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

Surah Al-Alaq (Verse 96)



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MESSAGE FROM THE CHIEF PATRON

It is with immense pleasure that I introduce the NDC Journal, Volume 24, Number 01, June 2025, which embodies our unwavering commitment to excellence in leadership, defense, security, strategy, and development studies. Since inception in 1999, the National Defence College has consistently pursued to be the leading national center of academic excellence, addressing the challenges of the 21st century. As we continue to navigate the complexities of the modern world, it is imperative that we remain steadfast in our pursuit of knowledge and understanding. I am confident that the insights presented in this journal encompassing varied subjects will contribute significantly to our collective efforts to address the challenges and opportunities that lie ahead.

The collection of research papers of this volume highlights the dedication and intellectual rigor of our Course Members and Faculty. These papers cover a diverse array of topics, all crucial to our nation's security and development. Through original insights and analysis, our contributors demonstrate their profound understanding of contemporary issues and their implications in both national and international arena.

I would like to congratulate all the authors whose works are featured in this journal. Their contributions reflect the culmination of rigorous research and thoughtful analysis. I am confident that they will prove invaluable to readers seeking to deepen their understanding of the critical issues facing our world today.

My appreciation goes to the Research and Academic Wing for their relentless effort to fostering a culture of intellectual inquiry and scholarly excellence at the National Defence College. Additionally, I commend the diligence and the commitment of the editorial board in bringing this journal to fruition.



Lieutenant General Mohammad Shaheenul Haque
Commandant
National Defence College

EDITORIAL

NDC Journal, a cornerstone of scholarly excellence of National Defence College, is a bi-annual publication dedicated to fostering a deeper understanding of the multifaceted challenges that our nation faces. This publication serves as a testament to our collective commitment to advancing knowledge and addressing the pressing issues of our time through rigorous research and thoughtful analysis.

In this edition of our esteemed journal (Volume 24, Number 01, June 2025), we present a collection of 12 research articles that reflect the diversity and complexity of contemporary issues, ranging from national security and economic development to social policy and technological innovation. Each article has been meticulously selected and reviewed to ensure that it meets the highest standards of academic pursuit.

I extend my deepest gratitude to all the authors whose work is featured in this edition. Their commitment to excellence and contributions to knowledge are truly commendable. The production of this journal is a collaborative effort, and we extend our heartfelt thanks to the editorial board, the Research and Academic Wing, and all those who have contributed to this publication. Their hard work, expertise and dedication are essential to the success of this journal.

As with any scholarly work, we acknowledge that despite our best efforts, unintentional errors may occasionally occur in the journal. We ardently request our esteemed readers to consider those. And we shall feel obliged to receive constructive criticism if any. I hope that our valued readers find this edition both enlightening and thought-provoking. May it spark new ideas, encourage dialogue, and contribute to the advancement of knowledge in our country and beyond.



A K M Jakir Hossain
Rear Admiral
Editor-in-Chief

ABSTRACTS

CHANGING NATURE OF THE TRANS-BORDER CRIMES: ITS' IMPACT AND RESPONSE OPTIONS THROUGH SMART BORDER MANAGEMENT: BANGLADESH PERSPECTIVE

**Brigadier General A M M Khairul Kabir, BGBM, BGBMS, BGOM,
ndc, psc**

Trans-border crime is a global phenomenon with increasing complexities and Bangladesh is also not an exception to this phenomenon. Over the years the nature, magnitude, and techniques of trans-border crimes at Bangladesh border have changed; so, does the response requirement for Border Guard Bangladesh (BGB). Smart criminals need smarter counter effort. Trans-border crime at Bangladesh border is diverse and complex due to porosity, demographic and socio-economic peculiarities. Ongoing security situation at Myanmar Border has added to this complexity. In wider context, the overall national security of Bangladesh is severely affected by the trans-border crimes. Counter trans-border crime initiatives by BGB mostly revolve around the physical domination. Appropriate technology, infrastructures, smart men and gears, trans frontier capabilities, optimum bi-lateral engagement etc are the gray areas in border management initiatives by BGB. Given this scenario, Smart Border Management option for BGB should be a blend of professional competencies and smart technology. The core of this concept should revolve around cognitive and physical development of the basics and incorporation of smart, yet easy to handle technology with enhancement of other operational capabilities. A perspective plan like short, medium and long-term measures will be the essence and the measures should be pragmatic, implementable, and sustainable.

Keywords: Trans-border Crime, Smart Border Management, National Security, Bi-lateral Engagement, Basic Soldiering, Professional Competencies, Smart Technology, Perspective Plan.

**EDUCATION FOR NATIONAL SECURITY AWARENESS:
RETHINKING FROM BANGLADESH PERSPECTIVE**

Brigadier General Abdullah Taffhimul Islam, SUP, ndc, afwc, psc

A new kind of precariousness is touching Bangladesh. The effect of Rohingya exodus, Corona virus pandemic, Russia-Ukraine war, Middle-East crisis, and the recent domestic upheaval have challenged the stability-growth continuum

of the country. Unexpected events of such kind eventually get converted into economic unease, spread of disinformation, energy apprehension, environmental anxiety, socio-political worry, supply chain disruption, food scarcity and so on. All these worries if placed into one basket could take the label - 'National Security Concerns'. During last decade, national security has become a central concern to many developing countries. Along with a few speed bumps apparently Bangladesh is developing well, however, it needs to remember that the more developed a country become the higher is the need for its security. Given the challenges faced at domestic, regional and global setting, possibly, thriving Bangladesh is no longer in a position to overlook its national security issues. While the security awareness is a cognitive state that drives human response in a hoist of security situation, question is, where do the citizens stand in security awareness scale? Precisely, how much aware is the future generation? Evidently they are smart and intelligent but question is, are their security perceptions well organized? At this backdrop, should Bangladesh dream for sustained development and a secured future, perhaps it is time to equip its young lots with the basics of national security concept. For that matter, Bangladesh could garner the untapped potentials of education to raise the security awareness among youths.

Keywords: National Security of Bangladesh, Youths, Security Awareness, Education.

REVITALIZING HOME-GROWN NATURAL GAS EXPLORATION AND PRODUCTION EFFORT: A STUDY ON BANGLADESH PETROLEUM EXPLORATION AND PRODUCTION COMPANY LIMITED (BAPEX)

Brigadier General Mohammad Monir Hossain Patwary, ndc, psc, PhD

65% of Bangladesh's energy comes from natural gas. Lion portion of this natural gas demand is met from IOCs or through imported Liquefied Natural Gas (LNG). Bangladesh Petroleum Exploration and Production Company (BAPEX), a state owned enterprise should have been the premier provider of gas resource ideally. However, due to lack of capability of BAPEX in terms of HR and logistics, the entity is not competent to lead the exploration and production as such a huge amount of foreign currency is outflowed every year. Countries like China, Brazil and Malaysia prioritized their national gas exploration production entities and got adequate dividend. At this backdrop, objective of this research is to study as to how BAPEX can be revitalized to be leading inshore exploration and production entity. A mixed method approach is followed combining document research,

quantitative surveys and qualitative interviews. Survey is conducted among the core managerial employees of BAPEX, whereas interviews were conducted among academia, leading sectoral think tanks and policy holders. It has been observed that there is a great need for policy reform, ensure proper effort to harnessing of manpower and logistics for BAPEX, talent management, defeating beauracatic deadlocks and arrangement of adequate financial support etc. to revitalized this state owned local exploration entity. Finally it is recommended that BAPEX should be revitalized giving adequate policy support, priority, manpower, logistics and financial support to make it a prime national exploration and production entity.

Keywords: Revitalization, BAPEX, IOC, Policy Issues, Public Private Partnership, Human Resource, Logistics.

CHINA-MYANMAR RELATIONS: GEOPOLITICAL IMPLICATIONS FOR BANGLADESH

Brigadier General Mohammad Moinuddeen Shamim, ndc, psc

This study investigates the implications of China-Myanmar relations for Bangladesh through the theoretical frameworks of Neorealism and Soft Power. As China expands its strategic and economic engagements with Myanmar, Bangladesh is presented with complex security and diplomatic challenges. The research combines qualitative and quantitative methods, including surveys, interviews, and secondary data, to explore how China's military alliances, economic influence, and soft power strategies shape Bangladesh's geopolitical landscape. Findings reveal that China's actions in Myanmar, particularly in military and economic spheres, intensify security concerns for Bangladesh, highlighting issues such as border security, regional instability, and economic dependencies. Additionally, China's use of soft power, including cultural diplomacy and humanitarian aid, strengthens its influence in Myanmar, indirectly affecting Bangladesh's foreign policy choices and regional standing.

The analysis indicates that Bangladesh must navigate these dynamics carefully to safeguard its national interests. While China's military support to Myanmar amplifies regional security risks, its economic investments present both opportunities and vulnerabilities. To manage these challenges, the study suggests that Bangladesh adopt a balanced approach, strengthening its diplomatic ties and participating actively in regional alliances to counterbalance China's influence. The findings provide valuable insights for policymakers and regional analysts focused

on South Asian geopolitics, underscoring the need for strategic adjustments in Bangladesh's foreign policy to maintain stability and foster resilience in an increasingly competitive regional environment.

Keywords: China-Myanmar Relations, Neorealism, Soft Power, Bangladesh's Geopolitical Landscape.

MATARBARI DEEP SEAPORT AS A REGIONAL SHIPPING HUB: OPPORTUNITIES AND CHALLENGES

Commodore Md. Shafiq Bari, (ND), ndc, psc, BN

Bangladesh is making notable progress in both economic and social development and is on track to achieve developed nation status by 2041, which requires double-digit Gross Domestic Product (GDP) growth. The Government of Bangladesh (GoB) is developing the Matarbari Deep Sea Port (MDSP) which has the potential to contribute 2-3% to the country's GDP growth. Recognizing this, the researcher has initiated a study on the MDSP to evaluate its opportunities and challenges to transform the port into a regional shipping hub. A literature review identifies six key factors crucial for this transformation: strategic location, strong connectivity, operational efficiency, high cargo volume, competitive port costs, and a positive economic impact. Through focus group discussions, surveys, and interviews with stakeholders and academia, the researcher reveals that MDSP holds significant potential to become a regional shipping hub, despite several challenges. Located at a strategic position in the Bay of Bengal, the port offers deep sea access to India's north eastern region, Nepal, Bhutan, and China's Yunnan Province provided hinterland connectivity is improved to international standard. Increasing cargo volume to meet the critical mass requirement of mother vessels and attracting international shipping lines through competitive port costs are also vital for success. Major shipping lines prioritize ports with high operational efficiency and quick vessel turnaround times. To attract these liners to MDSP, the port authority must increase cargo volume by redirecting regional shipments, adopt automation to reduce turnaround times, and ensure competitive port costs relative to other regional hubs.

Keywords: Matarbari Deep Seaport, Regional Shipping Hub, Economic and Social Development.

EXPLORING THE LIVELIHOODS OF STREET VENDORS IN DHAKA CITY

Air Commodore Kazi Iqbal Karim, GUP, ndc, fawc, psc, GD(P)

Street vendors in Dhaka City face a complex set of challenges which hinder their livelihoods, characterised by low income, challenging working conditions, limited access to resources and influenced by socio-demographic factors. This research aims to understand street vendors' diverse livelihoods in terms of challenges, impact on Dhaka City and developing supportive policies. The study used a mixed-method approach to investigate street vendors in Dhaka City. Data was collected through surveys of 140 street vendors, six interviews, two focus groups and a number of observations. Qualitative analysis focused on themes, while quantitative analysis examined demographics, business types and livelihoods. It is found that street vending in Dhaka City is informal but vital. Vendors face challenges but remain resilient. Effective management requires a balance between vendor needs and urban context. Integration into the formal economy and urban planning can benefit both vendors and the city. A sustainable street vending model in Dhaka City needs a comprehensive approach combining economic inclusion, public space management, vendor management, livelihood transformation and stakeholder collaboration.

Keywords: Street Vendors, Dhaka City, Livelihoods, Challenges, Resilience, Urban Environment, Policy Development.

IMPACT OF INDIA-CHINA RELATIONS ON ECONOMIC SECURITY OF SOUTH ASIAN COUNTRIES: THE CASE STUDIES OF SRI LANKA, NEPAL AND MALDIVES

Air Commodore Suresh Kumar Tiwari, ndc

This research deals with the impact of India-China relations on the economic security of South Asian nations, considering the case studies of Sri Lanka, Nepal and Maldives. It aims to provide policy considerations to the three focus countries for avoiding the adverse impact of economic dependency on select sources. India-China relations are set to retain their competitive character in the days ahead. This in turn has the potential to influence the entire Asian region, more so the smaller countries of South Asia. India will try to retain its traditional hold over these countries, even as China bolstered by its economic levers of influence and desire to contain India increases its footprint. In attempting to do this, China could create dependencies and exploit these to better serve its strategic end goals.

The focus countries must aim to enjoy the benefits from both India and China, while ensuring that their strategic autonomy is not eroded because of excessive economic dependence on any one source.

Keywords: India-China Relations, Economic Security, South Asian Nations, Economic Dependency

INTERNALLY DISPLACED PERSONS MANAGEMENT AND NATIONAL SECURITY: AN APPRAISAL OF NORTH EAST REGION OF NIGERIA

Group Captain Adebayo Adekanmi Petinrin, ndc, afwc, psc

National security covers the protection of people from critical threats and situations. It focuses on the safety of individuals from hunger, diseases, and disruptions in their daily life. The key issues are the institutional framework, institutional capacity, and coordination of assistance and support services. There are several strategies to overcome the challenges faced in Internally Displaced Persons (IDPs) management including continuous lobbying of state governments as well as establishment of a National Humanitarian Intervention Fund. Others the study concluded that government has a primary responsibility for IDPs management as part of its social contract with the population.

Keywords: IDPs, National Security, IDPs Management.

LEADERSHIP CHALLENGES IN BANGLADESH ARMY IN THE 21ST CENTURY- WAYS FORWARD

Lieutenant Colonel Mohamudul Hasan, afwc, psc, Engineers

Effective leadership is an art that is a combination of clear communication, decision-making capabilities, and the aptitude to motivate and inspire individuals to show their best performance. As the contemporary world is experiencing significant shifts in individuals' lifestyles, the challenges posed by the socio-economic changes in leadership approaches also don't go unchallenged, particularly in the 21st century. This study aims to critically explore the multiple leadership challenges specifically challenges offered by socio-economic changes confronting the present responses of mid-level leadership of the Bangladesh Army and outline potential options, particularly the feasibility of utilizing the 'Adaptive Leadership' approach. The research incorporates qualitative interviews, surveys, and quantitative analyses using an exploratory method approach. The findings

indicate that the existing stereotyped leadership approach is not appropriate enough to address the difficulties arising from societal changes. The main issue here is that the Bangladesh Army lacks a standardized leadership approach that could be implemented across all organizations. The thoughts for the positive impacts to follow proper leadership strategies that should be implemented to leverage these for institutional benefits. Some measures can be implemented to mitigate the negative impacts so that they are tolerable. As such, the correct leadership approach needs due consideration. Adaptive leadership is beyond the thinking that an individual heroic leader has answers to all questions. It not only tackles the challenges that come from diverse socio-economic landscapes but also turns them into opportunities for development and achievement, particularly for mid-level officers in the Bangladesh Army. The study recommends that mid-level officers should adopt and exercise an adaptive leadership strategy to establish and develop an adaptive, flexible, participatory, and creative process in the organization. Also, promote a leadership approach that involves maintaining awareness to forecast and respond to changes effectively, viewing the impacts with a forward-thinking perspective.

Keywords: Bangladesh Army, Mid-Level Officers, Socio-Economic Changes, Adaptive Leadership, 21st Century, Leadership Approach.

AN EVALUATION OF THE CURRENT GEOSPATIAL INTELLIGENCE (GEOINT) CAPABILITY OF BANGLADESH ARMY: A QUEST FOR ENHANCING OPERATIONAL EFFICIENCY

Lieutenant Colonel Abdullah-Al Mamun, afwc, psc, Engineers

Geospatial Intelligence (GEOINT) has emerged as an essential element in contemporary military operations, evolving from its historical roots in the strategic use of geographical information. Since its formal inception in 2003, GEOINT has been widely adopted by military and defense organizations globally, significantly enhancing operational efficiency by providing detailed insights through the analysis of spatial data. This study examines the current state of GEOINT capabilities within the Bangladesh Army, highlighting the necessity for its integration to improve military effectiveness and decision-making. Through an analysis of GEOINT practices in both global and regional contexts, the research identifies that while Bangladesh has made strides in Geographic Information System (GIS) technology, the full potential of GEOINT remains unexploited. The study explores the potential fields for GEOINT integration within the Bangladesh Army, such as operational environment analysis, mission planning, and tactical operations, and outlines the requirements and challenges for successful

implementation. Furthermore, the research proposes a phased induction plan for GEOINT integration, emphasizing the need for capacity building, infrastructure development, and strategic planning. The findings of this study provide valuable insights for policymakers, suggesting that the integration of GEOINT could significantly enhance the operational capabilities of the Bangladesh Army and contribute to national security.

Keywords: Bangladesh Army, Geospatial Intelligence, Operational Capabilities, GIS Technology, GEOINT Integration, Decision Making

ENDURING PROTRACTED WAR BY INFERIOR FORCES IN RECENT CONFLICTS: LESSONS FOR BANGLADESH ARMY TO ENHANCE WARFIGHTING CAPABILITY

Lieutenant Colonel Md Abdul Moman, afwc, psc, G, Artillery

The present trend of warfare from short to prolonged ones underscores the importance of understanding how inferior forces can endure a protracted war. The strategy of enduring protracted wars by inferior forces and ultimately making it costly for stronger forces has been vividly pronounced in recent years. In many instances, the inferior forces adopted indirect strategies with desperate desires to win. The warfighting capability of any force comprises its physical, moral, and conceptual components. Being outnumbered, Bangladesh Army may have to fight stronger adversaries in future. Comparatively weaker forces have displayed resilience in recently ended and ongoing conflicts like Vietnam, Afghanistan, Ukraine, and the Gaza war. Thus, it leaves many lessons for the Bangladesh Army. Incorporating pertinent lessons into Bangladesh Army will enhance fighting power components and can develop strategies to endure protracted conflicts. This mixed-method descriptive research followed an inductive approach. Through in-depth interviews, surveys, focus group discussions, content analysis, and taking examples from recently ended and ongoing conflicts, the research found the necessity of attaining a feasible warfighting capability for Bangladesh Army to endure protracted war. The suggested ways to attain such capability include revising existing practices, enhancement of capability by adopting new strategies, developing indigenous capacity, and so on. Though posed with multiple challenges to the thriving ideas, the outcome of the research will surely provide decision makers an intuition for enhancing warfighting capability to endure protracted wars by Bangladesh Army in future.

Keywords: Protracted War, Warfighting Capability, Fighting Power, Indirect Strategies, Potential Adversaries.

NEED FOR MULTIPLE MARITIME HUBS IN BANGLADESH FOR NATIONAL SECURITY

Captain Mirza Rokaiya Noor Popy, (E), afwc, psc, BN

Bangladesh's strategic location at the apex of the Bay of Bengal and its reliance on maritime resources make the development of Multiple Maritime Hubs (MMH) crucial for its economic growth and national security. Currently, the country relies heavily on Chattogram port, creating vulnerabilities in times of disruption. This research explores the feasibility of developing Mongla, Payra, and Matarbari into fully operational MMH to diversify maritime activities and mitigate these risks.

The research objectives were to evaluate the current limitations of existing ports, analyze the challenges in establishing MMH, and propose strategies for their successful development. A mixed-methods approach was used, incorporating surveys, interviews, and focus group discussions with maritime experts, government officials, and military personnel. Statistical analysis validated the findings, which showed overwhelming support for diversifying maritime activities across multiple hubs to reduce the risk of economic stagnation and enhance national security.

Key findings include the potential of Mongla and Payra to support additional maritime activities, while Matarbari holds significant promise as a deep-sea port. Recommendations include modernizing port infrastructure, promoting public-private partnerships, and enhancing maritime education to build a skilled workforce. Establishing MMH in Bangladesh is essential to achieving sustainable economic development and national security.

Keywords: Multiple Maritime Hubs, Bangladesh, National Security, Economic Growth.

CHANGING NATURE OF THE TRANS-BORDER CRIMES: ITS' IMPACT AND RESPONSE OPTIONS THROUGH SMART BORDER MANAGEMENT: BANGLADESH PERSPECTIVE

**Brigadier General A M M Khairul Kabir, BGBM,
BGBMS, BGOM, ndc, psc**

Introduction

Trans-border crime exceeding the national borders are the prime concern for any specific country and the neighbourhood. Globalization coupled with technological rapid advancement, have changed the character of trans-border crimes that function both virtually and beyond real borders. Over the years the nature of trans-border crimes at Bangladesh border have changed in its dimension, technique, places of occurrence and magnitude. Porous border, unique socio-economic dimension of the bordering people, security situation of the neighbouring countries, digitalization, technological advancement, social network etc have brought significant changes in the traditional modus operandi, route and magnitude of trans-border crimes. This also affects the security landscape of the country very badly. Between 2019 to 2023 more than 4 thousand crores of Taka were added to national economy through seized goods only by BGB (BGB Database). In 2022 total seized value was Taka 13 hundred crore. In this time frame, more than 450 kgs of gold and 50 Lacs dollars were recovered by BGB which were deposited to the national treasury and adding to the overall reserve of the country. Similarly, more than 82 thousand smuggled cattle were seized which ultimately promoted the domestic farming.

Given the changing nature of the trans-border crimes and its impact on the overall security spectrum of Bangladesh, the appropriate response option for Border Guard Bangladesh (BGB) to counter the trans-border

crimes is a critical necessity. The success of sound border management lies primarily in the diverse and smart strategy adopted by BGB. In Bangladesh perspective, the border with India and Myanmar differs to each other in the nature and magnitude of the trans-border crimes and geographical orientation; so is their implication and response option. Given this backdrop, this is no denying that in this contemporary changed world and border scenario, BGB requires a more comprehensive and forward-looking approach-one that embraces the concept of “Smart Border Management.” This entails leveraging smart technology to enhance border surveillance, smart, trained & well-equipped men at the border, smart cross agency collaboration within and beyond the border and after all a prudent neighbourhood diplomacy.

The Concept: Evolving Trans-Border Crime

The terms trans-border crimes and trans-national organized crime are sometimes used interchangeably (Jahan, Bushrat, 2023). While trans-border crime specifically refers to criminal actions that cross international borders, regardless of their global scope or complexity, trans-national crime focuses on illegal activities that require cooperation across numerous countries and have a global reach. Several factors contribute to the escalating complexity of trans-border crimes. Globalization factor has made cross-border unlawful activity easier through greater movement of people and goods. Technological development facilitate communication and facilitate easier organization for criminal networks. Trans-national crimes affect a country's politics, economy, and society directly and indirectly, which has an impact on security (Kahar, 2019). As per United Nations Office on Drugs and Crime (UNDOC) four major attributes of the transnational crimes are: a) Committed in more than one State. b) Committed in one State but a substantial part of its preparation, planning, direction or control takes place in another state c) Committed in one State but involves an organized criminal group that engages in criminal activities in more than one State. d) Committed in one State but has substantial effects in another State (UNDOC, 2000).

Following the cold war in 1990's, researchers and policymakers started seeing trans-border crime as a serious issue at the backdrop of huge political and monetary advancements (David Felsen , 2005). Globalization, digitization and technological advancement have changed the modus operandi of transnational organized crime (Dr Marina, 2022). Overall, the evolving nature of trans-border crime is driven by a complex interplay of factors, including globalization, technological advancements, economic incentives, political instability, corruption, and social inequalities. To address these root causes, a multimodal approach involving international cooperation, law enforcement operations, socio-economic development initiatives, good governance and the rule of law are required.

Prevalent Trans-Border Crime and Emerging Trends: Bangladesh Perspective

Border Environment

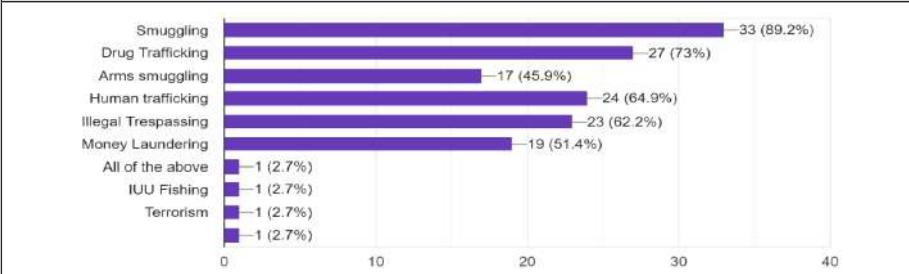
Geo strategically Bangladesh lies at the crossroads of South Asia, South-east Asia & Central Asia. The total length of the international border is 4,427 kilometers. Detail distribution represented in Figure 1. The porosity and the overall socio-economic and demographic characteristics of the border results in multitude of problems, ranging from illegal crossing, smuggling, and drug and human trafficking to arms smuggling, movement of insurgents, criminals and incidents like border killing. The ongoing internal security situation in Rakhine State of Myanmar has left the Bangladesh-Myanmar border most vulnerable and fluid. The presence of FDMN Camps at Cox's Bazar remains a major security issue at Myanmar Border.



