asia-Pacific Countries		
Country	Position	GCI Score
Singapore	1	0.925
Malaysia	2	0.893
Australia	3	0.824
Japan	4	0.786
South Korea	5	0.782
Thailand	6	0.684
India	7	0.683
China	8	0.624
Philippines	9	0.594
Bangladesh	10	0.534

Source: BRINK, 2017

Environment Protection. About one-third of all greenhouse gas emissions and two-thirds of oceanic plastic waste originates in the Indo-Pacific (Cliff, 2020). Climate change and sea-level rise are other concerns for Bangladesh. The Bangladesh Armed Forces may be benefitted from cooperation with the Indo-Pacific countries in exchange for best practices and pollution-reduction technologies.

Military Operations other than War (MOOTW)

Anti-Piracy Operations. The Bangladesh Navy may consider sending ships to Combined Task Force, CTF 150 (maritime security and counter-terrorism) or CTF 151 (counter-piracy). It will not only enhance the navy's knowledge and experience but also boost the image of Bangladesh and its commitment to global peace.

Humanitarian Assistance and Disaster Relief (HADR) Missions. HADR missions are global in scope. For humanitarian efforts, a new type of defence force is necessary – more flexible and capable of undertaking multifarious missions concurrently (The Strait Times, 2010). At the same time, it warrants a fine mixture of platforms, training, education and equipment. With limited capacity, the Bangladesh Armed Forces

have conducted a few HADR missions over the years (Table 5). Given its vulnerability to disaster, Bangladesh may think of enlarging such endeavours.

Table 5: HADR Missions by Bangladesh Armed Forces

HADR Mission by Bangladesh Armed Forces (2013-2020)			
Year	Country	Objective	Service
2013	Philippines	Relief operation (Typhoon Haiyan)	BN
2014	Maldives	100 Tons bottled fresh water and five Desalination Plants as humanitarian aid	BN
2015	Nepal	Post-earthquake relief operation	AFD
2016	Sri Lanka	Emergency relief and humanitarian assistance after land slide and flood	AFD/BN
2020	Maldives	Relief and humanitarian assistance for COVID-19	BN
2020	Lebanon	Medical support for Bangladeshi and Lebanese people	BAF

Source: Armed Forces Division and Naval Headquarters

Search and Rescue Operations. After the disappearance of the Indonesian submarine on 21 April 2021, Malaysia and Singapore dispatched rescue ships, and Australia, France, Germany and the US (with airborne support) offered assistance (BBC, 2021). It is a clear manifestation of the Indo-Pacific's dynamics. It is worth mentioning that the Bangladesh Navy dispatched some ships and Maritime Patrol Aircraft in search of the missing Malaysian Airlines MH 370 in 2014 (NHQ, 2021). The Armed Forces need a Standard Operating Procedure (SOP) similar to ASEAN countries. The same SOP may be formulated with the regional countries for resource and information sharing, interoperability and a common understanding of the problems and missions.

Towards Constructive Defence Diplomacy: Fostering National Interest of Bangladesh

Assessment of Current Status

The current status of defence diplomacy in various fields by the Bangladesh Armed Forces (Table 6) reveals that some of the fields have limited performance and some fields are completely void. Hence, there are scopes to apply defence diplomacy constructively.

Table 6: Current Status of Defence diplomacy by Bangladesh Armed Forces

Proposed Defence Diplomacy Framework	Current Status	Proposed Defence Diplomacy Framework	Current Status
Cooperative Engagement		Technological Assistance	
• Security Dialogue and Staff Talk	Average	• Maritime Domain Awareness	Very Limited
• Visit by Senior Military Leaders	Good	• Other Information Sharing Mechanisms	Very Limited
• Seminar, Workshop and Symposium	Average	• Technology Transfer	Limited
• Security Cooperation	Limited	• Cyber Security	Nil
• Naval Port Calls	Average	• Environment Protection	Nil
Exercise and Training		MOOTW	
• Combined Exercise	Average	• Anty-Piracy	Very Limited
• Wargaming	Nil	• HADR	Average
• Training Exchange	Good	• Search and Rescue Operations	Very Limited

Source: Author's Construct

Charting the Way

Political Will. At the political level, the first thing is to recognise defence diplomacy as a separate instrument of national power and an active enabler of foreign policy. Political leadership should consider the possibility of branding Bangladesh with other elements of defence diplomacy. It is interesting to note that PLA interactions with the US and its allies in Asia increased after Xi Jinping came to power in 2012 (Allen, Saunders and Chen, 2017, p. 4). Countries, such as the US, China, India and others have institutionalised defence diplomacy, and are now extensively using the military as a part of the overall diplomatic mission.