Trans-Border Crime

In Bangladesh perspective, trans-border crimes mainly include inbound smuggling of drugs, narcotics, phensedyl, weapon, ammunition and explosives, clothing items specially sarees (mainly from India), low quality medicine, low quality motor parts, cosmetics, electronics, fake currency, yaba tablets (mainly from Myanmar), crystal meth ice (Myanmar), LSD (Lysergic Acid Diethylamide) and outgoing smuggling of fertilizer, fuel and edible oil, electronics & computer parts, cotton and clothing, gold, brass, touch Stone, foreign currency & fish. Besides, this also includes human trafficking and illegal crossing. A survey conducted shows that the smuggling of different goods is the most common form of trans-border crime. Besides, Drug trafficking, arms smuggling and human trafficking are the most three common forms of trans-border crime prevalent at the Bangladesh Border (Graph 1).

Graph 1: Most Common Form of Trans-border Crime: Bangladesh



Source: Primary

Drug Trafficking

Bangladesh is not a producer of drugs, but its location places it at the intersection of the Golden Triangle and Golden Crescent, two important drug trafficking routes in Asia. (Map 1 reflects the routes). This, unfortunately, makes the country a lucrative transit for the region's drugs, especially from Myanmar and India. In 2023 BGB alone seized approximately one crore 48 thousand pieces of Yaba at the border which was more than 2022, 2020 and 2019 (shown in the Graph 2). Heroin usually comes through north and western border. But of late, a good amount of heroin have been seized by BGB in Chattogram area while carrying by bus towards Cox's Bazar. Crystal Meth Ice and LSD are the two drugs now coming in Bangladesh mostly from Myanmar and western part of Bangladesh through Teknaf, Cox's Bazar and LSD through Joshore, Kushtia and Satkhira. In 2023 BGB alone seized approximately one lac 86 thousand piece of phensydil, 331 kgs of heroin, 3 lacs bottles of wine and 58 thousand beers. The statistics shows a downward trend of phensydil smuggling in 2023 compared to last two years (Graph 3).

Map 1: Major Asian Drug Trade Route



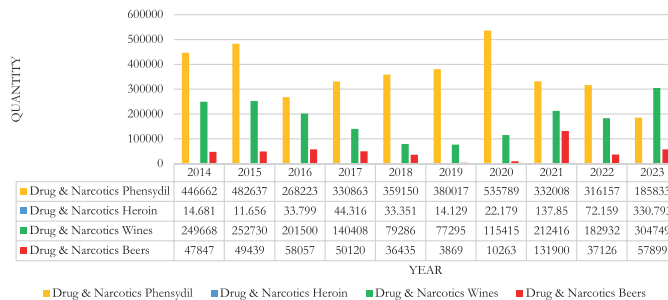
Source: Secondary

Graph 2: Yaba Seizure State



Source: Primary

Graph 3: Other Durgs/Narcotics & Beverage



Source: Primary

Human Trafficking

Other than Myanmar border, the widely used route for human trafficking is through Moheshpur area in the western border of Bangladesh bordering with West Bengal of India. Between 2017 to 2022 BGB alone apprehended 38 traffickers while rescuing 1022 women and 444 children at the border (shown in the Table 1). One of the key reasons for the route through Moheshpur being used is the non-existence of fence at the Indian Side. Weak legal framework is one of the factors that indirectly encourage the traffickers. Though the 2012 Prevention and Suppression of Human Trafficking Act (PSHTA) criminalized sex trafficking and labor trafficking and prescribed penalties of five years to life imprisonment and a fine of not less than 50,000 Bangladeshi Taka (BDT) (Human Trafficking Act, 2012), its actual implementation is a distant factor.

Table 1: Human Trafficking State

| Year | State of detained human trafficker, rescued women and children during trafficking | | | |
|----------------|---|------------|------------|--------------|
| | Women | Children | Trafficker | Cases |
| 2017 | 76 | 55 | 0 | 32 |
| 2018 | 312 | 174 | 0 | 414 |
| 2019 | 250 | 128 | 03 | 269 |
| 2020 | 303 | 52 | 01 | 294 |
| 2021 | 47 | 09 | 19 | 43 |
| 2022 | 34 | 26 | 15 | 41 |
| Total = | 1022 | 444 | 38 | 1,093 |

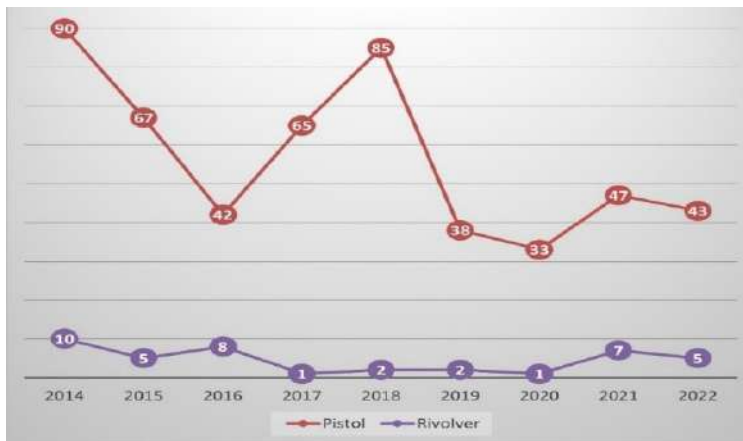
Source: BGB Database

Arms Trafficking

Bangladesh's location, porous border, internal demand and weak law enforcement have made the country a popular destination for South Asian arms traffickers. Political cadres, CHT armed groups, and local criminals are the main users of illicit arms in Bangladesh (Rana, 2018). In 2023 BGB alone

recovered 48 pistol, 51 different types of gun, 1076 pieces of ammunition at the border. The demand for Indian-made firearms is particularly high due to their low price and wide availability (South Asia Terrorism Portal). The graph (Graph 4) based on BGB seizure reflects the trend of pistol and revolver recovery at the border. Pistol is always prominent and preferred option for the arms traffickers. According to the recent trend as observed, North, South-West and South-Eastern parts of the country specially Khulna, Jashore, Mohespur, Chapainawabganj, Satkhira, Kushtia, Cox's Bazar, Teknaf, Bandarban, Rajshahi, Cumilla and Brahmanbaria are the main places being used for transportation of illegal small arms. In recent years, the country's northwestern border in Chapainawabganj has emerged as a major route for smuggling in arms.

Graph 4: Trend of Pistol/Revolver Recovery



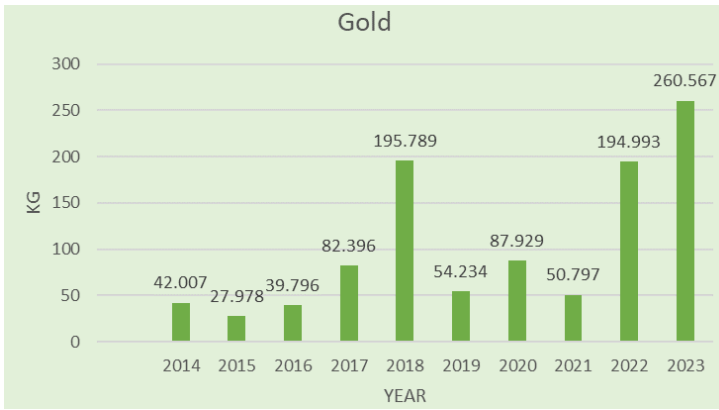
Source: Primary

Other Goods Smuggling

Trans-national gangs are bringing gold bars into Bangladesh before smuggling those to India through land route in the form of chocolate bar (The Daily Star, 09 May 2023). These are smuggled mainly through Khulna, Jashore, Mohespur, Chapainawabganj, Nilphamary, Satkhira, Kushtia & Cox's Bazar. In 2023 BGB alone recovered approximately 261

kgs of Gold at the border. The graph 5 reflects that the gold smuggling has increased manifold since 2018. Gold smugglers use different innovative technique to smuggle like using motor cycle, car, utilizing local farmer, women and minor as carrier, using the truck drivers at the port etc.

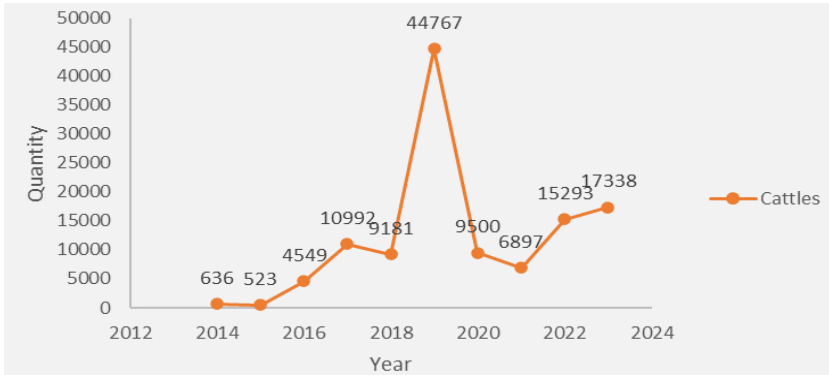
Graph 5: Year Wise Gold Seizure



Source: Primary

Cattle smuggling is the most common form of other goods smuggling at the border. In the past this was very prominent through north and western border. But for the last few years the route has gradually shifted towards north and eastern border including the border with Myanmar. Cattle corridor at Myanmar Border and Bit Khatal at Indian Border remain suspended since long which also results in the changing pattern of this trans-border crime. The main route now being used for cattle smuggling includes Sylhet, Brahmanbaria, Naikhangchari, Alikadam, Kaptai, Cox's Bazar, Nildumur, Rangpur, Kurigram, Lalmonirhat, Jamalpur, Netrokona, Cumilla, Rajshahi and Chapainawabganj. Seizure trend of cattle in last 10 years by BGB is shown at the graph (Graph 6). This reflects that the cattle smuggling though reduced in 2019-20, had an upward trend in very recent years.

Graph 6: Cattles

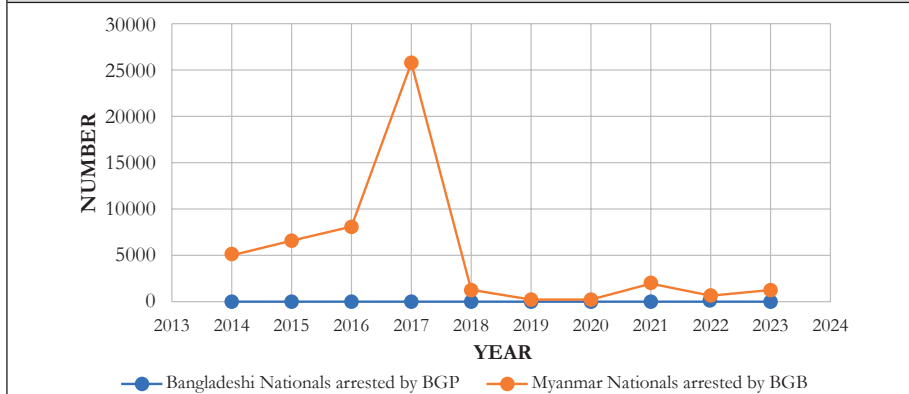


Source: Primary

Illegal Crossing

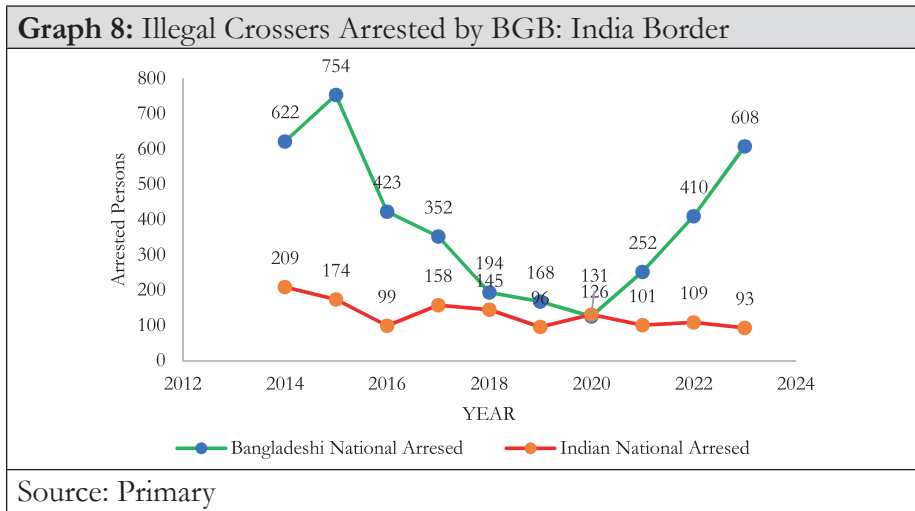
On the Myanmar border, the illegal crossing is mostly done by the FDMN (Forcibly Displaced Myanmar Nationals). Besides, local fishermen, traders, smugglers also often cross the border. In the part of CHT (Chittagong Hill Tracts) border, often the tribal people cross the border due to ethnic congruity and socio-cultural bonding. The trend (Graph 7) at Myanmar border shows a sharp downward trend after 2017 and then a mix of upward and downward trend with regards to Myanmar Nationals.

Graph 7: Illegal Crossing: Myanmar Border



Source: Primary

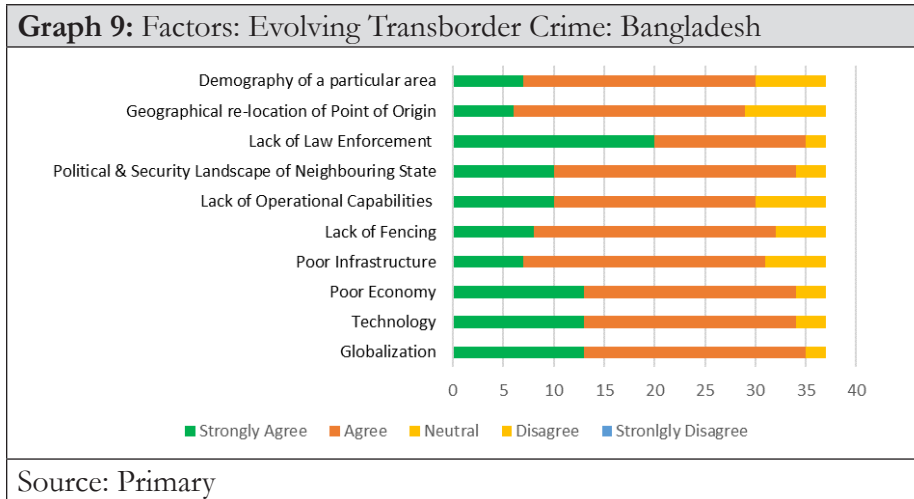
Illegal crossing by Bangladeshi Nationals at Myanmar border is significantly low than that of Myanmar Nationals crossing into Bangladesh. The statistics (apprehended illegal crossers by BGB alone, refer Graph 8) both at Indian and Myanmar border will give some idea on the illegal crossing trend. The trend shows an upward trend at India Border in 2023 with regards to Bangladeshi Nationals illegally crossing while a downward trend for the same with Indian Nationals.



Factors Contributing to the Evolving Nature of the Trans-Border Crime: Bangladesh Perspective

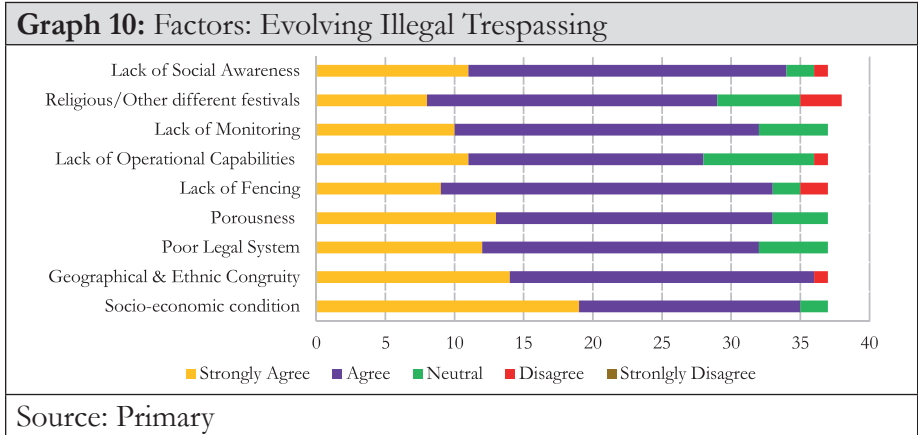
The geographical context of the country is one of the prime factors driving the evolving nature of the trans-border crime. Being at the meeting point of South and Southeast Asia, Bangladesh serves as a lucrative country for illicit drug trafficking and human trafficking. Because of its porous nature, the border provides smugglers and infiltrators with an easy way to cross (Ahmed Aziz, 2020). For example, cattle smuggling was prominent on the western border which gradually shifted to north and east due to ease of transportation on the other side and porousness of the border specially towards Myanmar. Close vicinity of the manufacturing/production facilities of the smuggled items across the border also results in change

in the route. For example, drug and arms trafficking shifted towards east and north-west mostly in Chapainawabganj and Western Border with West Bengal of India. The study reveals that out of many factors, geographic re-location of the point of origin is a prominent factor for evolving trans-border crimes (refer to Graph 9).



Demographic, Socio-Economic and Technological Realities

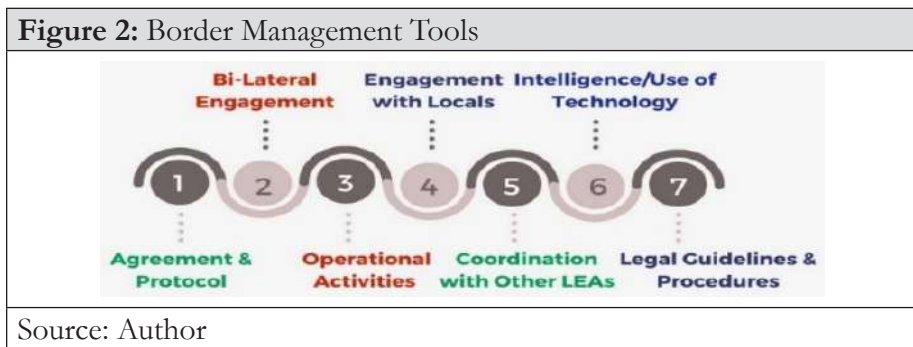
Demographic reality at Bangladesh-India border offers a strong platform for the trans-border criminal to influence people from both sides easily. Demographic realities at Myanmar border are also the same to some parts like Cox's Bazar and Bandarban areas where many ethnic groups like Chakma, Rakhine and Bawm are having their socio-economic link across the border. This also contributes to the evolving nature of the trans-border crime like drug trafficking, cattle smuggling, illegal crossing and human trafficking. The survey on the factors contributing illegal crossing reflects most of the respondents opining socio-cultural, ethnic & geographic congruity with neighbouring country and religious events and festivals are two of the dominant factors for the illegal border crossing at the border (Graph 10).



Other major factors contributing to the evolving trans-border crime include poor economy, poor infrastructures, globalization and technological advancement. People living on the border are more susceptible of being recruited by criminal groups that provide a means of survival. For many of the locals, smuggling is the only source of income; it's viewed as merely a profession or job that they have done for decades. Trans-border criminals mostly use non-traditional routes to avoid being detected. It is observed that, trans-border crimes are more prominent in the areas having no fence on the other side. Innovative ways like smart phone for communication, bKash and other transactional facilities, hundi system of transaction etc are few of the current trends. Criminal networks constantly adapt their methods, finding new routes and strategies to evade detection. These factors create a complex environment where trans-border crimes continuously change in its dimension and techniques offering challenges and a need for smart response option by the BGB. Political unrest in neighbourhood fosters an atmosphere that is favorable to cross-border criminality. Ongoing crisis in Myanmar has created a complex environment and fostered trans-border crimes like smuggling of weapons, drugs, and illegal crossing. Many of the border outposts at Myanmar border have been vacated by BGP and taken over by ethnic armed groups; hence, created a security vacuum.

Border Management by Border Guard Bangladesh: Challenges and Limitations

Border management in the context of Bangladesh serves important purposes: like maintaining territorial integrity, preventing drugs and human trafficking, minimising threats to bilateral trade and commerce, develop mutual trust and cooperation, preserving national security and economy and providing security of life and properties. In this whole gamut, maintaining territorial integrity remains the top most priority. Bangladesh is having the 5th largest land border in the world entwined with porosity and versatility. Border management is a multi-agency functional scheme involving different stakeholders with specific roles and tasks. BGB remains in the center of border management activities. The basic technique of border management by BGB is a combination of physical presence all along the border through extensive patrolling/ joint patrolling and by the dedicated quick reaction force to deal with any eventualities within short notice. The basic border management tools that BGB applies include bi-lateral engagement based on few agreements & protocols, operational activities round the clock, engagement with locals and law enforcing agencies, limited use of intelligence and technology and few legal guidelines and procedures (shown diagrammatically as Figure 2).



Border Management Challenges and Limitations

The survey reflects that the major challenges of BGB includes porous border, weak infrastructures, organizational structure, strength, lack of

modern equipment and trans frontier intelligence capabilities, lack of legal policies and implementation, demographic and geographic realities, lack of optimum bi-lateral coordination etc. Being a 24/7 operational force, 75% of the BGB soldiers remain deployed at the border round the clock. This phenomenon leaves BGB in extremely difficult scenario to continue regular extensive training other than few basic trainings at the only one training centre at Border Guard Training Centre & College (BGTC&C). Despite the fact that every bi-lateral engagement demands for English language skills by the BGB men at the border, this particular area remains as a serious draw back (Interview with DG BGB, 16 June 2024). Guarding 4427 km long porous border with existing manpower and transports is very difficult for BGB. The average strength in a BOP is about 20-25 persons who actually cannot manage a border stretching approximately 6-7 km in average within respective Area of Responsibility. In average BGB has 70% shortfall in officers' strength. Lack of adequate and appropriate transports is a serious drawback for BGB hindering the operational capabilities (Interview with DG BGB, 16 June 2024). Due to economic crisis, procurement of transports was barred in last few years which eventually worsened the overall shortfall.

The bordering area on Bangladesh side lacks in adequate infrastructures, roads and other facilities in comparison to India and to some extent with Myanmar. BGB lacks in trans- frontier intelligence capabilities. The training of the intelligence persons is also very inadequate and currently under taken by the only Ad hoc Intelligence School at Cumilla. Intelligence gathering tools are also inadequate and under-utilized. Most of the bordering people in Bangladesh are very poor, less educated and susceptible to easy motivation by the trans-border criminals. This overall phenomenon poses tremendous challenge for BGB to manage the border and get the habitual smugglers out of their business. Starting from Union Parishad Election up to National Parliamentary Election, BGB is usually heavily deployed in assistance to civil administration. These tasks take many of its strength out of the border for a particular time resulting border management difficult. BGB lacks in surveillance capabilities in areas specially remote areas like

CHT and Myanmar border. Bi-lateral engagements at Battalion and Sector Level are not optimum. In many cases, this can be attributed to the non-responsive attitude of the BSF (Border Security Force) Local Commanders. This irregular meeting is even more prominent at the CHT borders. Border Liaison Office (BLO)-a bi-lateral coordination arrangement with Myanmar has remained ineffective ever since its' conceptualization. In case of Myanmar, the situation is even worse due to non-existence of Border Guard Police (BGP) in certain areas of Bandarban Sector and also due to extremely fluid internal security situation in Myanmar.

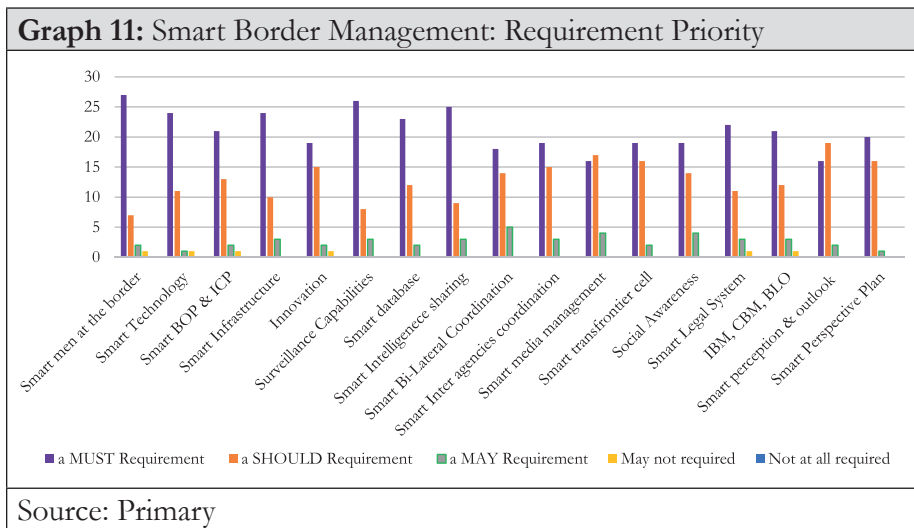
Smart Border Management-A Potential Response Option for Border Guard Bangladesh

The physical security of the border with smart well trained bayonet strength and modern surveillance gazettes, smart BOPs, smart inter-agencies coordination, trans frontier intelligence capabilities, prudent media management, comprehensive criminal database, optimum bi-lateral engagement with the neighbouring border forces and digital monitoring have become key factors for having a pragmatic border management structure for BGB.

The Theme: SMART Border Management

Smart Border Management theme for Bangladesh should be a pragmatic and ground oriented practical approach with a balanced mix of professional men and modern equipment (Interview with DG BGB, 16 June 2024). At the same time, the smart border management initiatives by BGB should be cost effective, futuristic and should enable BGB to render optimum operational performance both during peace and war time. The core professional aspect of the soldiers needs attention so that the basic soldiering capabilities are enhanced. Essentially the smart border management basket for BGB will have a mix of different technology-based solutions, efficient & professional men and outfit and bi-lateral engagement. The survey (Graph 11) reflects that

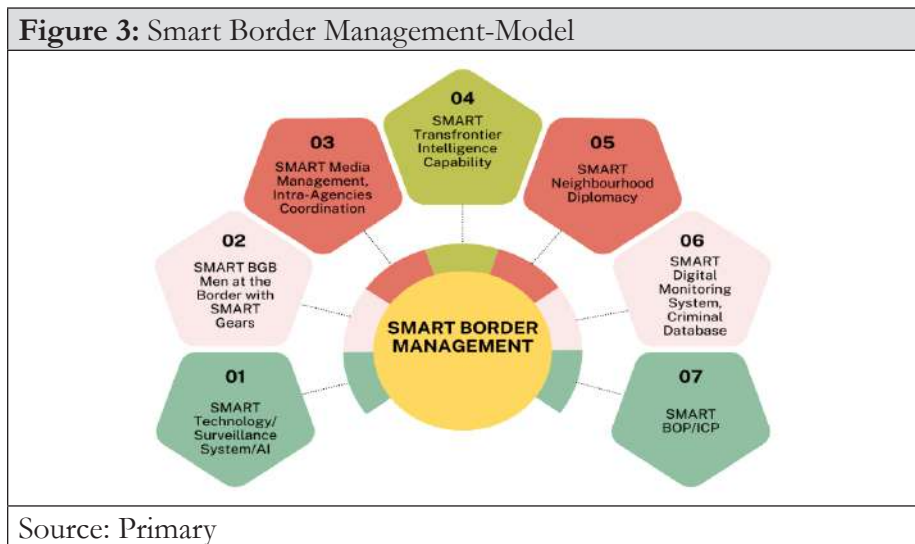
the issues like smart men at the border, surveillance capabilities, smart intelligence sharing, smart technology, smart infrastructures and a smart database are the most opined a MUST requirement for the smart border management. On the other hand, other issues like smart perception & perspective plan, bi-lateral coordination, media management, innovation and inter-agency cooperation are the SHOULD requirement for a smart border management.



Smart Border Management Model: BGB

Based on the research findings, a model for smart border management has been developed here as presented (Figure 4). This model has taken a comprehensive look towards the entire length of the border management issues. The MODEL is based on 7 Principal Initiatives. This includes incorporation of smart technology and surveillance system (including operationalizing of the existing system), ensuring presence of smart BGB men at the border through enhancement of their professional competencies through proper training and motivation and at the same time equipping BGB members with appropriate gears. Combating smart criminals at the border needs to be done in smarter way through incorporation of

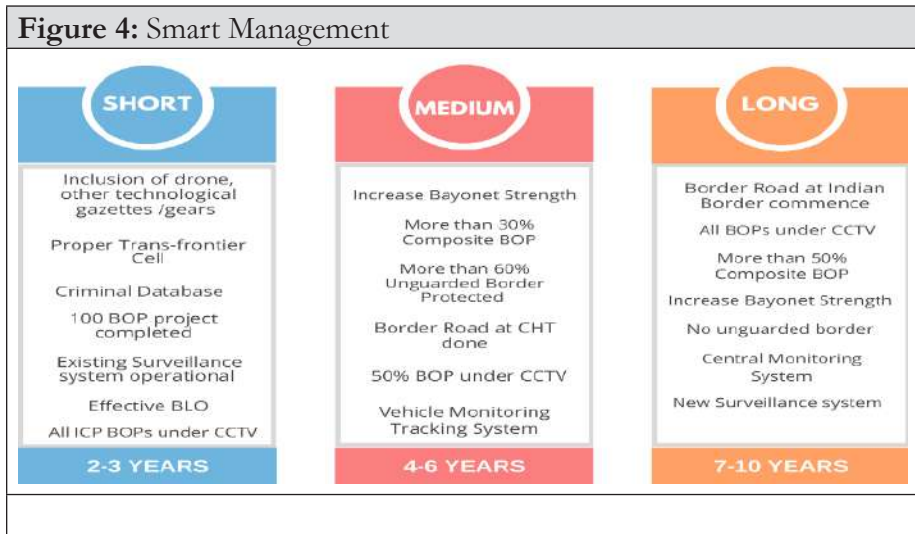
digital monitoring system backed by a comprehensive criminal database at Battalion/BOP levels. Present trans frontier intelligence capabilities need to be enhanced. Inter-agency coordination cell at the different HQs including MOHA (Ministry of Home Affairs) need to work in harmony. Smart media management will be necessary to keep the morale of the troops intact while also keeping the citizen of the country on board and informed. At last, but not the least, a mature diplomacy at all levels will be the hall mark of the sound border management while also keeping the neighbours in confidence. This will ease the counter-trans border crime operation of BGB. Every BGB person at the border acts as an ambassador of the country. Hence, BGB men to be properly trained and matured in case of all bi-lateral engagement. Adequate initiatives to be taken to ensure smart neighbourhood diplomacy.



Perspective Plan: Short, Medium and Long Term

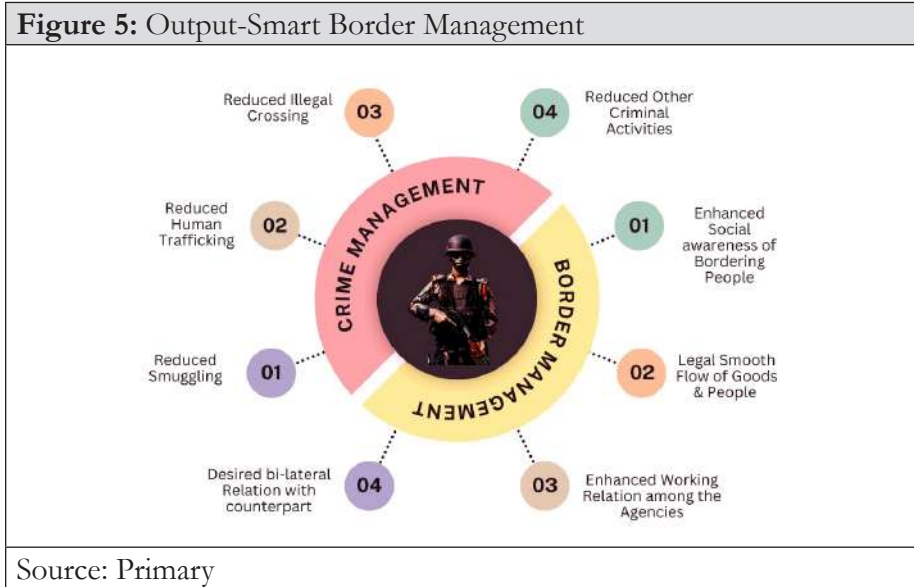
To harness the initiatives for a comprehensive approach towards the smart border management for BGB, a mix of strategies would be required. Due to the resource constraints, the physical measures may be segmented into short, medium and long-term initiatives. A probable time frame and list of priority works need to be assessed and implemented in phases. Moreover,

these works are to be considered flexible and subject to further specific assessment prior taking up individual initiative. The probable timeline and attainable objectives within the time line has been projected in the infographics (Figure 4).



Intended Outcome: Smart Border Management

Implementation of the smart border management needs to be engraved into the overall perspective plan. Budgetary constraints to be considered based on the overall economy of the country. Global socio-economic dynamics, conflicts, technological advancement and maintenance factors to be considered while incorporating new technologies and equipment so that these initiatives sustain and may not appear as burden for the organization. The end product of the smart border management should yield benefits in manifold. The objective should focus on certain outcomes as narrated in the infographics (Figure 5).



Conclusion

The phenomenon of trans-border crime is dynamic. The evolving nature of trans-border crime at Bangladesh border is driven by a complex interplay of multifaceted factors. Given the fact that the BGB has been doing an excellent job in curbing the trans-border crime, the overall outcome remains below the expected level due to many limitations. The major challenges of BGB includes porous border, weak infrastructures, organizational structure, lack of bayonet strength, lack of modern equipment, transports & trans frontier intelligence capabilities, lack of legal policies and implementation, demographic and geographic realities, lack of optimum bi-lateral coordination etc. The appropriate response option to overcome the challenges lies in the smart holistic approach rather than typical physical operational activities. BGB requires a forward-looking approach – one that embraces the concept of “Smart Border Management.” Smart Border Management theme for BGB should be a pragmatic, implementable and ground oriented practical approach. The initiative should serve both the peace time and war time requirement of

BGB. The core professional aspect of the soldiers needs attention so that the basic soldiering capabilities are enhanced. The physical measures will essentially require a perspective plan like short, medium and long term measures to include necessary technology. Besides, the initiative like posting of professional officers, procurement of robust transports, sound inter-agency cooperation, bi-lateral engagement, social awareness programme etc will be required to ensure smart border management by BGB. The overall objective of the smart border management initiatives should be to have “a sustainable smart border management mechanism”.

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Brigadier General A M M Khairul Kabir, BGBM, BGBMS, BGOM, ndc, psc was commissioned in 1995 with 32nd BMA Long Course in the Corp of Armour. In his long illustrious career of 29 years, he has served in different capacities of command, staff and instructional appointment. He commanded 7 Horse, a traditional armour unit of Bangladesh Army. He also commanded as BGB Sector Commander, Sylhet and Dhaka. As Staff, the officer served in Military Operations Directorate at Army Headquarters. Brigadier Kabir also served as the Additional Director General, General Staff Branch at the Headquarters, Border Guard Bangladesh and managed the operations, planning, media, staff duties, intelligence and training function of the organization. He also served

as Business Faculty at Military Institute of Science & Technology, and Instructor at Armour Corp Centre & School and also as Directing Staff at the Defence Services Command & Staff College, Mirpur. Brigadier Kabir is a graduate of Staff College, Mirpur and Command & Staff College, Quetta, Pakistan. He successfully completed one year training on the Simplified Fire Control System of Tank from the Armed Forces Engineering Institute of Beijing, China. He has served twice under Blue Helmet; one in South Sudan with BANBAT-1 as Mechanized Platoon Commander and the other at the Force Headquarters, D R Congo as G3 Operations and G 5 Plan. In the arena of Intelligence outfit, the officer served at the Counter Intelligence Bureau of DGFI and also as Bureau Chief, Border Security Bureau of Border Guard Bangladesh. Brigadier Kabir is a MBA graduate from the University of Dhaka. He also holds Masters in Military Studies from the Bangladesh University of Professionals and Masters in Art & Science of Warfare from the University of Baluchistan, Pakistan.

EDUCATION FOR NATIONAL SECURITY AWARENESS: RETHINKING FROM BANGLADESH PERSPECTIVE

**Brigadier General Abdullah Tafhimul Islam, SUP, ndc,
afwc, psc**

Introduction

A new kind of precariousness is touching Bangladesh. The effect of Rohingya exodus, Corona virus pandemic, Russia-Ukraine war, Middle-East crisis, and the recent domestic upheaval have challenged the stability-growth continuum of the country. Unexpected events of such kind eventually get converted into economic unease, spread of disinformation, energy apprehension, environmental anxiety, socio-political worry, supply chain disruption, food scarcity and so on. All these worries if placed into one basket could take the label - 'National Security Concerns'. During last decade, national security has become a central concern to many developing countries. Along with a few speed bumps apparently Bangladesh is developing well, however, it needs to remember that the more developed a country become the higher is the need for its security.

Directly or indirectly, almost every steps we take and every decision we make at international, regional, national, societal or even at individual level has security connotation. Rethinking the meaning of security is a need of time. Since 1990s we saw a classic shift in the understanding of national security. In the changed context, while the traditional security concepts with their military centric concerns did not become superseded, furthermore the new security agenda came into the table that include more and more non-traditional security issues like terrorism/violent extremism, energy crisis, ethnic cleansing, communal conflicts, religious violence, intra-state conflict, economic sanctions, cultural intrusion, drug trafficking, illegal resource extraction, trade disruption etc. Given the challenges faced at

domestic, regional and global setting, possibly, thriving Bangladesh is no longer in a position to overlook its national security issues.

What it takes to understand the gamut that has been mentioned in above paragraphs? Probably nothing but knowledge. Through knowledge one attains the ability to comprehend the global and/or regional picture and what a country must/must not do. Knowledge is the power that ultimately drives a nation. It generates awareness among citizens on national security, be it at a social level or at a strategic level, be it against an existing threat or a perceived one. This very knowledge comes primarily from education. Accordingly, education is the forerunner that shapes the fate of a nation. Undeniably there exist a positive correlation between education and national security.

While the security awareness is a cognitive state that drives human response in a hoist of security situation, question is, where do the citizens stand in security awareness scale? Precisely, how much aware are the future generation? Evidently they are smart and intelligent but question is, are their security perceptions well organized? At this backdrop, should Bangladesh dream for sustained development and a secured future, perhaps it is time to equip its young lots with the basics of national security concept. For that matter, Bangladesh could garner the untapped potentials of education to raise the security awareness among youths. Thus the article would focus on aiding the national security aspects through generating awareness stemmed from education. Future generation are the focus of the study.

Research Environment: Setting the Context

Extracts from Literature Review

National security rests on the collective strengths of national power-economic, political, social, information and military. However, corresponding institutions of these power-elements are only structures without the abilities of the nation's people. The foundation to human ability is built through education. Possibly education is the most important

instrument to grow security awareness as well. The range of national security and education are vast. Literatures from different countries tried to study the link between national security and education from different perspectives. Most of the reviewed literature highlighted failure of education system to grow knowledge driven human resource, thus causing domestic challenges. Focus of a good number of literature were solely on the economic development through quality education. Only a few foreign literature hinted on education's impact on national security arena. Functionality aspect of Bangladeshi education linking to the domain of national security was broadly missing. To summarize, what the researcher could learn from literature review is, no previous study was done focusing precisely on national security awareness building through educational content. The awareness factor is new here. Linking awareness to different elements of national security based on contemporary Bangladeshi environment is also a novel idea. Accordingly, the researcher found a research gap i.e. scope to conceptualize the contents of education that can aid in national security awareness.

Research Objective

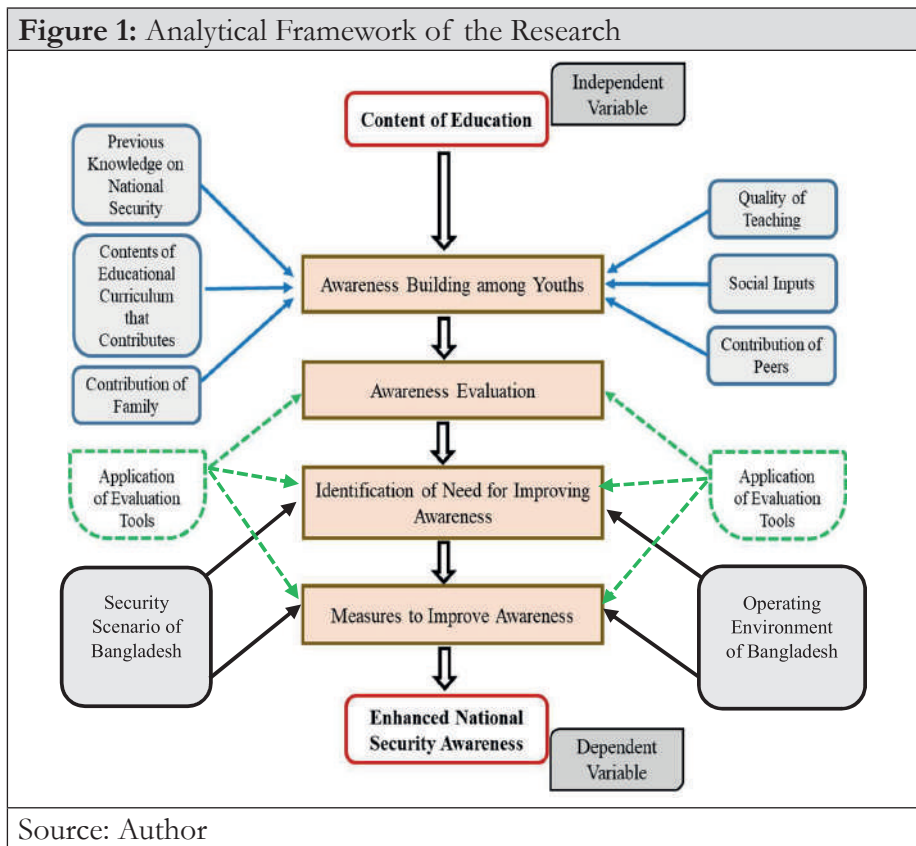
To study the influence of education in aiding national security awareness among young generation and suggest measures.

Research Methodology

This is a Non-Experimental Exploratory Research. Researcher used mixed method- where application of both qualitative and quantitative data is made. Qualitative data clarified the nature of existing phenomenon (e.g. lack of awareness) while, quantitative data dealt with the magnitude of the occurrence. Mixed method is used not to bring pluralism rather to bring in both qualitative and quantitative dimension of the phenomenon. Data were collected through social survey; key informant interviewing (KII); focus group discussion (FGD); and document study. Non Probability Purposive sampling technique was used. Reasons being the need for a

minimum level of intellect from respondents, and the time factor affecting scope factor. Focus of social survey was to obtain quantitative data on the magnitude (both opinion and characteristics) of the manifestations. KII were conducted based on open-ended and semi-structured questionnaire, to gather qualitative data on evaluation of existing education, awareness level etc. FGD were conducted to gather qualitative data primarily on: (a) Evaluation of educational contents to search for adequacy of national security related substances; (b) Identification of awareness level among youths; (c) Identification of challenges in fostering awareness into youths; and (d) Finding plausible measures to improve. Researcher also studied some university curriculum to ascertain the sufficiency of contents on national security. As a data analysis tool Analytical Hierarchy Process (AHP) of Thomas L. Saaty and Luis G. Vargas is used for prioritizing and assigning value to the elements of national security and the proffered measures. To identify the reflection of response pictorially using qualitative data (from KII) NVivo software is used. To mention about the scope and limitations of the methods: within limited time researcher narrowed the scope involving youths attending formal education (from higher secondary to masters level) in Dhaka city. Physical social survey involving 91 students (from 10 reputed educational institutes namely University of Dhaka, Bangladesh University of Engineering and Technology (BUET), North South University (NSU), BRAC University, Ahsanullah University of Science and Technology (AUST), Bangladesh University of Professionals (BUP), Military Institute of Science and Technology (MIST), Notre Dame College, Bir Uttam Shaheed Lieutenant Anwar Girls School and College and Mirpur Cantonment Public School and College), 35 Professors/Teachers, and 25 parents were conducted. 21 key informants/subject matter experts were physically interviewed and two FGDs (involving 16 learned personnel) were conducted picking brains from academia, policy making, media, services, and bureaucracy. All the elements of the national security sphere were not expanded through data analysis, as it was not possible within stipulated time. Those are rather squeezed into a single rubric –‘national security’ for gauging the awareness parameter. In future,

further researches can be conducted to study the effect of education for generating awareness on a specific security issue/element narrowing the broader security outlook. Specific level of education may be chosen i.e. either primary or secondary or tertiary level. Researches can also be done focusing informal education, or Madrasa education or technical education. Researchers might work on focusing the working class people of an urban area or any ordinary Upazila.



National Security Spectrum: Bangladesh Context

In the midst of crucial issues that are inextricably related to the existence of Bangladesh, national security is one that have been relatively underrated and often misunderstood. Development and Security are intertwined while

Security is a complex notion. Some experts opined that there can be no development without security. By the term 'National Security', we generally understand matters related to safeguarding sovereignty and territorial integrity from external threats. Perhaps, we rarely comprehend the security canvas encompassing economy, environment, health, society, politics, culture, energy, information, and food related issues. This lacking could be due to our inherited ideas, born so long. At this stage, naturally a question comes up- what is national security? The concept of national security is directly related to the notion of both 'security' and 'nation-state', and their relation. The idea of national security "may not mean the same thing to different people" (Wolfers, 1952). In 2008, Ann Fitz-Gerald affirmed the same view on different understanding when she stated that "national security differs from country to country, and indeed from institution to institution" (Fitz-Gerald, 2008). The reasons for varying interpretations are also diverse. The principal explanations for the national differences lie with different perspective on national interest (Stolberg, 2012). Bangladesh, in her realities, has to have her own definition of national security to protect herself from both traditional and non-traditional threats emanating internally or externally.

Priorities for Bangladesh's national security broadly includes sovereignty and territorial integrity, socio-political stability, economic prosperity, environmental protection, global and regional peace and stability etc. (AFD, 2022). As such, from broader Bangladeshi perspective, Researcher's definition of national security comprises territorial security, political security, social security, economic security, environmental security, energy security, food security, health security, information security, cultural security, and security from other non-traditional threats. These securities are linked to each other at a varying degree. As a pre-requisite to fathom the security spectrum one has to know where Bangladesh stand i.e. her geographic, geo-political, geo-economic and geo-strategic significance. On top of that, security related essential facts, assumptions, and figures along with their implications got to be comprehended as well. In that pre-text the researcher has made an endeavor to highlight some findings from both conceptual and factual pretext rather than explaining the security elements at a length.

Findings, Analysis and Discussion on Security Spectrum

Conceptual

- Early concepts of national security may no longer hold good for current Bangladesh. Security concepts of developing and developed countries are not identical. These are unique to countries.
- Internal and external security concerns are often intertwined. Both should be rationally assessed and weighed against national interest. Understanding of national security elements would not be complete if its effect across the national, regional and global level is not holistically comprehended.
- Bangladesh (BD) does not command much of significance in her geopolitical and geo-strategic setting per se, but it still has opportunities to create leverage and come out of some one's prodigy. Locational predicament and lower riparian river system might remain as a tyranny of geography unless it takes some bold steps.
- Complacency is detrimental to national security. Regrettably, if that complacent attitude rests on biased evaluation then the citizenry and the nation might end up into phony development.

Factual - Security Element Centric

- In terms of territorial security, although a group of people tend to believe that no territorial breach is apparent, yet the possibility remains. Some experts opined, BD cannot be complacent in the midst of territorial violations that we saw in Ukraine, Gaza, and even in BD's south-eastern part. Illegal intrusion of more than 1.25 million Rohingyas (Researcher came to know from Cox's Bazar RRRC that still they are entering), operations by Kuki-chin National Front (KNF) militants inside Chattogram Hill Tract (CHT), firing incident at Saint martin area, airspace violations etc. signify the conclusion that BD is not free from territorial security breach, be it small or large. At the

follow-up of Rohingya crisis it is has been evident that in time of crisis BD might not get required support from outside world.

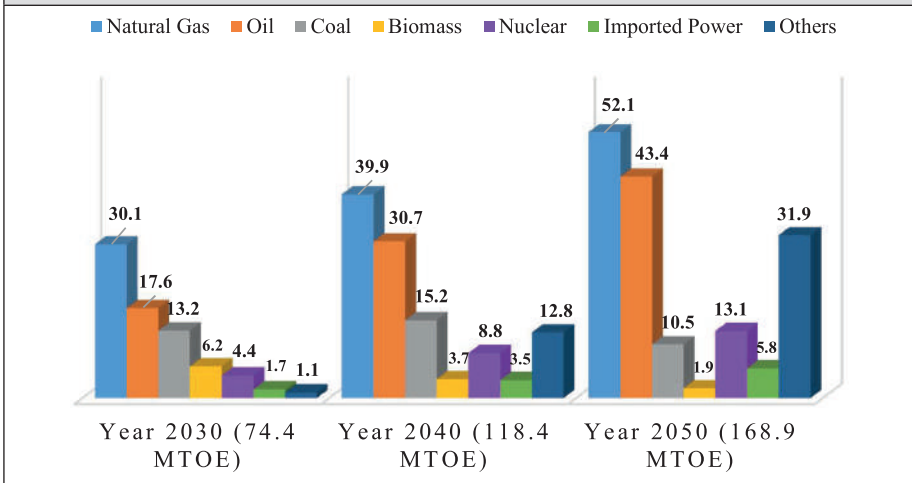
- At the external front of political security purview, Bangladesh may be allured into agreement/alliance/relationship due to power-play rivalry in indo-pacific region. Researcher came across some arguments like- perhaps it is time for Bangladesh to choose a side for better protection and economic emancipation. However, in this path, the collateral damages might be too big to bear, such as: (a) It would undermine the spirit of neutrality enshrined in the constitution; (b) It might create internal rift, triggering unrest; (c) Chances of becoming an obvious opposition to some powerful countries that may affect; (d) There is no guarantee that existing relationship/alliance would continue for long; (e) Besides being economically handicapped, leaning toward a side might upset overseas employment. At internal front, pro-people political practice is the need of time. More so, BD has to come out of the remorse of hybrid regime. Some opined, political stability is a pre-condition to attaining other elements of national security, such as economic security, social security, and even territorial security.
- Having multi-dimensional facets, social security of BD is found entangled with greed for power and wealth, erosion in human qualities, selfish dogma and attitudinal impatience. Lack of good governance coupled with rampant corruption is causing massive malpractices. The Corruption Perceptions Index 2023, released by the Transparency International on January 30, 2024, showed deterioration in BD's performance. The country has scored 24 on a scale of 100, the 10th lowest global score. Lagging way behind the global average score of 43, BD is grouped among countries where corruption is considered to be a "very serious problem" (TIB, 2024).
- Strong economy is a pre-requisite to social security, health security, food security, information security, territorial security etc. while economy needs political stability, continuous energy supply, technology, and effective human capital. From different scholars' opinion researcher

noted that for BD to sustain its growth and improve further, sincere attention on implementation of economic principles, better negotiation, export diversification, comprehensive economic partnership, and increase in foreign currency reserve are needed. BD also need to come out of the illusion of GDP per capita growth recent years. It is learnt that GDP per capita does not consider: (a) Purchasing power parity; (b) Effective exchange rate that reflects actual value of BD currency; (c) Informal incomes of the citizen; (d) Trade imbalance; (e) Foreigners wages; and (f) Inequalities in earnings.