Policy Framework. Defence diplomacy is not an affair of chance or just happens (Taylor et. al, 2014). It needs time to plan, organise and mesh with national interests. As defence diplomacy is a hybrid tool, Bangladesh needs a calibrated approach. A policy framework should address the geopolitical dynamics of the Indo-Pacific and direct pragmatic ways to constructively apply defence diplomacy. The Ministry of Foreign Affairs (MoFA) may devise policy options in this regard.

Strategy Formulation and Role of AFD. Once policy options are received from the MoFA, the Armed Forces Division (AFD) can formulate necessary strategy and perspective plans for the Armed Forces. The strategy should clearly delineate the objectives and components of defence diplomacy, the scope of engagement at various levels, selection criteria and training requirements for Defence Attachés and the responsibilities of Service Headquarters. Strategy and perspective plans prepared by the AFD are to be passed to Service Headquarters for necessary implementation and formulation of respective Standard Operating Procedure (SOP).

Modus Operandi of Service Headquarters. Based on the strategy and broader perspective plan of the AFD, Service Headquarters should prepare its own SOP, formulate specific objectives, identify and prioritise different levels of engagements and devise supporting plans.

Proactive Role of Defence Wings Abroad. Currently, out of 60 diplomatic missions, a total of 17 defence wings are operating in various countries. The government has planned to increase missions to 100 by 2041, and a total of 30 defence wings by 2030. Defence wings need to play a proactive role and be given specific agendas, which will vary according to Bangladesh's interest in the host country. The Defence Attachés can go for advanced professional courses at Bangladesh Foreign Service Academy under MoFA. NSI/DGFI may conduct training packages for them on intelligence issues.

Capability Enhancement of the Armed Forces. For effective partnership building, cooperative engagements, information sharing and participation in combined exercises, the military needs a certain level of modernisation.

Engaging Epistemic Community. In Bangladesh, research on defence affairs by academics and think tanks is limited. Around the world, these academics and think tanks are promoting defence agendas for their own countries. Bangladesh needs more scholars to conduct research on defence issues including defence diplomacy. It will help to influence policymakers'

attitudes towards defence diplomacy and can create a positive image of the Bangladesh Armed Forces.

Branding the Armed Forces. The global image of a military is an enabler of defence diplomacy. Although Bangladesh already earned fame in UNPKO, it is not sufficient. The Armed Forces have many other contributions that merit global attention. Inter-Services Public Relations (ISPR) Directorate may take lead to brand the Armed Forces in international media, various defence forums and other media.

Perspective Plan (PP)

In line with the Forces Goal 2030, this paper proposes two perspective plans.

- **Perspective Plan 1 (4-year).** 2022-2025.
- **Perspective Plan 2 (5-year).** 2026-2030.

Some important focused areas and tasks related to the PPs for defence diplomacy in the Indo-Pacific are given in Table 7.