- While the industrialized countries (mostly in global North) are active contributors to environmental change, effects are profoundly felt in global South where BD belongs. From ‘Country Climate and Development Report 2022’ of World Bank Group researcher came to know, BD is the world’s 7th most climate risk-affected country although it is a trivial contributor to global greenhouse gas (GHG) emissions, accounting for an estimated 0.4 percent of global emissions in 2018. The country could have 13.3 million internal climate migrants by 2050. Sea level rise might double the risk related to house-hold asset. One-third of agricultural GDP may be lost due to climate variability and extreme events by 2050 and cultivable land may shrink by 18 percent in Southern BD and 6.5 percent nationally by 2040. Future generation need to be aware of the facts: (a) Climate change is real and the main cause is human action; (b) BD is essentially a victim to it; (c) As of now, BD’s preparation is not adequate to face the environmental challenges and resultant natural disasters; and (d) It is high time to pursue environmental protection measures but surely not at the cost of national interest per se.
- Energy security has positive correlations with all other elements of national security, less the environment security due to pollution factor. From ‘Energy Scenario of Bangladesh 2022-23’ published by Energy and Mineral Resources Division, researcher came to know that our import dependency (for raw material and imported electricity) is 39% for total power generation, while it is 54% for commercial energy. No denying a

fact that this is a sheer vulnerability for BD’s national security. From the forecast of Hydro-Carbon Unit (HCU) of Energy and Mineral Resource Division, it is found that our energy requirement will increase manifold (Figure 2), resulting into more dependency on import of foreign gas, oil, and coal etc. Moreover, existing gas reserves are likely to be exhausted by 2033 in the absence of new discoveries (Nikkei, 2023).

Figure 2: Forecast of BD’s Total Primary Energy Supply for year 2030 to 2050



Source: Researcher’s Construct using the data from Energy and Mineral Resources Division

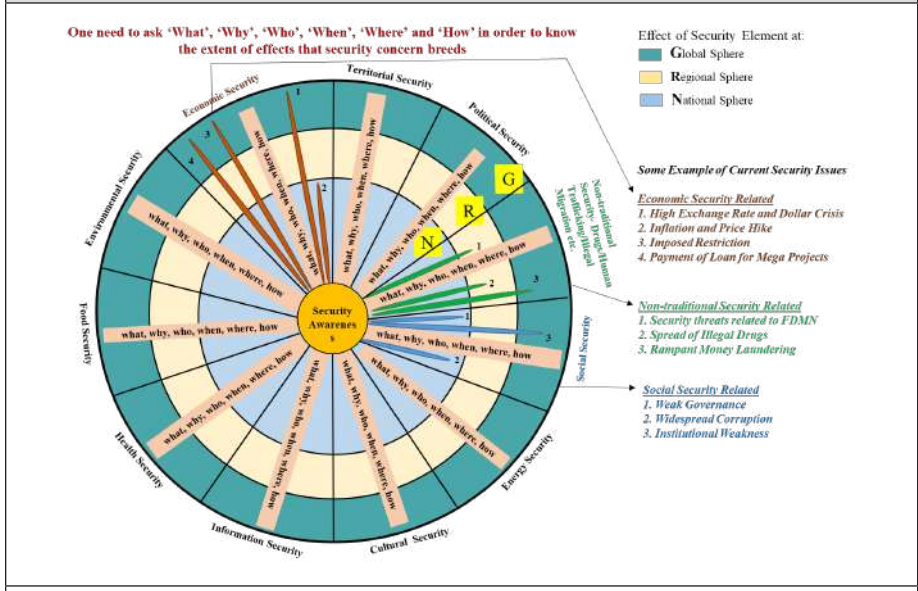
- In terms of food security, researcher came to know that although we are often complacent to claim self-sufficiency, however, in 2022 BD imported rice worth \$373 million (Oec, 2022). Population is increasing everyday while arable land is decreasing. According to the BD Bureau of Statistics Agricultural Census-2019, the net decline in relative arable land over an 11-year period amounted to 416,000 acres. Data from the BD Government Agricultural Information Service revealed that infrastructure development and unplanned housing eliminates around 80,300 hectares of arable land per year, at a rate of 220 hectares per day (newagebd, 2023). On top of that, inadequacy of water for cultivation is acute in the north western part of BD. Moreover, rise in fertilizer

use is incurring a good amount of foreign currency and a huge amount of natural gas when locally produced. Domestic food production is very important for the survival of BD as manifested during COVID pandemic. Food security has ability to destabilize all other security elements, since hunger is a deadly force.

- Health security represents an integral component of human security and is inextricably linked to the other securities that characterize it-like economic, food, environmental, social and political (UNDP, 1994). Key factors found to be affecting health security are: Inadequate health system infrastructure. Shortage of hospitals/Clinique/health care centers, shortage of doctors, acute shortage of nurses, inadequacy of modern facilities and equipment are some notable concerns. The country has only 7 doctors available for every 10,000 people, significantly below the World Health Organization's (WHO) recommended ratio of 22.8 doctors per 10,000 population (Bangladesh Health Bulletin, 2022). BD has one hospital bed per 1667 person and 34% of total posts in health sector are vacant (Mohiuddin, 2020). Out-of-pocket (OOP) treatment cost has increased nearly 70% in the last decades (Mohiuddin, 2019). The quality of treatment along with the behavior of physicians and support staff need definite improvement. Every year a good number of BD nationals travel abroad looking for better and less expensive treatment. In the fiscal year 2018-19, BD nationals spent Taka 99.33 billion on treatment abroad while the total expenditure by the outbound tourists was Taka 336.80 billion (Financial Express, 2021). More so, a significant percentage of people do not have access to health care due to high cost. Cleanliness, sanitation, management of both house-hold and factory waste need attention in order to ensure sound health. Preparation for pandemics stand meagre in BD. WHO once revealed that about 64 lakh people suffer from depressive disorder while 69 lakh people of the country suffer from anxiety disorders (The Daily Star, 2017). Certainly, national security will not be attained by mentally disturbed citizens.

- Alike above mentioned security elements, BD has a lot to do on information security, cultural security, and other non-traditional securities specially measures against drugs trafficking and use. Future endeavor will rest on the knowledge and awareness of citizenry in general and future generation in particular. Again, mere knowing the security elements might not be enough, for the youths. They need to understand the inter-relation among them and the extent of effect. To understand the extent of the effect that a security elements might exert, institutes could use a ‘Security Pie’ [researcher’s own idea]. The pie would present a holistic picture of the national security canvas and how each element spread across different levels i.e. global, regional, and national. Although the effect of one security element over other element(s), i.e. inter-relation, is not shown in the pie, however, it is Omni present. In addition, development of a relation matrix [shown in Figure 4] might clarify further queries. Responsible teacher might make an attempt to prepare such diagrams while teaching lessons to students.

Figure 3: An Example ‘Security Pie’ showing the Effect of Security Elements at Global, Regional and National Level



Source: Researcher’s Own Construct

Figure 4: An Example ‘Relation Matrix’ showing the Effect of One Security Element to Other Security Elements

| Event/Item/ Subject/ Occurrence of day to day life | Primary Security Element Under Which the Occurrence/ Event/Item Falls | Direct Effect on Other Security Elements | | | | | | |
|---|---|--|--------------------|------------------|--------------------|----------------------|-----|-----------------------|
| | | Economic Security | Social Security | Food Security | Health Security | Cultural Security | --- | Political Security |
| Inflation and Price Hike | Economic | - | √ | √ | √ | - | | √ |
| Drugs Trafficking | Non-traditional | √ | √ | - | √ | √ | | |
| Institutional Corruption | Social | √ | - | √ | √ | √ | | √ |
| --- | | | | | | | | |
| Spread of Disinformation/ misinformation | Information | - | √ | - | - | √ | | √ |
| Rise of Fuel Price | Energy | √ | √ | √ | | | | √ |

Source: Researcher’s Own Construct

Education and Security Awareness

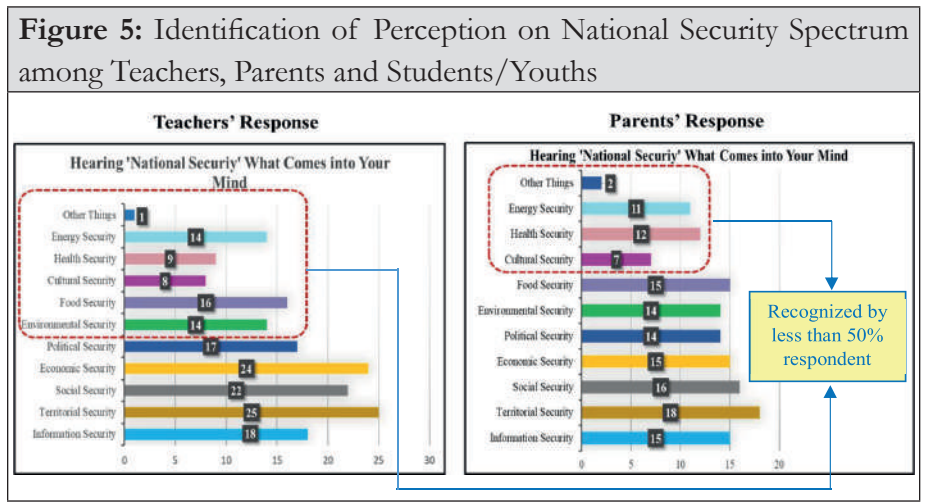
In line with conventional wisdom, education is the proven and most effective tool for change, leading to either positive or negative growth as chosen/acted upon by the states. While, national security is the requirement to ensure the survival, education is the crucial component for developing human capital that realizes and delivers national security. A nation can achieve national security through the instrument of education which is commonly believed to be the instrument for national development only. Researcher thinks that we are yet to measure the boundless potential of education. Perhaps, we are far from realizing the correlation of education with national security.

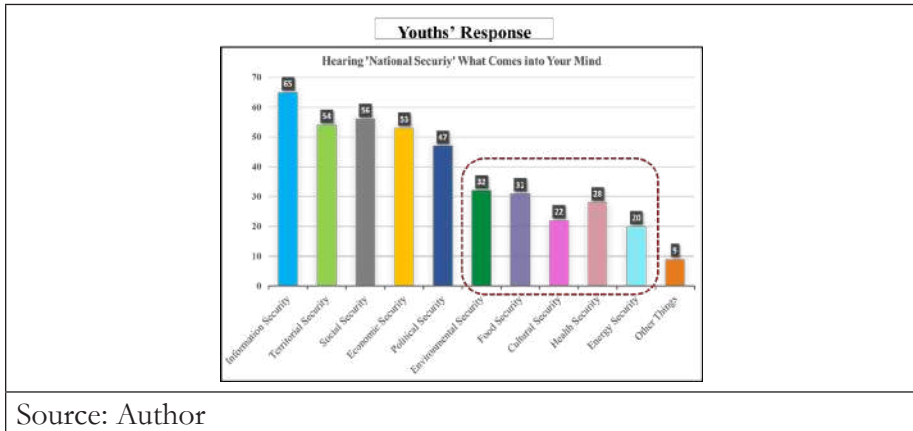
Notably, we rarely hint on the term ‘Awareness’. State of being aware is a cognitive facet. Awareness, an invisible factor, exerts the most significant influence over our thoughts and deeds. Awareness generates consciousness and thus regulates behavior. It is the product of knowledge. Lack of awareness leads to irresponsible and irritant expression either

through words or activities. If citizens are aware then they know what they need to do and the direction they need to go. This is what makes changes and improvements. Awareness can be of different aspects, like-self-awareness, development awareness, national security awareness etc. National security awareness is a sum of awareness on all security elements such as territorial, economic, social, environmental, food, cultural, health, political, information, energy, and other non-traditional security issues.

Findings, Analysis and Discussion on Education and Security Awareness

- Survey data showed that, teachers believe 54 % of youths are somehow [in a varying degree] aware on national security issues. Parents on the other end, opined 64% of youths are aware to some degree. In either case, almost 40 % of privileged youths of Dhaka City are unaware of national security issues. Presumably the unaware percentage would be higher in semi-urban and rural areas.
- None of the security element was recognized by 100% of any respondent categories. Meaning, among all respondents at least 30% unfamiliarity about the security elements is prevailing. This unfamiliarity extends up to 77% for some specific security element.

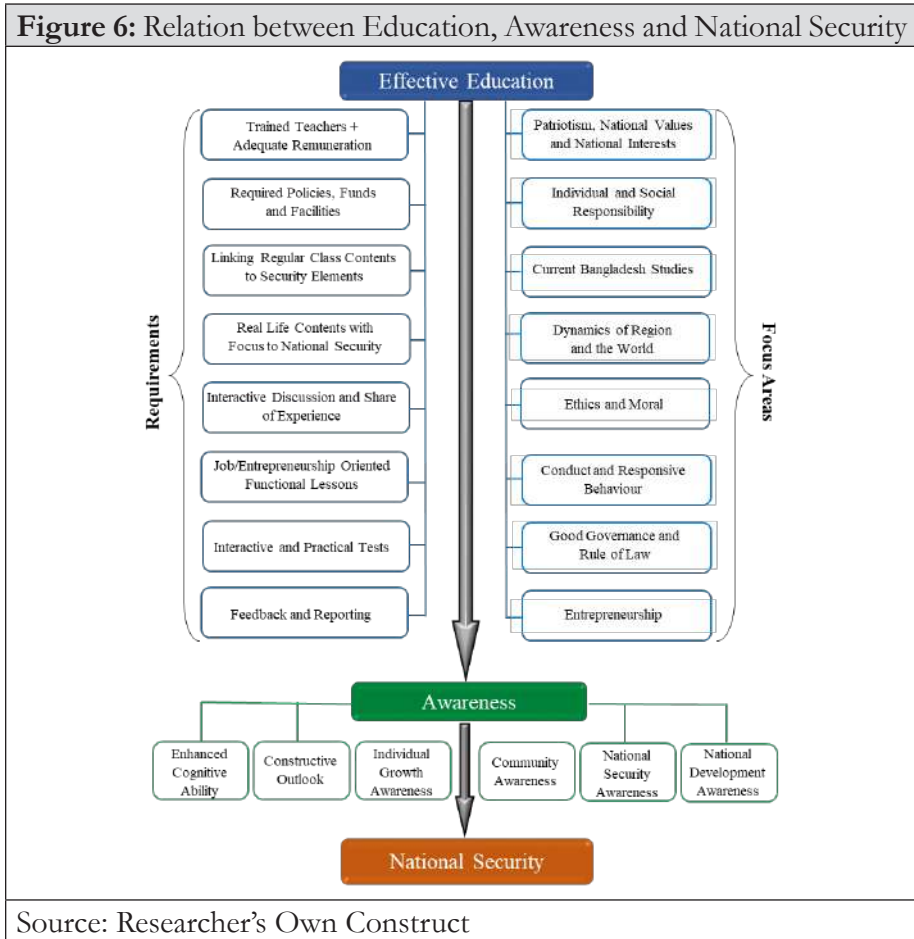




- Perhaps it can safely be said, neither youths, nor teachers and parents have holistic idea on national security spectrum. So long security elements are not even well conceived, we may not expect awareness on those.
- There is no denying a fact that education stands prime to grow awareness among citizens. The more methodically education is planned and delivered, the better fruit it yields. Presumably, developed countries are advanced because of their education. USA, most of the European countries, some Asian, African and Latin countries deliver security related education starting from the very childhood.
- 92% Parents opined that educational contents and the institutes should foster national security awareness. While 71% Teachers expressed that educational content in curriculum that can promote national security awareness is not adequate. More than 67% Youths stated that neither in previous class nor in present class did they have adequate security relevant content.
- From KII and FGDs researcher could know that educational contents related to national security were never adequate in our curriculum. May be BD education system, in general, is yet to fathom the sphere of national security in a holistic manner, linking it with our growth. Although most respondents agreed to the necessity of building security awareness among citizens however, we are yet to act in an organized manner. True awareness, in its complete sense does not come automatically. It has to be nurtured throughout. Besides familial, social, and media's contribution,

education in this regard play an invaluable role to stimulate awareness through development of knowledge and practice. Emerging BD needs responsible citizens. Naturally, not everybody will have similar level of awareness and it is not necessary also. However, a minimum level of security awareness, corresponding to his/her position and profession is essential. Besides many other homogeneities that we have in BD, we profoundly need awareness homogeneity.

- From the ideas gained through KII, FGD and self-experience researcher developed some structural constructs to achieve national security through awareness/realization building by dint of education (shown in figure 6)



- Given some options, from the responses of survey, researcher found that most preferred measure to raise national security awareness among youths is to include relevant contents in the academic curriculum and linking them to real life events of course.

Figure 7: Numeric Classification of Factors (as a measure) to Raise National Security Awareness among Youths

| Factors | Youths' Response | Parents' Response | Teachers' Response |
|--|------------------|-------------------|--------------------|
| Inclusion of Content | 1 | 2 | 1 |
| Sensitization by Media/Digital Content | 2 | 1 | 3 |
| Inspiration by Parents | 3 | 3 | 5 |
| Inclusion of Co-curricular Activities | 3 | 4 | 4 |
| Encouragement by Teachers | 5 | 5 | 2 |
| Sensitization by Social elements | 6 | 6 | 6 |

Source: Researcher's Own Construct from Survey

- Using the AHP tool researcher found the prioritization and values of security elements which are shown below.

Figure 8: Prioritization and Valuation of Security Elements using AHP Analysis Tool

| Value | National Security Element | Pri |
|--------|---------------------------------------|-----|
| 11.921 | Economic | 1 |
| 11.552 | Social | 2 |
| 10.837 | Information | 3 |
| 10.567 | Territorial | 4 |
| 9.741 | Food | 5 |
| 8.805 | Political | 6 |
| 8.534 | Energy | 7 |
| 8.128 | Environmental | 8 |
| 7.044 | Health | 9 |
| 6.773 | Other Non-traditional Security Issues | 10 |
| 6.096 | Cultural | 11 |

Interpretation of Findings/Analysis. AHP was applied on the special survey data (of ten learned personnel). AHP compared all the elements of national security and found that Economic Security stood as top priority for BD, scoring a value 11.921. While Cultural Security stood last with a value 6.096. This prioritization gives us an indication as to where should BD emphasize to ensure national security.

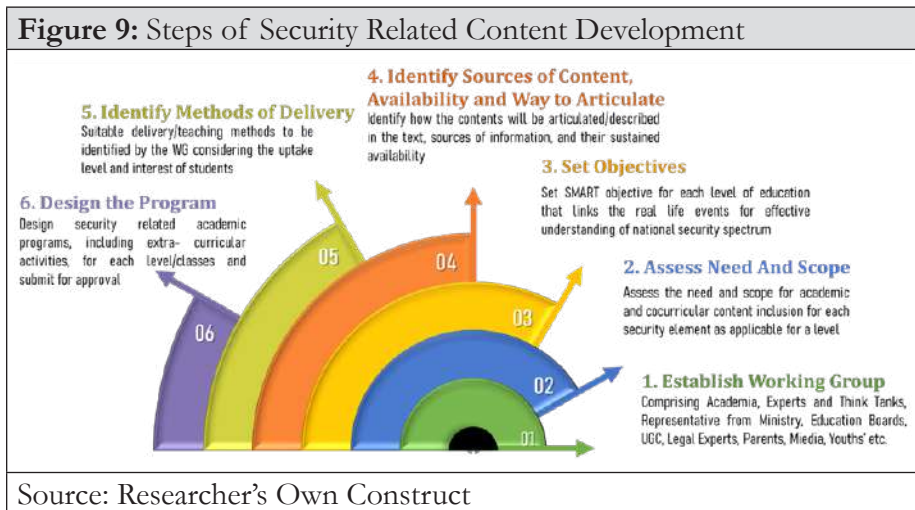
Source: Author

- From the wise words of the learned personnel, perceived challenges in fostering security awareness among youths are found to be:
 - Rarity of security notion. BD people often exhibit notions of emotion, financial emancipation, position, power, self-esteem etc. but hardly any security notion. May be culturally we are security oblivious.
 - Change of classic mindset. An ordinary BD citizen sees education as an instrument for future employment where attainment of certificate is central to academic objective.
 - Resistance to change. Bringing people out of their comfort zone will encounter resistances- it's a conventional sagacity. Yet, change is inevitable and perpetual. Knowingly or unknowingly some group of people will continually resist to changing the contents and system of existing academic curriculum.
 - A notable critique against the inclusion of national security contents in academic curriculum could be – yielding no visible gain for students in job/employment market. Such an appeal is splendidly demotivating to any young mind!
 - Inadequate familial, social and teachers' contribution.
 - Existing societal culture toward financial gain.
 - Lack of patriotism.
 - Fading moral values.
 - Indulgence of youths in digital ecstasy.
 - Dearth of general knowledge.
 - Drop out from School.
 - Spillover effect of poverty and unemployment.
 - Inadequate idea on national security among senior generation.
 - Whole-sum implementation across the entire country.
 - Continuous content update and policy support.

Measures and Takeaways

Suggested measures to grow security awareness through education and associated activities are:

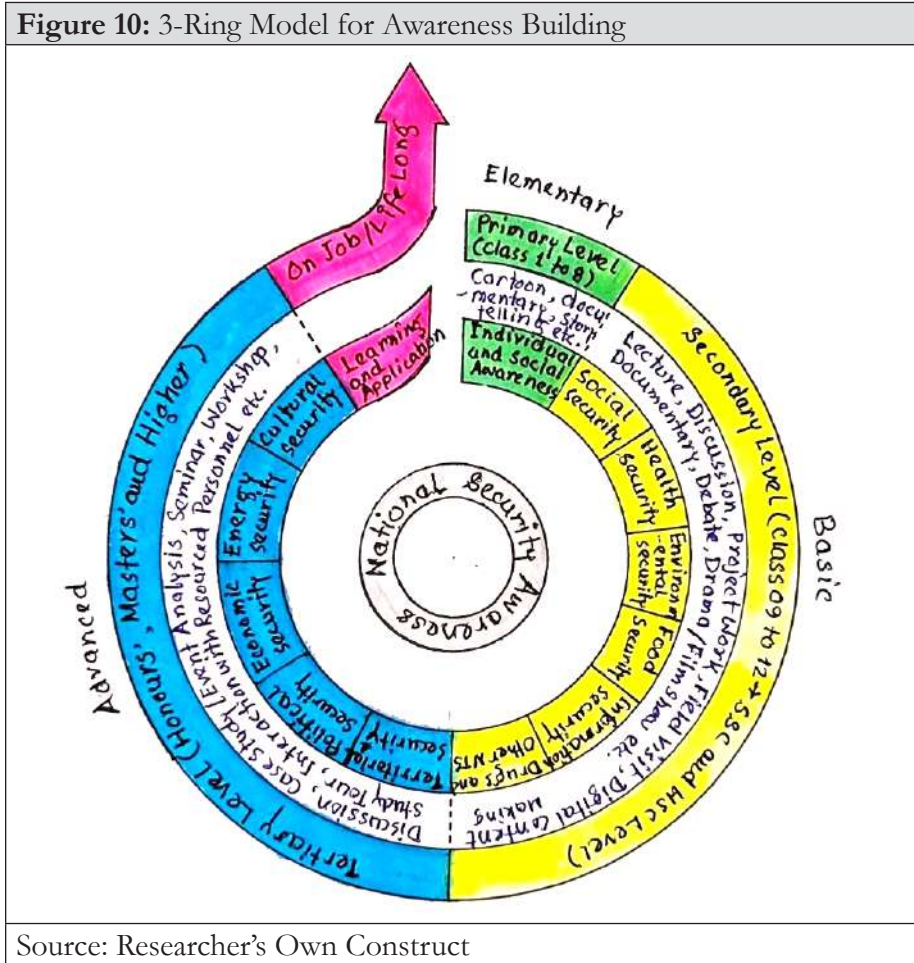
- Attainment of quality education should be a national priority objective for a substantial time in BD.
- Adding education’s contribution in different policies/ strategies that directly/indirectly deal with security element(s).
- Revision of education policy to accommodate security related contents and regular update of those.
- Inclusion of level wise security related contents in academic and extra curricular activities. This stage is important and should be done very methodically. Suggested steps for content development are shown graphically in Figure 9.



- Ensure teachers/trainers delivery performance and effectiveness. For that matter, professors/ teachers/ speakers/ mentors/ whoever is responsible to deliver to the students should themselves be well acquainted/trained on the subject.

- Required co-curricular activities may also be arranged.
- Feedback mechanism might be useful to determine the performance, effectiveness and acceptance of the delivery. Feedbacks would also help adjusting the content/curriculum for future.
- Academic courses that have contents related to national security may be mapped to reveal its contribution in national security awareness. This will also remind the teachers to explain the relation/link of the content to the affiliated security elements.
- Addition of security related questions in written/viva test of competitive examinations and professional elevation both at public and private sector.
- Sensitization by every segment and type of media is crucial.
- Encouragement by family and community is invaluable. Alike family, relatives and member of the community/society should also do their part in guiding youth's toward right approach. Community awareness may also be aided by the unbiased Non-Government Organizations.
- Uplifting patriotism is indispensable. Being patriot is the single most important pre-requisite to raise security awareness.
- Celebrating a week as 'National Security Awareness Week'. During that week, mass awareness programs may be arranged to motivate people from all ages and strata.
- Initiatives need to effectively communicate the need and the benefits of including national security in educational curriculum.
- Finally, the researcher would like to propose a '3 Ring Model' for developing national security awareness at elementary, basic and advanced stages of educational life.

Figure 10: 3-Ring Model for Awareness Building



Source: Researcher's Own Construct

Although elementary and on job learning/application is out of the purview of this paper, however, for conceiving a complete sense of awareness building those stages are included. At primary level, Children could be made aware of individual and social aspects like how to greet, how to show respect, how to cross a road, not to tell a lie etc. Display of cartoons, documentary and storytelling might be the mode of delivery. At SSC and HSC level, a brief touch on all security elements may be given while emphasis may be given on social, health, food, information, environment and nontraditional [like drug abuse] securities. At tertiary level territorial, political, economic, energy and cultural securities may be stressed.

Recommendations

- Government might declare ‘Delivery of Quality Education’ as a national priority objective for next fifteen years. Furthering to that, necessary policy revision to accommodate security issues, allotment of required funds, and training of quality teachers/trainers could begin with immediate effect.
- The ideas of ‘3-Ring Model’, ‘Academic Contents Mapping with National Security’, ‘Security Pie’, and ‘Relation Matrix’ may be followed by educational institutes to develop national security awareness among youths.
- National security awareness may be tested in competitive examinations and while approving professional elevation both at public and private level.

Conclusion

Bangladesh’s economic growth is notable, yet it necessitates a parallel advancement in national security awareness. In today’s complex world, security encompasses more than territorial defense-it includes economic, political, social, environmental, health, and information dimensions. Unfortunately, surveys show that Bangladeshi youth, along with educators and parents, often lack understanding of these broad security concepts. Education emerges as the most effective tool to bridge this gap. However, the current system fails to sufficiently integrate national security topics into its curriculum. To cultivate responsible future leaders, Bangladesh must shift toward a functional education system that fosters critical awareness, ethical values, and practical knowledge. Political stability, social justice, good governance, and anti-corruption efforts must align with educational reform to ensure sustainable development. The youth must be equipped not only to understand security but also to make sound decisions under pressure. A national awakening on security consciousness-rooted in quality education and reinforced by family, society, media, and religious institutions-is essential. Only then can Bangladesh secure its sovereignty and growth in an increasingly interconnected and vulnerable world.

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REVITALIZING HOME-GROWN NATURAL GAS EXPLORATION AND PRODUCTION EFFORT: A STUDY ON BANGLADESH PETROLEUM EXPLORATION AND PRODUCTION COMPANY LIMITED (BAPEX)

**Brigadier General Mohammad Monir Hossain Patwary,
ndc, psc, PhD**

Introduction

Bangladesh relies heavily on natural gas for its energy needs. The country has recognized the need to maintain production levels due to declining gas reserves and limited exploration efforts (Imam, 2011). Two types of entities are involved in gas exploration and production, i.e. Bangladesh Petroleum Exploration and Production Company Limited (BAPEX) and International Oil Companies (IOCs). BAPEX is capable of limited local production and exploration, while IOCs have become essential for extracting natural gas in large scale due to their advanced technology and skilled manpower (Rahman, 2017). However, BAPEX needs more human and equipment resources to reenergize its efforts. IOCs are successful in this sector but charge high costs and take out significant amount of foreign currency (Jacobs, 2019). To address this issue, home-grown natural gas exploration initiatives need to be strengthened. This research investigates need for revitalization of BAPEX in natural gas exploration efforts in Bangladesh.

Bangladesh has become dependent on imported Liquefied Natural Gas (LNG), increasing energy costs and straining foreign exchange reserves. To combat this reliance and to ensure energy security, country must bolster domestic natural gas exploration and production efforts. The natural gas sector must be reorganized properly to boost economic growth, energy

security, and environmental sustainability (Govinda et al. 2018). Expanding this industry can create employment opportunities and spur economic activity in Bangladesh. The study aims to evaluate Bangladesh's natural gas exploration and production sector, identify challenges facing BAPEX, and devise strategies for revitalizing domestic efforts (Lamhauge et al. 2012). It will review technical, economic, and regulatory frameworks that govern natural gas in Bangladesh before offering recommendations to enhance performance and sustainability within the industry. Revitalizing BAPEX through enhanced Human Resources and logistics can reduce Bangladesh's dependence on imported energy sources, improve energy security, and drive economic growth and development (Wagner, 2010).

Problem Statement

Natural gas is Bangladesh's primary energy source; however, most exploration and production efforts rely on IOCs. BAPEX, as a national gas exploration and production entity, plays a pivotal role in Bangladesh's natural gas industry (Rahman, et al, 2013). However, it faces many obstacles regarding operational efficiency, financial viability, and technological innovation compared to IOCs. Bangladesh needs to buy natural gas from the IOCs at a higher price and hence it generates a huge out flow of hard-earned foreign currency (Tamim, 2003).

The study will investigate BAPEX's operational processes to identify inefficiencies, assess its financial sustainability through revenue generation and cost management strategies, compare its technological capabilities with IOCs, and investigate any government policy impacts on its operations. Furthermore, the socioeconomic consequences of expanding BAPEX activities on national energy security, economic development, and environmental sustainability will be explored, along with strategies for revitalizing BAPEX exploration and production efforts to decrease IOC dependence.

Research Objectives

The primary objective of this research is to assess the current state of natural gas exploration and production efforts in Bangladesh, with a specific focus on BAPEX.

The specific objectives include:

- To study the current capability of natural gas exploration and production of BAPEX as compared to IOCs.
- To analyze the challenges and constraints faced by BAPEX in natural gas exploration and production.
- To identify strategies and interventions to revitalize BAPEX's exploration and production efforts.

Literature Review

Numerous studies have demonstrated that well-implemented organizational reform initiatives can lead to significant improvements in productivity, efficiency, and employee engagement (Kotter, 1996; Cameron & Green, 2019). For instance, Kotter's (1996) model of change emphasizes the importance of creating a sense of urgency and building a guiding coalition to drive successful transformations. Similarly, Burke (2017) highlights that strategic organizational development interventions can enhance operational efficiency and employee satisfaction. Cameron and Green (2019) further argue that change management frameworks that focus on clear communication and inclusive leadership practices are crucial for fostering a productive organizational culture

Said (2021) in his book discussed the challenges posed by the decrease in world oil/gas reserves and emphasized the importance of thorough exploration and production strategies to sustain energy production levels. Various topics are covered in the book, including the benefits of geochemistry in petroleum exploration, natural gas exploration,

unconventional reservoirs, new geophysical prospecting technologies, and approaches and numerical methods for investigating data related to petroleum reservoirs.

Ahmed (2022) discussed the involvement of foreign firms in Bangladesh's oil and gas exploration sector and focused on exploration in the Sundarbans for gas exports. The study revealed that the rate of success for gas exploration in Bangladesh is 3 to 1. This is considerably more than the global typical of 10 to 1, suggesting that gas exploration in Bangladesh is more probable and not as risky as it is thought. It also suggests that producing too much gas that leads to export could threaten reserves of gas within fifteen to twenty years, possibly leading the country to need to purchase gas at greater prices shortly (Anupam et al. 2013). The report concludes that foreign involvement in the energy production field in Bangladesh is unnecessary since the oil company alone can satisfy the need for gas through its operations in previously discovered fields and continuing exploration of new fields.

Hassan et. al. (2019) discussed the importance of proper reservoir characterization when estimating gas reserves. They also highlighted the need to re-evaluate reservoir properties with new methods for raising the total gas reserves. The paper examines the current state of gas fields in Bangladesh and reveals the existence of 27 fields across the country and the total gas reserve at 27.12 TCF as of year's end. It highlights the necessity of reassessing the reservoir's properties with advanced techniques such as extensive digital reservoir analysis to raise gas reserves. It suggests that this method could greatly help meet Bangladesh's increasing need for natural gas.

Numan et al. (2022) researched perception-based risk analysis and analysis of the safety of petroleum production systems across three gas fields owned by Sylhet Gas Fields Limited in Bangladesh. The findings from the risk-based matrix showed the different risk levels (low, moderate, high). They recommended steps for the industry's future in light of the implicit risks

identified within the production systems. The paper examines the frequent incidents within the petroleum industry. It highlights the importance of reducing risk by recognizing harm early in production.

Natural gas is important in Bangladesh's energy sector, providing around 65% of Bangladesh's commercial energy needs. However, the country's production has not kept up with the growing demand, resulting in an excessive reliance on imports. For 2022 alone, Bangladesh has imported 6.4 million tons of liquid natural gases (LNG), which cost around \$2.5 billion. This was a 25 per cent rise from prior years (Imam, 2024). BAPEX, the state-owned entity, is responsible for developing and producing natural gas and has been leading the efforts to increase natural gas production in Bangladesh. Recent initiatives of BAPEX have produced promising results, and there was a 15 per cent improvement in natural gas production last year (Imam, 2024).

Despite these successes, obstacles persist. BAPEX is facing significant challenges, such as outdated technology and inadequate funds. The company, for instance, needs an estimated investment of \$2 billion to modernize its production and exploration facilities, but it has only got 500 million in the past. In the report, *The Financial Express* (2023), the natural gas market in the world experienced an improvement of 30% in 2023, which greatly affected Bangladesh's import prices and highlighted the need for expanding production capacity locally.

Research Methodology

This research employed an exploratory design with a mixed-methods approach, employing qualitative and quantitative methodologies to collect and analyze extensive data while providing nuanced insight into its subject matter. This method would enable an in-depth investigation of BAPEX's current state and suggest need for any revitalization strategies within the context of natural gas exploration and production in Bangladesh.

Research Tools

Literature Review

To create a solid theoretical foundation, an extensive literature review is undertaken, including studies related to natural gas exploration and production practices. This involved gathering all available studies covering these practices throughout history from all relevant sources like books, journals, articles and news portals etc. The review focus included but not limited to following:

- Energy reserve, current energy situation and energy security in Bangladesh.
- Performance analysis for state-owned energy enterprises such as BAPEX.
- Analysis of policies, technological advancements and international practices pertinent to energy sector.

Surveys

To gain an accurate picture of BAPEX's capabilities and prospects, surveys are administered to mid-level employees (managerial level) at BAPEX and captured their thoughts through an extensive survey. Since this research has policy implications, only the officials having access to policy making are taken as survey population. Out of 68 managerial level officials, 67 participated in the survey. At 98.5%, this is a well-accepted sample. Major feature of the survey is as follows:

- Survey questions were designed to measure employee perceptions regarding BAPEX's performance relative to IOCs.
- Quantitative questions were also included to contextualize responses and analyze those accordingly. Survey questions aimed to capture a holistic view of the middle management on revitalization issues of BAPEX.

Interviews

Semi-structured interviews were conducted with key stakeholders, including BAPEX and Petrobangla officials, Hydrocarbon Unit employees, and other relevant stakeholders. Through interviews in the form of KII, the researcher reached to relevant academia and think tanks in order to capture a deeper insight.

Documentary Research

A comprehensive document review was conducted to gather secondary data for investigation. This process included analysis of policy documents, official reports, and strategic plans related to natural gas exploration and production in Bangladesh. Historical performance data regarding BAPEX against industry benchmarks were also consulted as part of this analysis.

Data Collection and Analysis

Primary data were collected through structured interviews and surveys conducted with BAPEX officials, government representatives, industry experts and other relevant stakeholders. Similarly, secondary data were also be collected from Publications by government agencies and industry bodies. Academic journals and research papers covering energy policy and trends were also consulted. Qualitative data were examined and analysed rigorously to uncover key themes, challenges, and strategic opportunities (Shadman et al., 2021). In contrast, quantitative data were processed using rational analogies to arrive at a plausible deduction.

Current Capability of Natural Gas Exploration and Production of BAPEX as Compared to International Oil Companies

In Bangladesh, BAPEX, the only local entity, is primarily responsible for exploring and producing natural gas resources. A number of major gas fields have been discovered by BAPEX, including the Shrikail Gas Field which is relatively a recent discovery. In north-eastern Bangladesh, BAPEX operates the Chhatak Gas Field under its control since 1959,

when it connected industrial sectors to gas for the first time. This is one of the company's key operating sites.

Overall, BAPEX has demonstrated steadily increasing expertise in the exploration and production of natural gas in Bangladesh (Srikail et al., 2020). As demonstrated through its discoveries of Bhola, Shahbazpur gas fields, BAPEX has proved its credibility. But the problem is BAPEX was not able to utilize its all potential that is why BAPEX still cannot compete the global exploration players. In terms of comparison with OIC, BAPEX is still very weak in almost in every section.

Capabilities Comparison: BAPEX and Chevron Bangladesh Limited

The oil and gas companies, including state-owned as well as international operators, are a major performance driver at both production and consumption levels at the global scale (Hasanudin et al., 2020). For policymakers and industry stakeholders to optimize BAPEX, it is important to gain a better understanding of how BAPEX perform as compared to IOCs. This will give a clear understanding of the deficiency level of BAPEX's capabilities.

Exploration Capabilities

As exploration and production of natural gas is an important part of the global energy landscape, state-owned oil companies elsewhere are found more vibrant (Al-Fattah, 2013). Unfortunately, reverse is seen in the context of Bangladesh. The purpose of this part is to compare the exploration and production capabilities of BAPEX, with one of the IOCs (Chevron Bangladesh Limited).

Many developing countries, including Bangladesh, face the challenge of establishing and developing a conducive environment for oil exploration and investment at large in comparison to other developed countries. The lack of effective governance, excessive bureaucracy, and unknowable

laws have resulted an unfriendly business climate and high cost of doing business in this sector.

Production Capabilities

The oil and gas sector has been one of the main engines of economic growth worldwide, with heavyweights in this business contributing substantially to global energy production (Hasanudin et. al., 2020). Except Bangladesh, domestic exploration and production sector is doing good in all other gas possessing countries in the world.

A chart is given below which provides a comparative overview of BAPEX and Chevron Bangladesh, focusing on three main aspects: key fields, annual production, and equipment. Overall, the chart illustrates the differences in scale, technological advancement, and production capacity between BAPEX and Chevron Bangladesh. Chevron Bangladesh appears to have a much larger production capacity and more advanced equipment compared to BAPEX.

| Table 1: Comparative State- Key Fields and Production Capability: BAPEX and Chevron | | |
|--|--|---|
| Aspect | BAPEX | Chevron Bangladesh |
| Key Fields | Various onshore fields including Saldanadi, Shahbazpur, and Semutang | Bibiyana, Jalalabad, Moulavi Bazar |
| Annual Production | Around 100 million cubic feet per day (mmcf/d) of natural gas | Approximately 1 billion cubic feet per day (bcfd) of natural gas |
| Equipment | Limited, mainly onshore rigs and basic production facilities | Advanced onshore and offshore drilling rigs, state-of-the-art production facilities |
| Source: Researcher's Own Construct | | |

Human Resource Competence

The oil and gas industries are facing significant challenges in managing their workforce, particularly in terms of retaining and developing high-potential employees (Alleyne and Alexander, 2018). The petroleum industry is constantly evolving, with increasing demand for oil and gas, as well as growing concerns over greenhouse gas emissions and climate change. As a result, skilled human resources have become increasingly important (Deore et al., 2014).

Based on a survey, 86.3 percent of respondents believe BAPEX can become one of the premier coastal gas explorers and producers with its improved workforce and equipment. This indicates BAPEX's strong foundation for success in this domain. Only 13.7% respondents voiced concerns over BAPEX's capabilities.

Technological Infrastructure

The oil and gas sector is highly competitive, with multinational corporations vying for profits. To succeed, BAPEX must invest in new technologies and collaborate with technology providers. By applying IOCs' digital transformation strategies and working closely with technology providers, BAPEX can streamline operations, improve decision-making, and contribute to Bangladesh's energy security and economic growth (Islam and Bloemink, 2018).

| Table 2: Technology and R&D Capability Comparison: BAPEX and Chevron | | |
|---|---|---|
| Aspect | BAPEX | Chevron Bangladesh |
| Technology | Basic exploration and production technologies | Advanced technologies including 3D seismic, horizontal drilling, enhanced recovery techniques |
| Research and Development | Limited in-house R&D capabilities | Strong R&D support from Chevron's global operations |
| Source: Researcher's Own Construct | | |

According to the chart, Chevron Bangladesh has a technological and R&D advantage over BAPEX, employing more advanced technologies and supporting research and development more effectively.

Financial Performance and Investment Analysis

The financial performance and investment capability of IOCs, particularly state-owned enterprises, is a topic of significant concern in the energy sector, especially in developing countries where they play a crucial role (Etim et. al., 2020). In the current energy landscape of Bangladesh, BAPEX has emerged as a key player as only state-owned oil company.

Financial Performance of BAPEX

BAPEX has faced criticism for its poor financial performance compared to IOCs. The CAMEL model, a global model for assessing financial conditions, measures factors such as capital, assets, management, earnings, and net worth (Mohiuddin, 2014). BAPEX’s financial strength is limited, relying on government funding, but on the contrary, Chevron has strong financial backings. Its capacity is primarily focused on onshore operations. The industry’s sustainability and competitiveness in the future are crucial (Sankoff et al., 2014).

| Table 3: Financial Strength Comparison: BAPEX and Chevron | | |
|--|--|--|
| Aspect | BAPEX | Chevron Bangladesh |
| Financial Strength | Limited financial resources, dependent on government funding | Strong financial backing from Chevron Corporation, significant capital investment capability |
| Capability | Primarily focused on onshore operations, limited offshore capability | Extensive experience in both onshore and offshore operations |
| Source: Researcher’s Own Construct | | |

Based on the chart, Chevron Bangladesh appears to be outperforming BAPEx in all aspects of comparison.

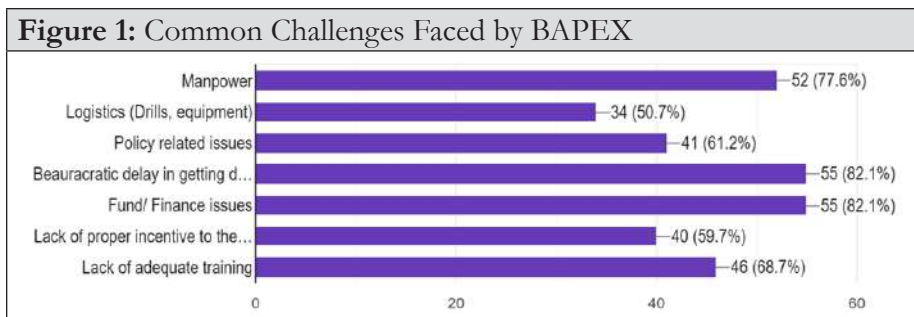
Challenges and Constraints Faced by BAPEx in Natural Gas Exploration and Production

Common Challenges Faced by BAPEx

BAPEx faces numerous challenges, including limited access to advanced technologies, financial constraints, and navigating a complex regulatory environment etc. It struggles to explore and extract natural gas effectively due to its malnourished state-owned nature. Additionally, BAPEx struggles to recruit qualified geologists, geophysicists, and petroleum engineers, despite efforts to provide competitive compensation and career development opportunities (Alleyne and Alexander, 2018). To ensure long-term sustainability and growth, the government should provide increased financial assistance and investments to enable BAPEx to utilize innovative exploration technologies and drill more exploratory wells (Ariyon, Setiawan and Reza, 2020).

Common Challenges Faced by BAPEx as per the Respondents

According to the survey conducted among the mid-level managers of the organization, BAPEx is facing several challenges. In order to analyze these challenges, based on the proportion of respondents who highlight each issue, following can be summarized:



Source: Survey

The survey revealed several weaknesses in BAPEX, including a lack of human resources, inadequate logistics, policy-related issues, bureaucratic delays in decision-making, financial issues, and inadequate incentives for skilled workers. Overburdening staff, inefficient operations, and inconsistencies in the regulatory framework were identified as major issues. Financial difficulties were also cited as a reason for BAPEX's insolvency. Additionally, more appropriate training was recommended to improve efficiency and productivity.

Regulatory and Policy Constraints

To operate both efficiently and profitably, BAPEX must understand the way that its restrictive policies slow down operations. Many natural gas exploration and production have strict legal, regulatory, and fiscal arrangements that control the development of the sector. It becomes a problem for industry actors like BAPEX to maintain compliance with existing regulations (Weijermars, 2010).

Financial and Budgetary Challenges

BAPEX faces financial and budgetary restrictions, hindering exploration and production efforts. Limited capital access and lack of established financial markets hinder BAPEX's financial inclusion. The country's bond market needs development, with tradable government bonds and infrequent secondary trading limiting long-term capital investment opportunities (Jover and Mlambo, 2014). A comprehensive regulatory framework and investor incentives could create a healthy bond market as a funding source for BAPEX (Gbakon, Iledare and Adeogun, 2019).

Technological and Infrastructural Limitations

BAPEX, established in 1989, has made significant technological advancements but faces challenges due to outdated technology in

exploration and production. The company's investment in seismic survey and drilling equipment does not always meet international standards, limiting its ability to efficiently discover hydrocarbon resources in complex environments. A lack of such advanced drilling technologies and tools compromises BAPEX's exploration success rates and production efficiencies (Ahmed, 2019).

Infrastructure Deficits Challenge Exploration and Production

A modernization and technology upgrade are essential to BAPEX's ability to overcome its current limitations and improve operational efficiency. The use of cutting-edge technologies such as 2D/3D/4D seismic surveys and horizontal drilling technology can significantly increase success rates (Hossain, 2020). It is necessary for BAPEX to install these technologies in order to improve its overall performance.

Collaboration with International Partners to Share Technologies and Expertise

BAPEX has to collaborate with international oil and gas companies for accessing the advanced technologies and expertise. Joint ventures/Strategic alliances with international partners could provide BAPEX the window of opportunity for technology transfer and capacity building, International partners may bring in cutting-edge Exploration and Production (E&P) technologies to Bangladesh as well technical training courses; project management expertise & best practices (Rahman, 2021). Though some steps have already been taken by BAPEX in order to establish partnerships with international entities to strengthen its technological and operational capabilities, in practical count these are inadequate. More strategic alliance of this type is essential when approaching deep-water exploration areas where BAPEX lacks expertise or technology. Knowledge transfer from international experts will enable BAPEX to build a more resilient infrastructure (Khan, 2018).

Human Resource and Skill Development Limitations

Most of BAPEX employees have technical or engineering roles (BAPEX, 2022). Unfortunately, the company faces challenges associated with an aging workforce and a shortage of skilled personnel; both factors could significantly impair operational effectiveness of BAPEX.

Skill Gaps and Training Needs for Successful Exploration and Production

BAPEX faces substantial skill gaps that impede its operational efficiency in E&P. These gaps can be most seen when geological surveying, deep-water drilling, or applying new technologies during exploration activities are performed; per an internal audit, this was even further highlighted with many employees lacking training on new E&P technologies that would optimize production while decreasing operational costs (Hossain, 2021).

Strategies and Interventions to Revitalize BAPEX's Exploration and Production Effort

Financial Capacity Building- Public-Private Partnerships Strategy

The majority of respondents support public-private partnerships (PPPs) for addressing budgetary constraints for acquisition of critical equipment. PPPs offer benefits like efficient resource allocation, advanced technology access, and risk sharing. However, concerns include cost overruns, delays, accountability, reliance on the private sector, and public opposition. Despite these challenges, 58.8% support PPPs for better access to equipment and managing budget limitations.

Shortening the Bureaucratic Delay- Placing BAPEX under the Cabinet Division or the Prime Minister's Office

In addressing the question whether BAPEX should be placed under the Cabinet Division or the Prime Minister's Office to achieve faster decision-

making, higher priority as a local institution, and excel in production and exploration of gas, the response was highly positive.

The majority of respondents, 90.2%, believe BAPEX should be placed in the Cabinet Division or Prime Minister's Office for quicker decision-making, increased priority, and improved operational efficiency. This move would avoid bureaucracy, improve BAPEX's visibility in national strategies, and enhance strategic alignment and operational efficiency. However, managing the transition process and addressing potential challenges will be crucial. A well-balanced check and balance system is essential to avoid corruption and ensure fair and impartial decision-making.