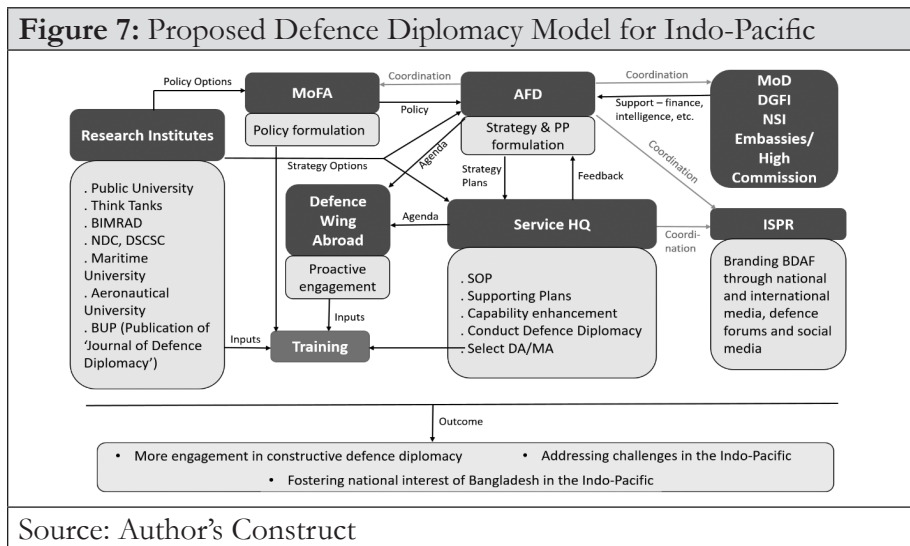
Table 7: Perspective Plans for Defence Diplomacy in the Indo-Pacific

Perspective Plans - Defence Diplomacy in the Indo-Pacific		
Focused Area	PP1 (2022-2025)	PP2 (2026-2030)
Policy, strategy, SOP	Formulation, enforcement	Review & amendments
Defence Wing	More 6; training for DA (local)	More 6; training for DA (local & abroad)
Capability enhancement of BDAF	New platforms, sensors; HRD	More acquisition, modernisation
Research	. Engagement with university, think tanks . Publication of 'Journal of Defence Diplomacy' by BUP	Expansion in regional & global levels
Cooperative Engagement (dialogue, visit, seminar, security cooperation, naval port calls)	. Identify/select unexplored/less explored countries and engage . Maintain existing ones	Explore and engage outer reach of Indo-Pacific
Exercise and Training	. Identify/select unexplored/less explored countries and engage . Maintain existing ones	Explore and engage outer reach of Indo-Pacific
Technological Assistance	. MDA/Information sharing at regional level . Explore and engage in cyber assistance, technology transfer & environment protection in regional level	. MDA/Information sharing at outer reach of Indo-Pacific region . Explore and engage outer reach of Indo-Pacific
MOOTW	. Participation in CTF . HADR & SAR exercises at regional level	. HARD & SAR at outer reach of Indo-Pacific region

Source: Author's Construct

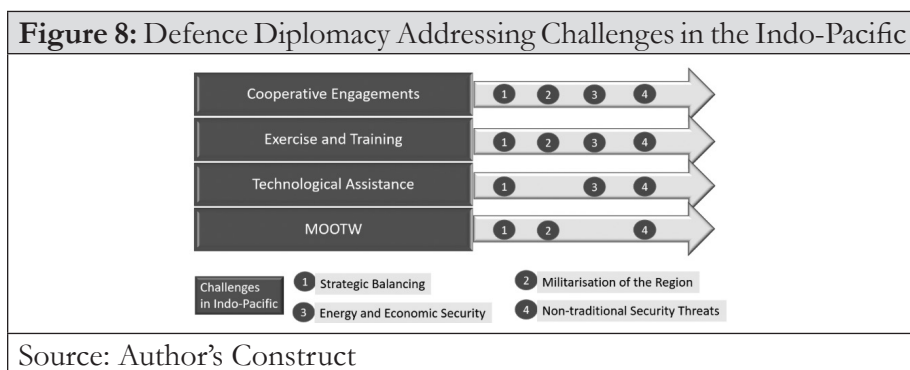
Proposed Defence Diplomacy Model for the Indo-Pacific

Figure 7 shows a proposed defence diplomacy model for the Indo-Pacific incorporating different stakeholders and drawing a functional relationship between them to achieve the final outcome, i.e. fostering the national interest of Bangladesh.