Additional Strategies and Interventions to Revitalize BAPEX's Exploration and Production Efforts

Strengthening Technological Capabilities

BAPEX's exploration and production endeavours have likewise fallen victim to technological constraints. To deal with this situation, the government and BAPEX can invest in exploration and production technologies of new generation like seismic imaging, drilling technology, and advanced tools for data analysis.

Building Human Capital

BAPEX faces challenges in adopting human capital development programs due to a shortage of manpower in technical disciplines. To address this, BAPEX should invest in training and development programs, and prioritize environmental sustainability in exploration and production activities.

Monitoring and Evaluation (M&E)

BAPEX should establish a comprehensive M&E system to track the progress and impact of potential revitalization initiatives, enabling effective decision-making. Key Performance Indicators need to be built against

set criteria, including production volumes, adoption rates, environmental compliance, workforce development, and stakeholder satisfaction (Ruslan, 2015). Regular analysis will help observe trends and opportunities in rejuvenation initiatives.

AI-Driven Analytics

The ability of BAPEX to process high volumes of data, detect patterns, and deliver intelligent information can be further enhanced by employing the power of AI/ML algorithms (Khatib et al., 2021). For this research, when asked for some strategic solution for BAPEX for its future growth, respondents have mentioned some key strategic points which underscores the need for AI driven knowledge base.

Recommendations

The research suggests several recommendations for revitalizing domestic natural gas exploration and production efforts. These include workforce and skill development, organizational and policy changes, financial and resource allocation, project and equipment acquisition management, and emphasis on long-term planning and vision.

- Workforce development is crucial for BAPEX's long-term success. It is essential to recruit talented individuals. Ensuring proper training for skill development, offer ongoing technical training in modern technologies, and implementing a separate pay scale to attract and retain talented professionals are of paramount importance.
- Organizational and policy changes include aligning BAPEX's organogram with those of international ones, expanding the Board to include professionals from exploration sectors, and creating independent procurement rules.
- Financial resource allocation is also crucial for BAPEX's success. The government should convert Gas Development Fund (GDF) loans to grants, establish a special fund for gas exploration, and increase project

implementation funding. Public Private Partnership efforts may be encouraged as well.

- Project and equipment acquisition management should be integrated with digital transformation and automation technologies. Integrated logistics and equipment acquisition and management plan should be in place.
- Long-term planning and vision, putting the organization under cabinet division, aligning BAPEX with national development objectives will provide the organization a competitive edge eliminating the Beauracratc hassles.

Conclusion

The study compares the capabilities of state-owned oil company BAPEX and one IOC, i.e. Chevron Bangladesh. BAPEX's exploration capabilities are both successful and restrained, with gas fields like Bhola, Shahbazpur, and Chhatak Gas Fields not fully exploited. IOCs operate in larger capacities due to technological advancements and their larger operational areas. BAPEX also faces environmental issues such as waste management and disposal, which need to be addressed. The company needs to improve training methods, remuneration, and knowledge sharing processes. Technology infrastructure is also lacking, with BAPEX relying on crude equipment and relying on government funds. The company needs to acquire new technologies and partner with technology suppliers. BAPEX's financial situation is dependent on government funds and lacks significant resources, while Chevron has a solid financial background and extensive experience in capital investment. In terms of environment and people, BAPEX is not as advanced as Chevron, as the latter has a higher focus on community contributions and safety standards. The study concludes that BAPEX needs to address several issues to improve its exploration and production, human resources, technology, financial position, and environmental management to be at par with global oil and gas production.

BAPEX faces significant challenges in its exploration and production efforts, including a lack of equipment, weak technological capabilities, poor policies, and bureaucratic processes. To address these issues, BAPEX should implement financial management system reforms, regulatory reforms, and innovative financing techniques. Additionally, it is crucial to procure capital assets, particularly advanced technologies, human capital, and infrastructure, and formulate sound policies and introduce efficient financial systems.

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CHINA-MYANMAR RELATIONS: GEOPOLITICAL IMPLICATIONS FOR BANGLADESH

**Brigadier General Mohammad Moinuddeen Shamim,
ndc, psc**

Introduction

The relationship between China and Myanmar is critical in shaping South and Southeast Asia's geopolitical landscape. This multifaceted engagement includes military alliances, economic partnerships, and cultural exchanges aligned with China's strategic objectives under the Belt and Road Initiative (BRI). Myanmar's position as a gateway to the Indian Ocean is critical for China's efforts to bypass the Malacca Strait and secure alternative maritime routes (Gubert, 2019). However, challenges such as Myanmar's internal conflicts, including alleged Chinese support for insurgent groups like the Arakan Army (AA), complicate these dynamics. Additionally, India's strategic concerns over the Kaladan project and Bangladesh's struggles with the Forcibly Displaced Myanmar Nationals (FDMN) crisis heighten regional tensions (Brewster, 2022; United States Institute of Peace, 2018).

From a theoretical lens, Neorealism and Soft Power provide valuable perspectives to analyze these interactions. As Kenneth Waltz posited, Neorealism highlights state actions in an anarchic system aimed at power maximization (Ababakr, 2021). This framework explains the security alignments and rivalries in the region. Complementing this is Joseph Nye's concept of Soft Power, which captures China's use of cultural and economic tools to influence without coercion. These strategies illustrate China's balancing act-pursuing regional hegemony while maintaining stability-evident in its measured responses to the FDMN crisis and its BRI-driven infrastructure initiatives (Yuan & Lee, 2023).

Significance of the Study. This study examines the broader geopolitical implications of China-Myanmar relations for Bangladesh, extending

beyond economic collaboration to security, diplomacy, and regional stability. It addresses a critical research gap by exploring how China's strategic and soft power maneuvers impact Bangladesh's geopolitical positioning. This study aims to inform policymakers, scholars, and regional stakeholders by providing a nuanced analysis, offering insights for enhancing Bangladesh's foreign policy strategies amidst evolving regional dynamics.

Identification of Research Problem. China's strategic presence in Myanmar has reshaped regional geopolitics, creating opportunities and challenges for neighboring countries like Bangladesh. While economic cooperation through initiatives like the BRI underpins China-Myanmar relations, strategic dimensions-such as military alliances, border security concerns, and cultural diplomacy-pose significant challenges to Bangladesh's security, sovereignty, and foreign policy (Hossain, 2022; Islam, 2024).

The research problem lies in understanding how these dynamics impact Bangladesh. Myanmar's internal conflicts, including insurgent activities and the prolonged FDMN crisis, strain Bangladesh's resources and diplomatic leverage (Mattis, 2012; Ramzan, 2021). These issues are further compounded by China's military support for Myanmar and its soft power tools, such as Confucius Institutes and infrastructure projects (Pal, 2021; Naomi, 2023).

This study addresses the gap in existing research by exploring how China's strategic maneuvers and soft power influence Bangladesh's security and foreign policy, providing insights into navigating these challenges.

Research Objectives. This study evaluates the strategic (Neorealist) and soft power dimensions of China-Myanmar relations and their implications for Bangladesh. analyzing the impact of military cooperation on regional stability and exploring how soft power influences Bangladesh's foreign policy.

Literature Review

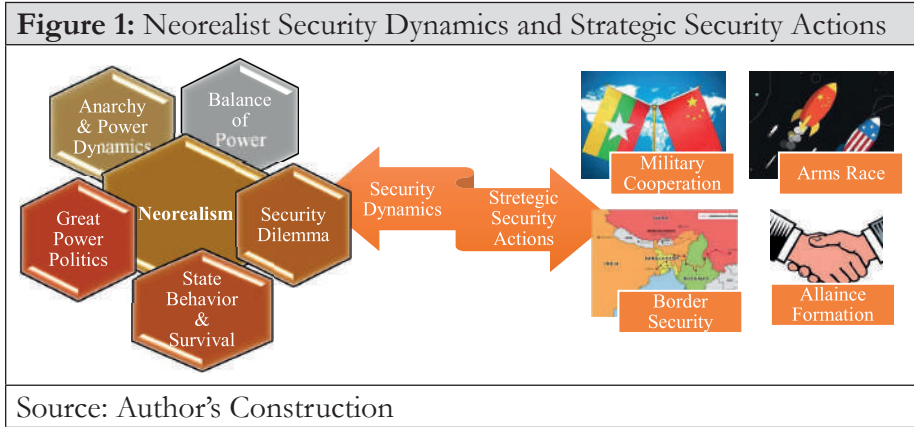
The evolution of China-Myanmar relations since Myanmar's independence in 1948 illustrates a dynamic interplay of cooperation and conflict.

Diplomatic ties, established in 1950, initially fostered collaboration but soon faced challenges, including tensions over Kuomintang troops and the eventual signing of a border agreement in 1960. These relations took a sharp downturn during General Ne Win's regime in 1962, as anti-Chinese riots and China's support for the Communist Party of Burma insurgency strained ties (The Diplomat, 2024; Xinhua News, 2024).

A significant turning point occurred in 1988 when Myanmar, under Western sanctions, turned to China for economic and military support. This reliance deepened Myanmar's dependence on Beijing but also fueled public discontent over perceived resource exploitation (Asia Times, 2021; The Diplomat, 2024). By 2011, political reforms under President Thein Sein attempted to counterbalance this dependency, most notably with the suspension of the Myitsone Dam project. Nevertheless, China remains a dominant partner through initiatives like the China-Myanmar Economic Corridor (CMEC) (Hindustan Times, 2024).

Geopolitical Significance of China, Myanmar, and Bangladesh Relations. Myanmar's strategic location enhances its geopolitical importance, particularly in relation to China's Belt and Road Initiative (BRI). Its access to the Indian Ocean offers China a critical alternative to the Malacca Strait, improving trade efficiency and energy security (Munir, 2020). This positioning makes Myanmar central to Sino-Indian tensions and U.S. regional strategies (Ahamed et al., 2020). For Bangladesh, unresolved issues such as the FDMN crisis and maritime disputes add further complexity. Despite not sharing a border, China's role as Bangladesh's largest trading partner strengthens its significance within Bangladesh's 'Look East' policy, which prioritizes economic and military collaboration under the BRI (Islam, 2021).

Neorealism in Context. Neorealism offers a lens to understand these dynamics. As Kenneth Waltz posited, the theory examines how structural pressures shape state behavior in an anarchic system. China's military and economic investments align with this framework, reflecting its efforts to balance power in South and Southeast Asia (Lobell, 2017).



From this perspective, China's initiatives, such as the BRI and its military support for Myanmar, are pivotal in shaping the region's security landscape, often heightening tensions and fueling potential arms races (United States Institute of Peace, 2022).

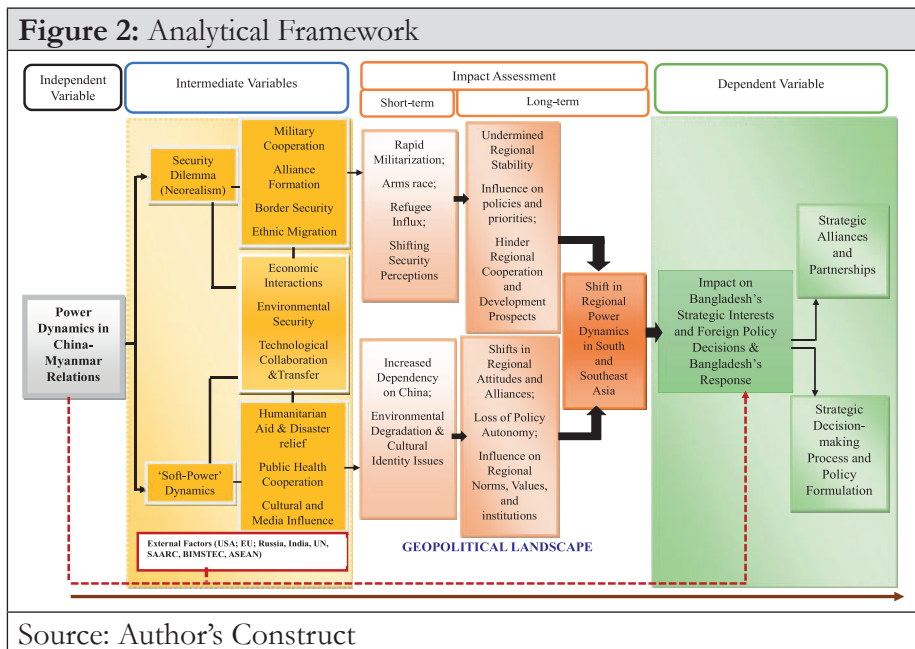
China's Soft Power Dynamics. Complementing this, Joseph Nye's concept of soft power highlights China's non-coercive strategies to influence the region (Nye, 2008). Through cultural diplomacy, economic partnerships, and institutions like Confucius Institutes, China has bolstered its influence in Myanmar and beyond. Initiatives during COVID-19, such as health diplomacy, enhanced China's image as a supportive neighbor (Vannarith, 2020). However, global skepticism about China's domestic policies challenges its soft power narrative (Aslan, 2010). In South Asia, shared colonial histories make countries like Bangladesh more receptive to these efforts, impacting their responses to challenges such as the FDMN crisis (Kurlantzick, 2023).

Gaps in Previous Research. Despite extensive research on China-Myanmar relations, the specific implications for Bangladesh remain underexplored. Limited studies address how Neorealism and soft power interplay shape Bangladesh's security and diplomacy. China's strategic maneuvers under Neorealism, such as military cooperation and economic investments, combined with its soft power initiatives like cultural diplomacy, create both opportunities and challenges for Bangladesh. This study seeks

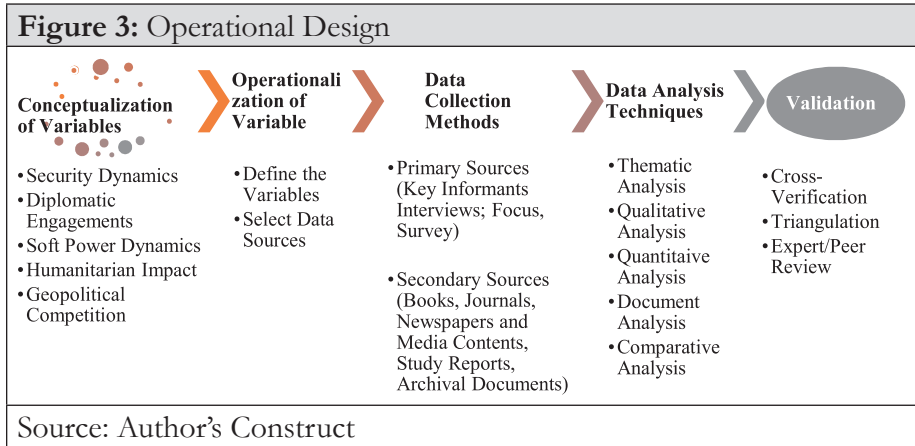
to bridge these gaps by examining these dimensions and providing insights into their impact on regional stability and Bangladesh’s foreign policy.

Methodology

This study employs a comprehensive analytical framework (Figure 2) to examine how China-Myanmar relations shape Bangladesh’s geopolitical challenges and opportunities. At the core of this framework are evolving power dynamics between China and Myanmar, which drive intermediate factors such as security dilemmas, environmental security, and soft power influence. The framework draws on Neorealism to analyze security challenges like military cooperation, border instability, and ethnic migration. China’s strategic alignment with Myanmar enhances its regional dominance but creates security dilemmas for Bangladesh, particularly along shared borders. Simultaneously, soft power initiatives and the BRI and Confucius Institutes influence the regional power balance. These initiatives bolster China’s image and influence Bangladesh’s diplomatic and economic strategies.



Research Design. To explore these dynamics comprehensively, the study uses a mixed-method approach, combining qualitative and quantitative research. This design allows for a holistic understanding of how Neorealism and soft power frameworks shape Bangladesh’s strategic responses.



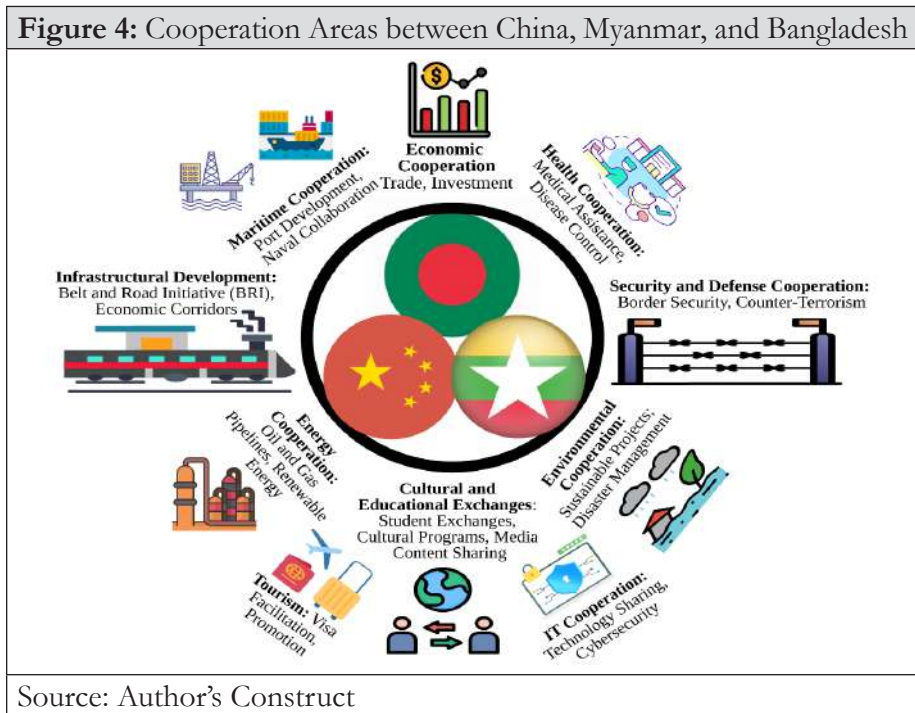
Data Collection Methods. The study gathered data through surveys, key informant interviews (KIIs), and document analysis. Surveys, distributed to 33 high-ranking officials from Bangladesh’s military, government, and diplomatic sectors, provided quantitative insights into perceived security threats and geopolitical challenges. These were complemented by 15 semi-structured KIIs with diplomats, defense attachés, and academics, which offered in-depth qualitative perspectives. Additionally, document analysis of foreign policy papers, official speeches, and agreements enriched the contextual understanding of trilateral dynamics.

Data Processing and Analysis. Survey data were analyzed using Microsoft Excel for frequency distributions and trends to identify meaningful patterns. Thematic analysis of KII responses highlighted recurring themes, such as “security dilemmas” and “soft power influence.” This integrated approach enabled a nuanced exploration of Bangladesh’s foreign policy challenges and opportunities within the regional context.

Data Validation and Ethics. To ensure credibility, the study employed triangulation, cross-verifying findings from surveys, interviews, and document analysis. Peer reviews validated interpretations, while ethical standards were upheld by maintaining participant confidentiality and ensuring compliance with academic protocols.

Research Findings and Results

China, Myanmar, and Bangladesh engage in multifaceted cooperation spanning ten critical domains: economic development, health, security, environmental collaboration, IT, cultural exchanges, tourism, energy, and maritime activities (Figure 4). China’s BRI is central to these interactions, fostering regional connectivity through projects like the CMEC and Bangladesh’s Padma Bridge. While these initiatives promote economic integration, they embed structural dependencies, raising security and economic concerns for Bangladesh (China Daily, 2022).

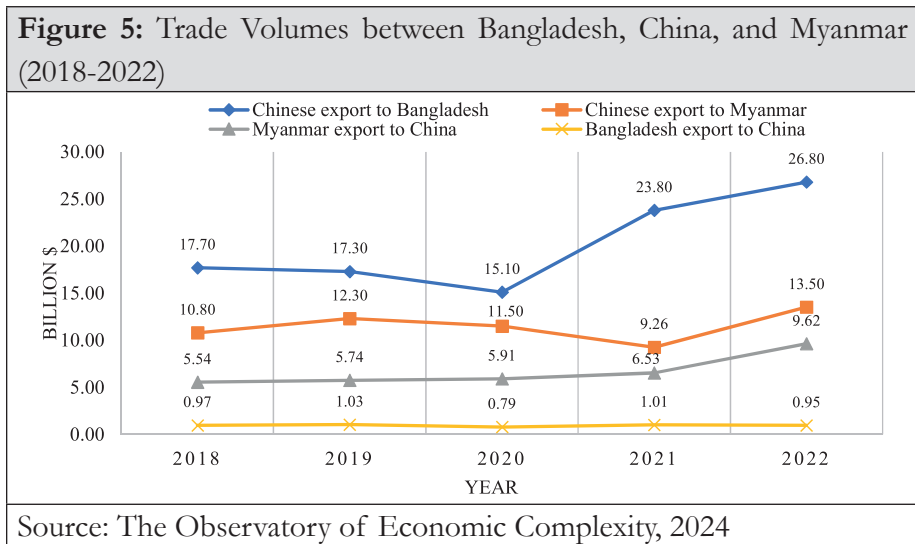


Military Cooperation and Regional Security Risks. China's expanding military cooperation with Myanmar, particularly after the 2021 coup, poses significant security challenges. Myanmar's Tatmadaw relies on Chinese military equipment, including surveillance systems, naval assets, and combat aircraft, with over \$1 billion in arms imported since the coup, mainly from China and Russia (CNN, 2023; KII with government officials, 2024). Survey data shows that 70% of respondents perceive China's military involvement in Myanmar as a security risk for Bangladesh, citing border instability and radicalization (Author's Survey Data, 2024). Survey data indicates that 70% of respondents view the Bangladesh-Myanmar border as insecure. The China-Myanmar border is recognized as a conflict zone, significantly impacted by drug production and trafficking, particularly methamphetamine and opium (International Crisis Group, 2019). Furthermore, 24% of respondents identified cross-border arms and drug trafficking as direct threats to Bangladesh, highlighting how insurgent groups like the AA exploit porous borders to escalate violence and trafficking activities (Author's Survey Data, 2024).

China's military support also complicates Bangladesh's border disputes with Myanmar. One interviewee noted that such support strengthens Myanmar's internal stance while emboldening its position on border disputes with Bangladesh (KII with Government Official 2, 2024). Survey findings reveal that 66.7% of respondents view China's assistance as a trigger for regional tensions and a potential arms race, pressuring Bangladesh to enhance its defense capabilities (Author's Survey Data, 2024). Respondents advocated for stronger diplomatic ties (87.9%), regional alliances like BIMSTEC and ASEAN (69.7%), and improved military preparedness (60.6%) to address these risks (Author's Survey Data, 2024).

Economic Cooperation and Trade Dependencies. China's economic influence in Myanmar and Bangladesh has surged through the BRI. Between 2018 and 2022, Chinese exports to Bangladesh grew from \$15.1 billion to \$26.8 billion, while Myanmar's trade with China peaked at \$9.62 billion in 2022 (The Observatory of Economic Complexity, 2024). Border

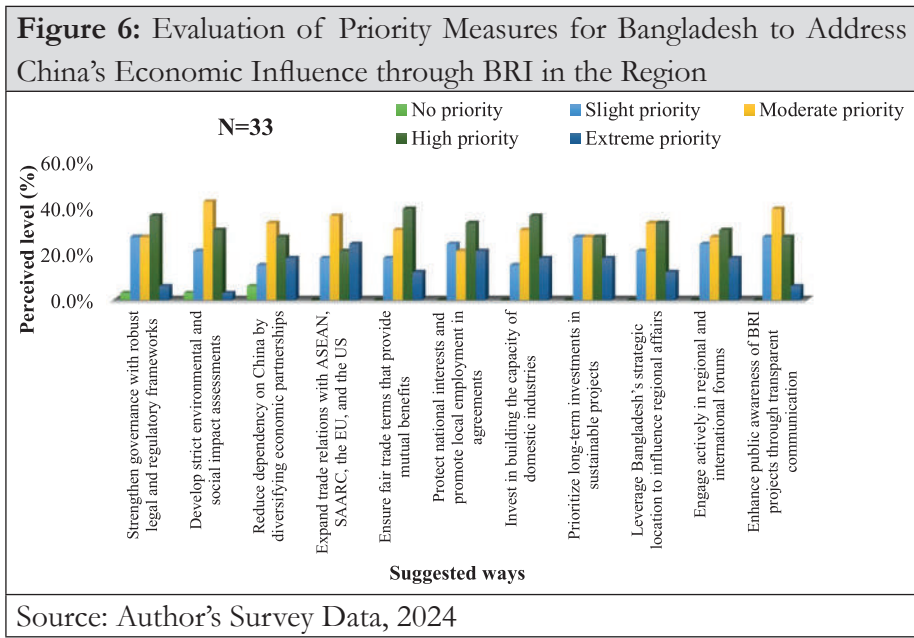
trade between Myanmar and China alone reached \$2.4 billion in the first eight months of the 2023-2024 fiscal year (Ministry of Information, 2023). Projects like the CMEC and the Kyaukphyu Special Economic Zone (KPSEZ) strengthen China’s foothold in the region, with Chinese investments in Myanmar totaling \$21.9 billion as of mid-2023 (Tearline. mil, 2024; The Irrawaddy, 2023). In Bangladesh, \$4.45 billion has been invested by China across 35 projects, including energy and infrastructure (The Business Standard, 2023).



Despite these economic gains, concerns about over-dependence on China persist. Survey data shows 81.8% of respondents fear long-term risks like debt sustainability and environmental degradation. Respondents also highlighted Myanmar’s reliance on China, which enables Beijing to influence political and economic decisions, impacting regional trade and stability (KII with Diplomat 1, 2024).

Energy projects, including the \$2.3 billion oil and gas pipelines, benefit China but pose environmental risks (Cambridge University Press, 2024; ASEAN Energy, 2024). Survey data shows 36.4% of respondents identified environmental degradation as a critical issue (Author’s Survey Data, 2024). The \$3.6 billion Myitsone Dam project was halted due to ecological

risks, such as the displacement of over 12,000 residents and threats to biodiversity (City News, 2024). Additionally, 58% of respondents raised concerns about illegal arms trafficking linked to the CMEC, underscoring the need for Bangladesh to diversify trade partnerships and implement sustainable investments with stronger governance (Author’s Survey Data, 2024).



Soft Power Dynamics in China-Myanmar Relation. China combines soft power with neorealist strategies to strengthen its regional influence. Through cultural diplomacy, educational exchanges, and humanitarian aid, China bolsters its image in Myanmar. Survey results reveal 33.3% of respondents strongly agree and 51.5% agree that these strategies support China’s long-term goals (Author’s Survey Data, 2024). Initiatives during COVID-19, such as vaccine distribution, further reinforced China’s regional standing but raised concerns about aid dependency undermining Bangladesh’s diplomatic leverage (China.org.cn,2021; KII with Government Official 3, 2024). Key informants emphasized the strategic value of these initiatives in securing long-term alliances (KII with Diplomat 1, 2024).

In the digital sphere, China's support for Myanmar's cybersecurity has sparked privacy concerns, with 69.7% of respondents advocating for stronger cybersecurity measures and regional diplomacy to counter China's expanding influence (Author's Survey Data, 2024).

Diplomatic Challenges and Regional Stability. China-Myanmar relations create significant diplomatic challenges for Bangladesh, including refugee inflows, military cooperation, and regional instability. Survey data shows that 65% of respondents view China-Myanmar military ties as destabilizing, with 54.5% fearing an arms race (Author's Survey Data, 2024). Respondents emphasized strengthening diplomatic communication (81.8%) and active participation in regional forums (72.7%) to address these issues.

Ethnic Conflicts and the FDMN Crisis. Myanmar's ethnic conflicts, worsened by the 2021 coup, directly impact Bangladesh. Armed groups like the AA and Kachin Independence Army continue to resist Myanmar's military, escalating violence in resource-rich border regions (Beech & Nang, 2024). The Three Brotherhood Alliance's Operation 1027 exemplifies this escalation, directly impacting Bangladesh's border security (The Diplomat, 2024). The resulting FDMN crisis has displaced over one million people into Bangladesh, creating socio-economic and security pressures. Survey results reveal that 76% of respondents believe China's strategic support for Myanmar aggravates the crisis, with 84.8% citing resource depletion and 78.8% noting increased crime in refugee camps (Author's Survey Data, 2024).

Despite international efforts, 79% of respondents consider global support inadequate, emphasizing the need for Bangladesh to diversify diplomatic partnerships and strengthen ties with India, Japan, and the U.S. to counterbalance China's influence and enhance its security capabilities.

Analysis and Discussion

Neorealist Insights on China-Myanmar Strategic Military Cooperation. China's strategic military partnership with Myanmar highlights its focus on power maximization and regional security enhancement. This collaboration includes extensive military aid, such as advanced fighter jets, naval vessels, and surveillance systems, significantly strengthening Myanmar's defense capabilities. Integrated within initiatives like the BRI and CMEC, China aligns military and economic strategies to secure its foothold in Southeast Asia while counterbalancing U.S. influence (KII with Government Official 2, 2024).

This growing military partnership poses a regional security dilemma. As Myanmar's military capabilities expand, neighboring states like Bangladesh perceive heightened security risks, compelling them to bolster their defenses. This dynamic reflects Neorealism's assertion that states prioritize security within an anarchic international system (KII with Government Official 4, 2024). Although China incorporates military partnerships as a soft power tool through joint exercises and non-combat operations, anti-China sentiment in Myanmar challenges these efforts, potentially limiting Beijing's regional influence (KII with Government Official 6, 2024).

Economic Cooperation and Strategic Dependency. China's economic projects in Myanmar, such as the CMEC and KPSEZ, illustrate a dual strategy of development and dependency. While these initiatives drive economic growth, they limit Myanmar's policy autonomy, creating vulnerabilities described as a "double-edged sword" (KII with Government Official 6, 2024). By securing access to the Indian Ocean and bypassing the Strait of Malacca, China enhances its geopolitical leverage. Survey data reveals that 51.5% of respondents view Myanmar's dependency on China as a cautionary example for Bangladesh, underscoring potential economic risks (Author's Survey Data, 2024).

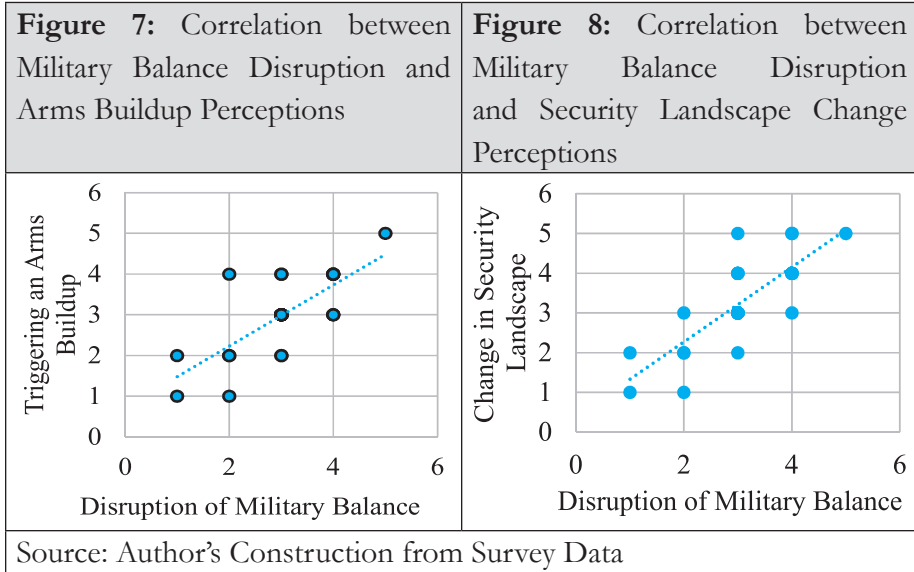
China frames these investments as development-focused, but their strategic intent is evident. By dominating key trade routes, China reshapes

regional power dynamics, raising concerns about sovereignty and financial entanglements, often compared to debt-trap diplomacy (Taylor & Francis, 2023). A government official noted, “China’s investments are as much about strategic positioning as they are about economic growth” (KII with Government Official 3, 2024). Cultural diplomacy, including Confucius Institutes and humanitarian aid, further deepens China’s influence while stirring apprehension in neighboring states.

Regional Stability and Power Balance. China’s extensive military and economic ties with Myanmar are central to its broader regional strategy. However, these efforts often destabilize the region. Anti-Junta forces in Myanmar have targeted Chinese-backed infrastructure, and the shadow National Unity Government has declared certain projects “illegal” (RFA, 2023; ; Lee Kuan Yew School of Public Policy, 2024). These actions reflect broader tensions that strain relations with neighboring powers like India.

The CMEC’s strategic value, granting China access to the Indian Ocean, has profound implications for South Asia’s power dynamics (KII with Government Official 3, 2024). Survey data highlights the need for Bangladesh to maintain balanced diplomacy with global powers, including the USA, Russia, and Japan, to counterbalance China’s influence (Author’s Survey Data, 2024).

The China-Myanmar military alliance also heightens concerns of an arms race, intensifying regional insecurity. Bangladesh, in this regard, faces complex defense challenges. Correlation analysis (Figures 7 and 8) shows strong links between perceptions of military imbalance and regional arms buildup ($r=0.7347$) and security landscape changes ($r=0.7818$) (Author’s Survey Data, 2024). These findings parallel militarization trends in the South China Sea, emphasizing the risks of strategic competition (Eurasia Review, 2024).



Security and Diplomatic Challenges for Bangladesh. China's military support to Myanmar exacerbates security risks along the Bangladesh-Myanmar border. Enhanced military capabilities have emboldened insurgent groups like the AA, intensifying border instability (KII with Government Official 2, 2024). These developments contravene international norms, straining bilateral relations (Rahman, 2024).

Additionally, the FDMN crisis remains a core diplomatic challenge. Reports show that the FDMN influx has escalated crime, particularly drug trafficking. Seizures of crystal meth in Cox's Bazar surged from 59.4 kg in 2021 to 132.04 kg in 2022, exacerbating security challenges (BGB, 2022). FDMN camps report higher crime rates than the district, underscoring the impact of the crisis (District Police, Cox's Bazar, 2022). Survey data indicates that 76% of respondents believe China's strategic ties with Myanmar hinder crisis resolution and limit Bangladesh's diplomatic leverage (Author's Survey Data, 2024). Despite China's mediation, its veto power in the UN Security Council hampers efforts to pressure Myanmar for repatriation, prioritizing stability over humanitarian concerns (KII with Diplomat 1, 2024).

Strategic Implications of Major Powers and Regional Forums.

Bangladesh's geopolitical landscape is heavily influenced by its interactions with major powers and engagement in regional forums. The USA's sanctions on Myanmar contrast with China's support for its military, creating a complex diplomatic balance for Bangladesh (KII with Diplomat 1, 2024). Meanwhile, major powers, including the USA, India, and Japan, offer strategic alternatives to Chinese influence, with initiatives like Japan's FOIP and India's Act East Policy providing vital counterbalances (Alam & Akon, 2023). Regional forums such as BIMSTEC and ASEAN provide critical platforms for cooperation, though their effectiveness is often constrained, as 42.4% of survey respondents highlight their limitations in addressing the FDMN crisis and border security (Author's Survey Data, 2024). The weakened role of the South Asian Association for Regional Cooperation (SAARC) further amplifies Bangladesh's reliance on these forums. Balancing these dynamics, Bangladesh must navigate its diplomatic ties carefully to ensure security and economic autonomy while leveraging regional cooperation mechanisms (Human Rights Watch, 2020; KII with Government Official 3, 2024).

Frameworks Shaping Bangladesh's Geopolitical Strategy.

Bangladesh's geopolitical positioning is intricately linked to a web of national, regional, and international frameworks that shape its security, economic policies, and diplomatic engagements. The ASEAN Regional Forum and the Treaty of Amity and Cooperation provide platforms for regional peace, yet their non-interference principles limit interventions in Myanmar's internal conflicts, directly affecting Bangladesh's handling of the FDMN crisis (ASEAN Secretariat, 2023; Chakrovorty, 2022). On the global stage, Bangladesh aligns with international norms such as the UN Refugee Convention, even as a non-signatory, balancing international obligations with domestic border security (Rahim, 2023). The International Tribunal for the Law of the Sea (ITLOS) ruling under United Nations Convention on the Law of the Sea (UNCLOS) has been pivotal in defining Bangladesh's maritime boundaries and enhancing its strategic use of the Bay of Bengal (Gupta, 2022). Meanwhile, bilateral and multilateral agreements

like the BIMSTEC Framework and BRI reflect economic opportunities but expose Bangladesh to dependency risks, as seen with China's influence through CMEC projects (Johns Hopkins University, 2023; Author's Survey Data, 2024). These frameworks, alongside major powers' strategies, require Bangladesh to carefully navigate its foreign policy to sustain regional stability and economic growth amidst increasing competition between global powers.

Recommendations for Bangladesh's Strategic Response

To effectively navigate the complexities arising from China-Myanmar relations, Bangladesh must adopt a multifaceted approach that addresses immediate challenges while laying the groundwork for sustainable regional engagement. First, Bangladesh should leverage regional cooperation platforms like BIMSTEC and ASEAN to address the FDMN crisis and Myanmar's internal conflicts. These forums offer diplomatic channels to advocate for international pressure on Myanmar, including sanctions through the International Court of Justice (ICJ), while engaging China to influence Myanmar's military for a peaceful repatriation process. Bangladesh should also push for comprehensive trilateral security dialogues with China and Myanmar, focusing on border management and the containment of insurgent groups like the AA.

Military preparedness is another critical priority. To counter potential threats from the China-Myanmar alliance, Bangladesh must strengthen its defense infrastructure and intelligence capabilities along the border. Accelerating the Forces Goal 2030 plan, with support from strategic partners such as India, Japan, and the USA, is essential. These initiatives will bolster Bangladesh's ability to manage cross-border security risks, including arms trafficking and insurgency. Additionally, the development of robust legal frameworks will enhance Bangladesh's capacity to combat transnational crimes, such as drug and human trafficking, which have escalated due to Myanmar's instability.

Bangladesh's economic strategy must also evolve to reduce dependence on China. Diversifying economic partnerships by deepening ties with India, Japan, the USA, and the EU will provide alternative investment and trade sources. Regional and multilateral engagement through BIMSTEC and ASEAN can further help Bangladesh tap into diversified infrastructure and financial support while balancing China's influence. Concurrently, Bangladesh should advocate for strict environmental standards in BRI projects, ensuring they align with the Paris Agreement to mitigate ecological risks.

Diplomatically, Bangladesh should leverage China's position as a regional mediator, encouraging its involvement in conflict resolution, including the FDMN crisis. China's close ties with Myanmar's military present an opportunity for fostering constructive dialogue. However, Bangladesh must also enhance its soft power by strengthening cultural and educational exchanges with China. These initiatives, particularly in technology and higher education, can help maintain a balanced relationship while fostering economic and diplomatic goodwill.

Finally, as cybersecurity risks grow with China's support for Myanmar's IT infrastructure, Bangladesh must develop a comprehensive cybersecurity framework to protect its national security. Collaboration with global experts and regional partners will be critical in addressing potential threats. Engaging societal actors, including NGOs, civil society, and media, to frame the FDMN crisis as a broader regional challenge can garner wider support from the Asia-Pacific region, enhancing Bangladesh's strategic position.

Limitations and Future Research Directions. This study faced limitations due to reliance on secondary sources and the lack of input from Chinese and Myanmar perspectives, which skewed findings toward Bangladesh's viewpoint. The dynamic geopolitical landscape post-2024 may also impact the long-term relevance of conclusions. Future research should explore broader frameworks like Constructivism and Liberalism to understand the role of norms, economic interdependence, and international

institutions. Quantitative approaches such as regression analysis could provide deeper insights into security and stability issues, while further analysis of regional forums like ASEAN and BIMSTEC could shed light on their effectiveness in advancing Bangladesh's strategic objectives.

Conclusion

This study examined the complex dynamics of China-Myanmar relations and their implications for Bangladesh through Neorealism and Soft Power perspectives. The findings underscore China's growing influence in Myanmar, particularly through military partnerships and economic investments under the BRI, which pose multifaceted challenges for Bangladesh. These include heightened security threats, economic vulnerabilities, and diplomatic complexities.

From a Neorealist perspective, China's military and economic alignment with Myanmar reflects a strategic effort to consolidate regional dominance. This has created a security dilemma for Bangladesh, with survey respondents emphasizing the need to bolster border defenses against threats such as insurgencies and arms trafficking. The increasing militarization of the region highlights the necessity for Bangladesh to strengthen defense partnerships and prepare for evolving security challenges.

China's soft power initiatives, including cultural diplomacy and humanitarian aid in Myanmar, add another dimension of influence, indirectly shaping Bangladesh's foreign policy. Bangladesh should expand its soft power strategies to mitigate this impact by leveraging regional platforms like BIMSTEC and ASEAN. These efforts can help Bangladesh foster diplomatic leverage and build a more balanced regional power dynamic.

Economically, BRI projects present both opportunities and risks. While these initiatives enhance regional connectivity, they also deepen Myanmar's dependence on China, raising concerns about economic imbalance. Bangladesh can reduce its own vulnerabilities by diversifying trade and investment partnerships with nations such as India, Japan, the USA, and the EU.

In conclusion, managing China-Myanmar relations requires a balanced approach. As China consolidates its presence in Myanmar, Bangladesh must carefully navigate its security policies, economic strategies, and diplomatic ties to safeguard its national interests. Strengthening regional alliances, enhancing military preparedness, and promoting sustainable development will be crucial for countering the strategic pressures posed by China's growing influence. By adopting these measures, Bangladesh can work towards ensuring a stable and resilient regional environment that supports its growth and security.

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MATARBARI DEEP SEAPORT AS A REGIONAL SHIPPING HUB: OPPORTUNITIES AND CHALLENGES

Commodore Md. Shafiu Bari, (ND), ndc, psc, BN

Introduction

Bangladesh is at a critical juncture in its journey from lower middle-income to upper middle-income country, but recent economic challenges have slowed the progress. Consequently, the government urgently needs to stimulate economic growth using available resources. The Matarbari Deep Seaport (MDSP) is expected to play a key role, potentially contributing 2-3% to GDP and becoming a vital asset in the Bay of Bengal (Sinha, 2023). To achieve developed nation status by 2041, Bangladesh aims to sustain rapid growth through strategic infrastructure investments, requiring a consistent 10% GDP growth rate over the next 24 years, along with a 1% population growth rate from 2021 (Al-Amin, 2021). Initiatives like SDG 2030 and the Delta Plan 2100 support this growth strategy. The Bay of Bengal's importance increased with Japan's 2014 Bay of Bengal Industrial Growth (BIG-B) plan, which invested \$5 billion over four years to enhance port infrastructure and energy development, improving connectivity with Bhutan, Nepal, and India's Northeastern Region (NER) (Datta, 2016). As part of this initiative, JICA financed an 18.5-meter-deep, 14.3-kilometer-long navigation channel with a \$4 billion ODA loan for the coal power plant (Shinha, 2023). In 2023, Bangladesh launched the first phase of MDSP, including a 460-meter container jetty and a 300-meter multipurpose jetty. The port is set to be fully operational by 2027, enhancing sea connectivity for landlocked areas like India's NER, Nepal, and Bhutan. International organizations, including UNESCAP, are also supporting the efforts to establish integrated road and rail networks, aiming to transform the port into a regional hub (Iqbal, 2023).

Figure 1: Matarbari Deep Seaport and Bay of Bengal Industrial Growth Belt



Source: Presentation by the Ambassador of Japan to Bangladesh on 14 July 2024 at NDC

Bangladesh has three main ports, with the Chittagong Port Authority (CPA) handling 97% of all seaborne cargo and 92% of containerized cargo, while the other two ports mainly handle non-containerized bulk cargo. One major issue for Bangladeshi ports is the draft restriction for Panamax ships, as larger ships cannot navigate the narrow and shallow channels. Consequently, smaller vessels (less than 200 meters long) perform feeder services to and from hub ports like Singapore and Colombo, where cargo is then transferred to larger mother vessels. The high number of smaller vessels conducting feeder services from Chittagong to Singapore and Colombo causes congestion at CPA and extra cost for feeder services. Additionally, limited tidal window complicates ships movement inside the port. The development of the Matarbari Deep Seaport (MDSP) which is independent of tidal restrictions, will allow larger ships to dock directly, reducing congestion by consolidating large consignments of containers into single shipments, thereby saving feeder service cost for the traders. The deep seaport is expected to play a vital role by fostering maritime-related business and contributing to economic growth.

Developing a deep seaport will not bring required economic dividend but transforming it to a regional shipping hub, will contribute immensely to the economic gain. The Chittagong Port bears the testimony of regional connectivity for transshipping cargo coming from Assam and West Bengal through Bangladesh's river route when the Chittagong Port Commissioners Act 1887 was enacted (Khaleque, 2023). Reestablishing historical connectivity routes with the Northeastern Region (NER) and creating new road links with Nepal and Bhutan will notably shorten the distance from the origin to the transshipment or transit port (Khaleque, 2023). Should the Matarbari port evolve into a regional shipping hub, landlocked areas like NER of India, Bhutan, Nepal and Yunnan province of China would benefit from a significantly shorter distance—approximately one-third of the current distance to Kolkata port used for third-party cargo shipments.

Regional Hub Port

A regional hub port is a strategically positioned seaport that serves as a central point for maritime trade within a particular geographic area. These ports are equipped with advanced infrastructures and modern facilities to efficiently handle various types of cargo, including containerized goods, bulk commodities, and liquid cargo. They play a vital role in connecting their regions to global trade networks, facilitating the movement of goods between ships, trucks, and trains, and reducing both connection time and cost (Liu & Wang, 2023). Regional hub ports often drive economic growth, commerce, and industrial development in their vicinity. They offer value-added services such as warehousing, distribution, and logistics to support regional goods flow. These ports benefit from economies of scale, as handling larger volumes of cargo leads to more efficient operations and lower transportation costs per unit. This can result in cost savings for shippers and lower prices for consumers. Additionally, they attract ancillary industries and services, such as logistics providers, shipping agencies, and manufacturing firms, which benefit from proximity to efficient transportation networks. This concentration of economic activity can stimulate local employment and foster economic growth.

Objectives of the Research

The study aims to achieve the following objectives:

- To conduct a comprehensive literature review to identify the key characteristics of a regional hub port and establish an analytical framework for the research.
- To review the current states of the ports of Bangladesh in relation to the established analytical framework.
- To carry out a specific evaluation of the MDSP, considering the challenges and opportunities involved in developing the essential features as defined by the analytical framework, from the following perspectives:
 - Analysis derived from reports, literature, studies, and academic papers.
 - Insights gained from surveys, interviews, and focused group discussions.
- To recommend policy and operational strategies for developing the MDSP as a regional shipping hub, based on the overall findings of the study.

Research Methodology

Due to the nature of the subject, a non-experimental research design with an exploratory approach was implemented. The study focuses mainly on qualitative research, supplemented by quantitative methods to gather information from a variety of sources. The primary data sources were secondary materials, while efforts were made to collect primary data through surveys and interviews. Additionally, statistical data on pertinent issues was gathered from relevant organizations to assess the current state of maritime ports and the anticipated needs for maritime trade.

Analytical Approach

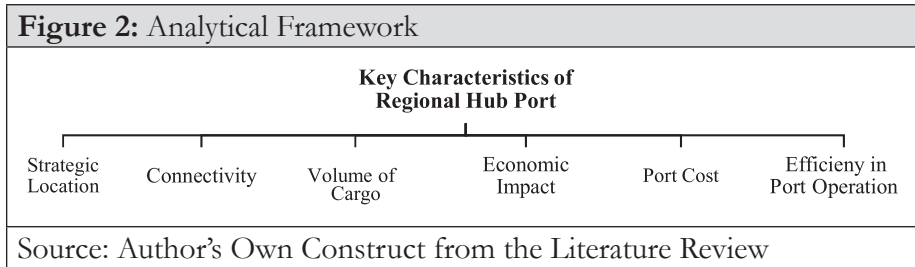
The researcher adopted a descriptive approach, combining both qualitative and quantitative analyses to achieve the research objectives. The qualitative

analysis incorporates various research tools, including a literature review, Key Informant Interviews (KII), Focus Group Discussions (FGD), field surveys, and information/data obtained from seminars, lectures, and interviews. The researcher performed a mixed-method analysis of available documents, official reports, journal articles, periodicals, and statistical data to project the maritime trade of Bangladesh and targeted regions and countries in 2041. FGDs, KIIs, and interviews with professionals, academics, senior port officials, port users, and current and former port chairmen, as well as ambassadors in Bangladesh, helped identify challenges and opportunities involved in infrastructure development, hinterland connectivity, port efficiency, bringing mother vessels and cargo from the target regions, logistics, and other factors essential for developing the MDSP as a regional shipping hub. This approach helps determine whether the MDSP qualifies to become a regional hub port, identify key features of such a hub, and explore the prospects and challenges of transforming the MDSP into a regional shipping hub.

Findings of the Literature Review

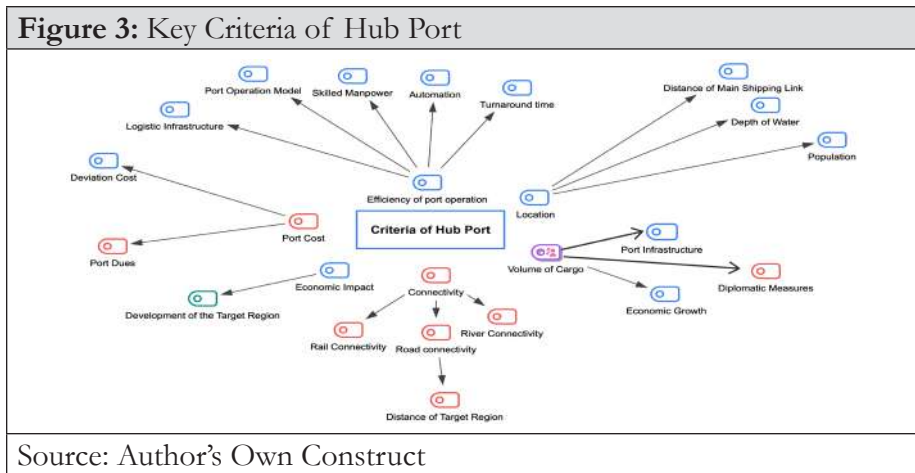
The researcher carried out a thematic literature review sourced from various journals, periodicals, books, case studies, articles in newspapers and reports that are directly relevant to seaport selection by shipping liners and traders. Through a comprehensive analysis of the literature, a broad set of criteria that a regional shipping hub should possess is uncovered. These key factors are then used to establish an analytical framework that guided the development of the standard characteristics for the upcoming port at Matarbari. The reviewed literature highlights various criteria essential for a port to function as a regional shipping hub, with geostrategic location-specifically its proximity to international shipping routes and its linear distance from landlocked regions-being the most critical factors (Kawasaki & Hanaoka, 2023). Many researchers emphasize that multimodal hinterland connectivity, which attracts maritime cargo from landlocked areas, plays a key role in transforming a port into a regional hub (Iqbal, 2023). Most previous studies also stress the importance of port

operation efficiency, economic impact, cargo volume, and the adoption of advanced technology as key criteria for a regional hub port (Sohini, 2023). The researcher has developed an analytical framework (Figure 2) from the above findings to outline the key features of a regional shipping hub, which are then evaluated in the context of Matarbari Deep Seaport.