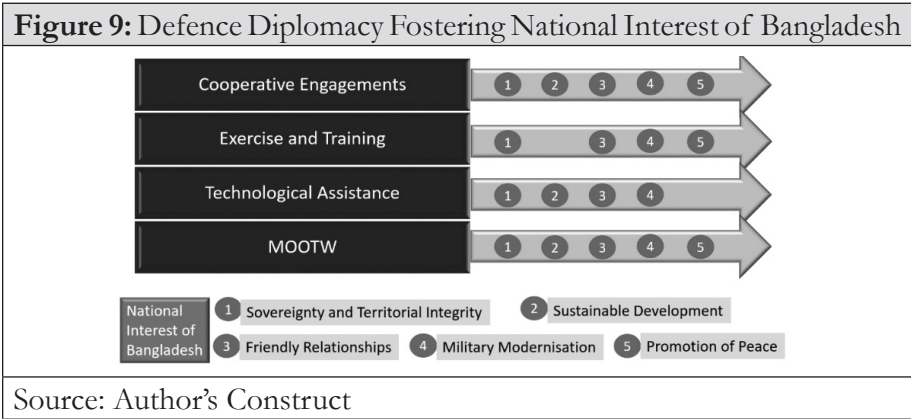
Addressing Challenges in the Indo-Pacific

Figure 8 shows how proposed defence diplomacy will address different challenges in the Indo-Pacific.



Fostering the National Interest of Bangladesh in the Indo-Pacific

Figure 9 shows how the proposed defence diplomacy will foster the national interest of Bangladesh in the Indo-Pacific.



Conclusion

Although the Indo-Pacific as a physical entity existed for millennia, it came into geopolitical discourse a decade ago. It is primarily a US initiative that aims to address its security strategy and interest in the region. The Indo-Pacific offers numerous opportunities for the littorals, including Bangladesh. Ancient Sanskrit literature describes the Indian Ocean as Ratnakara meaning “the maker of jewels.” Perhaps, its true essence is sturdily exposed in the twenty-first century as it is becoming the “centre stage” of the world (Kaplan, 2009). The Indo-Pacific region houses 10 of the 20 fastest-growing economies of the world, and by 2050, it is estimated to account for over 50% of global GDP. It carries two-thirds of the world’s oil consignments and a third of the global bulk cargo. The Bay of Bengal connects the Indian and the Pacific Oceans, making Bangladesh a part of the Indo-Pacific region. Given Bangladesh’s vision to become a developed country by 2041 and its Blue Economic Initiative, the geo-economic potential of the Indo-Pacific has much to offer.

From the security viewpoint, there are scopes for military cooperation in many fields within the Indo-Pacific. Today, militaries are confronted with challenges that are transnational and cross-cutting, and it is a daunting task for any single nation to deal with such issues unilaterally. Hence, different bi- and multilateral approaches are emerging. Bangladesh is not free from such threats. It needs to engage in military cooperation and maritime security initiative to defend its sovereignty and protect economic activities. Since apparatuses, such as SAARC and BIMSTEC have not contributed to Bangladesh's development meaningfully, the prospect of regional integration in the Indo-Pacific offers opportunities to look further. This study reveals that defence diplomacy is a viable option for Bangladesh in the Indo-Pacific to further its national interest.

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Author

Captain Mahmudul Haque Majumder, (L), NPP, afwc, psc, BN, an alumnus of the Rangpur Cadet College, was commissioned in the Bangladesh Navy in 1996. He is a graduate of the Bangladesh University of Engineering and Technology (BUET). He obtained a Master of Science in Military Studies and a Master of Social Science in Security and Development from the Bangladesh University of Professionals. He also obtained an Executive Diploma in Strategic and Defence Studies (with Distinction) from the National Defence University of Malaysia. The author attended command and staff courses both at the Defence Services Command and Staff College at Mirpur, Bangladesh and the Malaysian Armed Forces Staff College. He also attended the Armed Forces War Course at the National Defence College, Bangladesh.

He served onboard various ships and establishments of the Bangladesh Navy. He performed as an instructor at the Bangladesh Naval Academy, School of Maritime Warfare and Tactics and other professional schools of the Bangladesh Navy. He served as Directing Staff at the Defence Services Command and Staff College, Mirpur. He attended advanced professional courses in India and Turkiye. He was awarded a prize in the Indian Ocean Naval Symposium Essay Competition 2015, conducted globally and organised by the Sea Power Centre, Australia, and the article was published in the IONSPHERE journal by the Sea Power Centre, Australia. The author was also honoured with the first prize in Best Individual Research Paper conducted as a part of the Armed Forces War Course. Currently, he is serving as a Directing Staff of the Armed Forces War Course at the National Defence College, Bangladesh.

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