Challenges and Opportunities for Transforming MDSP into a Regional Shipping Hub - Key Findings

A grounded theory approach was used to analyse the qualitative data through inductive process and develop a conceptual framework (Figure 3), which is based purely on literature reviews, interviews, and FGDs. The framework highlights the critical macro-level features necessary for MDSP to become a regional shipping hub: geographical location, hinterland connectivity, cargo volume, port cost, efficiency of port and economic impact.



Macro-Level Factors. The geographical positioning of a hub port is vital, providing significant opportunities to access large regional markets for export and import, and to maintain low costs for container repositioning. The extent of connected markets and the integration of seamless supply and value chains are also essential. Maximizing the productivity of a regional port relies on the volume of cargo handled and the efficiency of cargo operations. Additionally, the selection criteria used by shipping liners play a significant role in the success and growth of a regional hub port.

Geographical Location

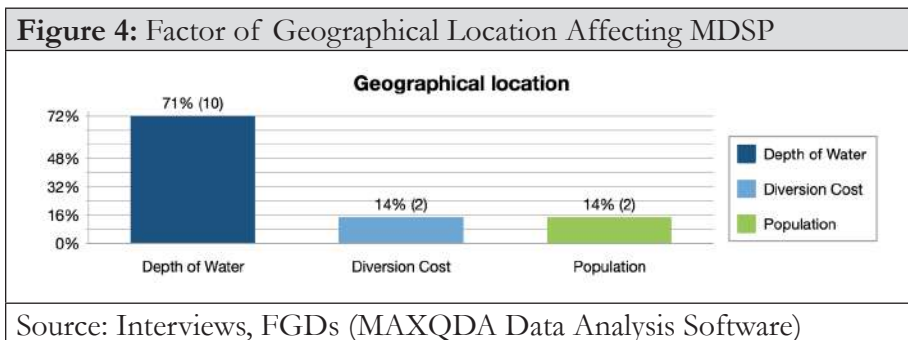
The geographical location of a port, particularly its proximity to the international shipping trunk, the available water depth for accommodating large vessels, and the population size involved in trading with the port, is crucial. The closeness of a shipping lane directly impacts the important factors of time and cost. Higher operational and diversion costs at the port can discourage shipping liners from docking there. The Matarbari Deep Seaport (MDSP) is strategically situated at the peak of the Bay of Bengal, acting as a gateway for about 2.4 billion people from South and East Asia, roughly 35% of the global population (Farid, 2024). This port offers vital sea access to the Northeastern Region of India, Nepal, Bhutan, and the Yunnan Province of China, significantly reducing the distance to the nearest seaport. A survey among academics and port users found that 82% believe MDSP is ideally positioned to become a regional shipping hub. However, 13% of respondents noted that ships arriving at MDSP would need to detour approximately 650 nautical miles from the main East-West international shipping route, presenting a geographical challenge.

This detour could add about 2.5 days to a ship's journey, costing around \$500,000 for vessels 330 meters in length. Interviews suggest that if these additional costs could be offset through reduced port dues and tax incentives, MDSP might become a more attractive destination for transshipment cargo.

| Table 1: Critical Factor of Geographical Location | | |
|---|---|--|
| Criteria | Description | Matarbari Deep Seaport |
| Distance of detour | The distance of the hub port from the main international shipping link | Approximately 650 nm and it involve extra 2.5 days' voyage |
| Population | The population size of the targeted regions and their potential maritime trade volume | Target size of population is approx 75 million |
| Depth of water | The depth of the navigational channel and the basin of the MDSP allowing ships 330 meters | Maintain channel depth 16 meters (CD) |

Source: Author's Own Construct

Another critical factor is the depth of water, unique to this location. MDSP boasts a deep navigation channel of 18.5 meters (msl), a hydraulic advantage unavailable on the west coast of Bangladesh and Myanmar. Maintaining this depth requires annual dredging of 5 million cubic meters, costing over Tk 250 crore (Hakim, 2024). The financial burden of this dredging must be covered either by raising port dues and charges or by government subsidies from Bangladesh. Interviews revealed that 71% of participants support maintaining the channel depth, even if it requires government funding.



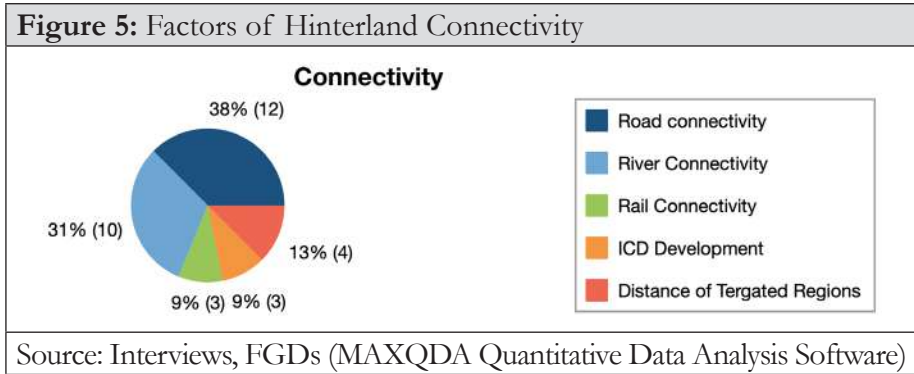
Hinterland Connectivity

Road Link. Developing road networks involves several complex challenges, which can significantly impact the overall success and efficiency of the port functions. Constructing new roads requires substantial investment. GoB is facing hurdles in securing funds for the development projects due to recent economic downturn. Bangladesh is a land scarce country, acquiring suitable land for infrastructure development is very chaotic and time consuming due to high costs, legal issues and resistance from landowners. Interviews revealed that the Roads and Highways Department (RHD) is yet to begin construction of the 27.2 km Matarbari Port Access Road, which would connect the port to the Asian Highway network (AH1). The delay is due to JAICA's disagreement with the RHD about starting construction before completing land acquisition (Patwary, 2024). The RHD expects to complete the road construction by 2029 (Mamun, 2024). But the Matarbari Port Development Project would be completed by 2027. The delay in access road construction would result in the delaying of port operations by two years which is considered as the most critical factor for the port to commence its operation.

River Route. The interview reveals the river route might be utilized at a lower scale for the transportation of both domestic and transshipment cargo via Pangaon ICD. However, the sea condition during monsoon may render the cargo transportation venture impractical. However, according to interview data, 38% of respondents prefer road connectivity over the river route for cargo transportation from MDSP to landlock regions.

Railway Link. Another mode of hinterland connectivity is railway link which is also in a planning phase poised to add to the factor of connectivity. The Matarbari-Chakaria DG rail link project aims to connect the MDSP with the Dhaka-Cox's Bazar rail network, ultimately linking to the Asian Railways network. The concerned ministry has developed a Detailed Project Proposal (DPP) for constructing the Matarbari-Chakaria DG rail link, currently awaiting approval from the GoB. Major preparatory work,

such as land acquisition and community resettlement, cannot start until funding is available (Gin, 2024).

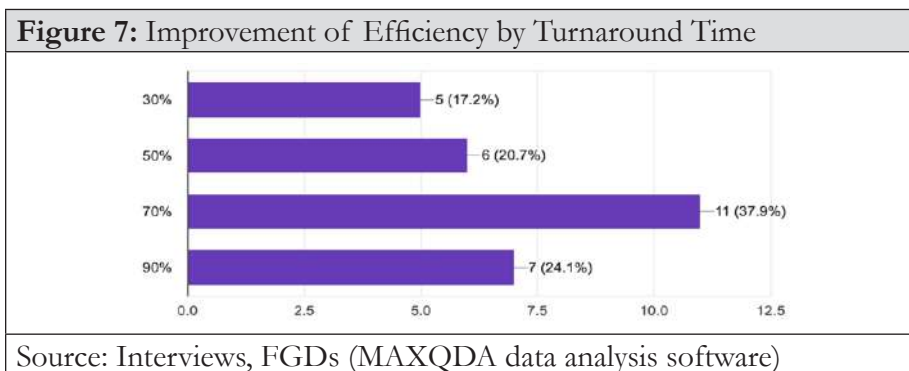
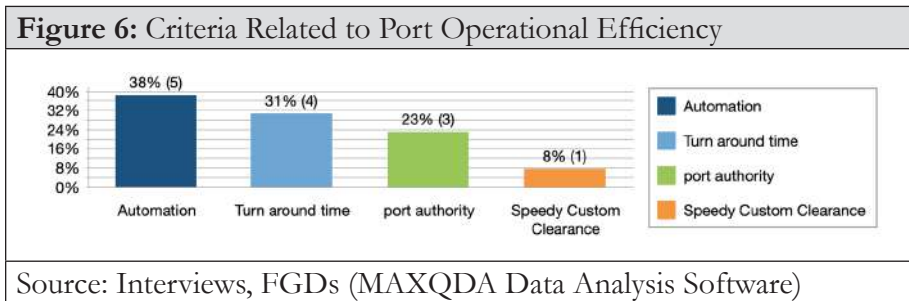


Efficiency of Port Operation

Machines. Automation in mechanical equipment is crucial for MDSP to achieve its goal of becoming a regional shipping hub (Musa, 2024). This macro-level component is made up of several efficiency and time-related parameters that are displayed in the Table 2 and are important for the shipping lines' hub port selection procedure. Automation is considered the main ingredient for efficient port operations, with 38% of respondents identifying it as the main ingredient. Improving vessel turnaround, container delivery, customs clearance and reducing ship's 2.5-day diversion time for the MDSP are very crucial. Automation in port operations can shorten turnaround times, boost productivity, and enhance efficiency. A survey of CPA port officials found that automation and advanced logistic infrastructure in port operation increases efficiency by 70-90% if skilled manpower is employed. MDSP will be free of tidal restriction, so there is no waiting for berthing. Thus, vessel turn around time at the quayside will be core issue of port's efficiency. The field survey indicate that the turn-around time could be minimised up to 90% by utilizing advanced IT' in logistic system. To become a leading smart port, MDSP must offer top-tier services, including automated operation systems for transshipment.

| Table 2: Criteria Related to Port Operational Efficiency | | |
|--|--|--------------------------------|
| Criteria | Description | MDSP |
| Port operation model | It is the system of operating the port, there are various system of operating port such as land lord and tool port models. | Land lord model is efficient |
| Vessel turnaround time | The time taken at the port to complete the entire loading/unloading operation | To be reduced |
| Skilled manpower | The presence of educated professionals | Important features of hub port |
| Automation | The availability of advanced IT and robust logistic system | Add to port efficiency |
| Logistic infrastructure | Capability of providing advanced logistic facilities for multi country usage | Essential for Transhipment |

Source: Author



Manpower. Another essential factor for successful automation is the development of human resources. While BMU produces educated and skilled graduates for the port sector, a flawed recruitment system poses challenges. According to a professor during a focus group discussion, many graduates face difficulties securing jobs due to the system's heavy emphasis on Bengali language proficiency, which disadvantages those primarily educated in English. This recruitment practice significantly limits the entry of port management graduates into the industry.

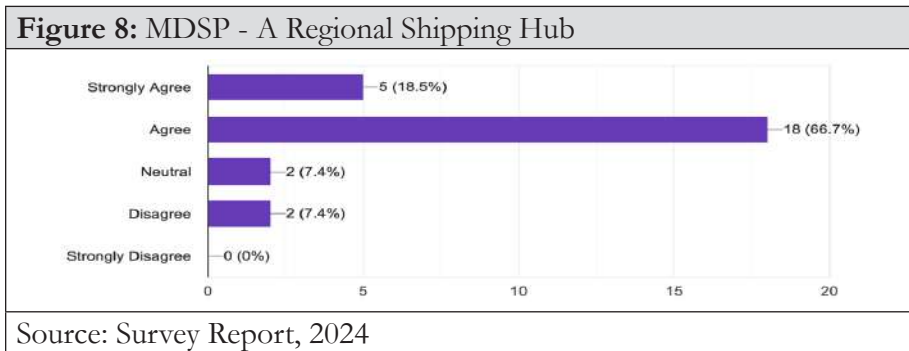
Volume of Cargo

Container Throughput. It is the most critical macro-level factor in the hub port selection process for shipping liners. As ships follow trade, increasing maritime trade volume is essential for any hub port to attract large vessels. Maximizing container throughput can be achieved by improving connectivity, port efficiency, and trade relations with target regions. In a survey, 75.9% of port users believed that offering financial incentives to shipping liners could increase cargo throughput. These incentives might include subsidies on port dues or waivers on storage rent. The overall cost of port services must be lower than that of regional competitors, such as Colombo and Singapore (Farid, 2024). Additionally, a general survey of port users and administrators revealed that the traders from Northeast India will choose MDSP as their transshipment port due to its shorter distance. The GoB and neighboring countries need to develop road and rail networks to enhance seamless connectivity through sub-regional initiatives. However, 45% of the interview respondent is in the opinion that the economic growth of the target region is crucial to get the maritime cargo from landlock regions and also the KII suggest to engage the traders of landlock regions diplomatically for increasing the volume of cargo in MDSP.

Table 3: Criteria Related to Container Throughput

| Criteria | Description | Matarbari Deep Seaport |
|----------------------------------|--|---------------------------------------|
| Economic Growth of Target Region | The economic growth is related to the maritime cargo growth of the country i.e more growth means more maritime cargo | Affect the development |
| Port Infrastructure | Availability of adequate and advanced facilities for cargo handling | Affect the container throughput |
| Diplomatic Relation | The mutual trade relation between hub port country and target countries or region | Important for increasing cargo volume |

Source: Author



Port Cost

This category includes the primary criteria directly linked to the costs incurred by shipping lines during the transshipment process, as outlined in Table 6. Regarding port-related expenses, this factor is closely tied to other micro-level elements such as turnaround time, proximity to major shipping routes, and overall port costs. Interviews with shipping industry experts highlighted that major shipping lines serving South Asian ports prioritize factors like vessel waiting and turnaround times, availability of a critical mass of cargo, and the diversion costs of port calls. Similarly, a survey indicated that 75.9% of respondents believe competitive port costs could

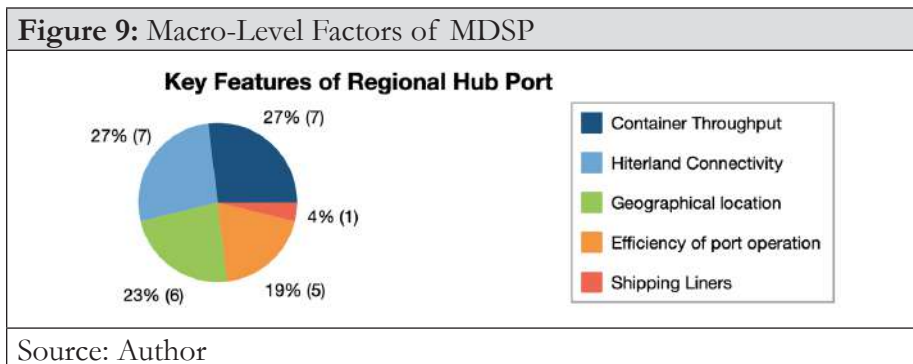
attract major shipping lines to MDSP. Furthermore, the port’s operational efficiency and logistical infrastructure will be key in drawing large vessels to the emerging hub port.

Port Tariff. To establish MDSP as a regional shipping hub when it commences its operation in 2027, it must offer competitive port tariffs. Interviews indicate that attractive pricing and potential tax holidays will be necessary to draw large vessels away from ports like Singapore, Colombo, and JNPT. Given MDSP’s location, which adds two days of travel for ships, lower freight costs compared to other regional hubs will be essential. Implementing competitive pricing and incentives can help attract cargo volumes and position MDSP as a key player in the region.

| Table 4: The Criteria Related to the Cost Incurred by a Mother Vessel | | |
|--|---|---|
| Criteria | Description | MDSP |
| Deviation cost | The journey cost incurred by shipping lines when deviating from international shipping trunk to access to hub port | 2.5 days for accessing to hub port |
| Port Dues | The cost associated with the operation at the hub port. The cost includes container handling charges; port dues, such as navigation, pilotage, stowage, and so on | Port tariff is To be determined the GoB when the port starts functioning |
| Cost in feeder link | The cost associated with transporting cargo between hub and feeder ports. | Depends on the distance between hub port and origin |
| Waiting time | The vessel waiting at the anchorage before entering the port | Nil |
| Time spent to come to hub port | The time taken for transporting cargo between hub and feeder port or hub port to target region | Only for coastal shipping 3-4 days by sea and by road 12 hours(target Region) |
| Source: Author | | |

Economic Impact

Bangladesh faces economic challenges, including declining tax revenue, rising debt, and a growing fiscal deficit, putting its credibility at risk (Mansur, 2024). Slowing GDP growth, now at 5.6% instead of the projected 7%, has reduced investment and maritime trade. Chittagong Port faced a decline in cargo handling as the government cut spending to preserve foreign reserves. To meet MDSP’s cargo needs, the port must attract shipments from neighboring regions like Northeast India, Nepal, Bhutan, Myanmar, and China’s Yunnan Province, which could generate up to 6.8 million TEUs. While domestic downturns may not heavily impact MDSP, securing regional cargo will be crucial for its success.



The country is facing multifarious challenges in attaining SDG goals in economic sectors. Maritime trade requirements originate from the result of foreign and internal investments. The investment has shrunk in the country. Government has imposed restriction on imports to save the forex reserve. As such maritime trade volume is receding. If the trend continues the capacity of port may remain underutilised like Hambantota port of Sri Lanka. In this uncertainty of economic growth, the MDSP is to look for maritime cargo of the landlocked countries and regions instead of only relying on domestic cargo.

Way Forward

Based on the findings, the researcher recommends followings:

Infrastructure Development

The following structural development activities may be undertaken to initiate port operations as soon as possible, or the golden opportunity for MDSP to become a regional hub may be lost:

- The Government of Bangladesh (GoB) may launch diplomatic efforts to secure funding from JAICA for the immediate construction of the Matarbari Port Access Road.
- The Roads and Highways Department may aim to complete the Matarbari Port Access Road Project by 2027.
- The Chittagong Port Authority are to complete the Matarbari Port Development Project, including the construction of 360 x 460-meter container and multipurpose jetties and the procurement of necessary equipment, by 2026.
- The Roads and Highways Department may complete the 1.4 km Matarbari North-South Connecting Road by 2027.
- The MDSP Port Authority may enhance operational efficiency by establishing a robust logistics network and constructing warehouses and Inland Container Depots (ICDs) near the port.
- Bangladesh Railways may complete the Matarbari-Chakoria DG Railway Link Project by 2029, connecting Matarbari to the Trans-Asian Rail Network.
- The MDSP Port Authority may ensure regular maintenance of the channel depth at 18.5 meters (msl), as it is crucial for the port's success as a regional shipping hub.

Policy Measures

The GoB may prioritize the completion of international and regional projects like the Trans-Asian Railway (TAR), Asian Highways, BBIN, and BMIC to ensure the Matarbari Deep Seaport (MDSP) is well-connected to key regions such as Northeast India, Nepal, Bhutan, and China's Yunnan Province. The GoB may implement competitive yet sustainable tariff regulations for MDSP, offering incentives on port dues and storage rent for mother vessels during the first two years to offset extra detour costs. Further research on port tariff structures may be needed.

- Efforts may be initiated by the GoB to secure funding from international organizations like the World Bank (WB) and Asian Development Bank (ADB), highlighting MDSP's potential as a regional shipping hub.
- Diplomatic efforts may continue to convince Bhutan to sign a Memorandum of Understanding (MoU) for being connected with the BBIN Economic Corridor (EC).
- The GoB may introduce financial incentives to attract national and international companies to establish industries at the Moheshkhali Special Economic Zone.
- The GoB may declare a Landlord PPP model for the operation of the MDSP.

Human Resource Development

- The MDSP Port Authority may prioritize the recruitment of graduates from maritime universities for port management positions to improve efficiency.
- Short courses on various aspects of port management should be initiated by the Chittagong Port Authority (CPA) to develop a skilled workforce for MDSP.

Miscellaneous

- The port authority of MDSP is to maintain an 18.5-meter depth throughout the navigable channel and harbor through regular dredging to accommodate ships with a 16-meter draft.
- During the first phase of port development, efforts are to be made for incorporating automation in equipment procurement, such as Maritime Autonomous Surface Systems (MASS) for port operations and security.
- The current development plan may include modern port facilities such as Automated Guided Vehicles (AGVs), automated cranes for container handling, and advanced logistics management systems.
- After the completion of MDSP terminals and the procurement of equipment by 2027, the port authority is to begin its operations, initially using river routes, if the road construction is not complete in due time.

| Table 5: Action Plan for Commencing Operation of MDSP as a Regional Shipping Hub | | | |
|---|--|------------|---------------------------|
| Project | | Org | Target to Complete |
| Immediately | Commence Construction of Matarbari Port Access Road | RHD | 2027 |
| | Commence Construction of 460x300 meters jetties | CPA | 2026 |
| | Commence Construction of Matarbari North South Connecting Road | CPA | 2026 |
| Short Term | Promulgation of new Tarrif for MDSP | CPA | 2025 |
| | Procurement of advanced hi-tech equipment for automation | CPA | 2026 |
| | Recruitment of fresh graduates from Maritime University | CPA | 2026 |

| Table 5: Action Plan for Commencing Operation of MDSP as a Regional Shipping Hub | | | |
|---|---|------------|---------------------------|
| Project | | Org | Target to Complete |
| Long Term | Commence Matarbari-Chakoria DG Railway Link Project | BR | 2029 |
| | Construction of ICD | CPA | 2029 |
| | Establish industries at the Moheshkhali Special Economic Zone | CPA | 2030 |
| | Collect Funding from WB/ADB for commencing the project | MOFA | 2028 |
| | Initiate diplomatic efforts to start international and regional project like Asian Highway, TAR, BBIN, BCIM for connecting MDSP | MOFA | 2030 |
| Source: MDSP | | | |

Conclusion

A regional port's success hinges on efficient operations, low costs, and high-quality services. Therefore, the Government of Bangladesh (GoB) must effectively implement its plans to capitalize on the opportunity to make MDSP a regional shipping hub. Given the port's developmental stage, infrastructure projects cannot be executed in isolation; a coordinated regional approach targeting specific areas is essential. Initiatives like the Asian Highway, BBIN, and BMIC, which aim to connect MDSP, need prompt implementation. National projects such as the Matarbari Port Access Road, North-South Port Connecting Road, and Matarbari-Chakoria DG Rail Link require careful attention, especially regarding funding and land acquisition. Port authorities must focus on improving operational efficiency, including reducing turnaround times, refining the port management model, and developing a skilled workforce to attract shipping lines and global traders.

Additionally, port costs-like dues, deviation expenses, and feeder service charges-must stay competitive with regional hubs such as Colombo and Singapore. While further research is needed to determine optimal tariffs, offering competitive port dues could help offset additional deviation costs, encouraging major shipping lines to use MDSP.

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EXPLORING THE LIVELIHOODS OF STREET VENDORS IN DHAKA CITY

Air Commodore Kazi Iqbal Karim
GUP, ndc, fawc, psc, GD(P)

Introduction

Street vending is a critical part of urban economies worldwide, providing livelihoods for millions in developing countries like Bangladesh. In Dhaka City, street vendors form a significant part of the informal economy, offering essential goods and services to a large population. Their livelihoods are often precarious, balancing income, occupational status, and household income sources. Many street vendors in Dhaka have migrated due to economic factors such as unemployment and poverty. Despite facing challenges like limited resources, they exhibit resilience through strategies like flexible hours, diversified products, and customer relationships. Their livelihoods contribute significantly to the city's economy and culture. While previous research has explored street vending in Dhaka, a comprehensive understanding of their livelihoods remains elusive. This lack of knowledge hinders policymakers and support organisations from effectively addressing their needs.

Understanding street vendors' livelihood strategies, challenges and opportunities can provide valuable insights to policymakers, urban planners, NGOs and researchers. This research can inform efforts to advocate for legal recognition, develop tailored social protection programs and create inclusive urban spaces. It can also contribute to the existing body of knowledge on street vending by providing nuanced insights into their socio-economic dynamics, strategies and experiences.

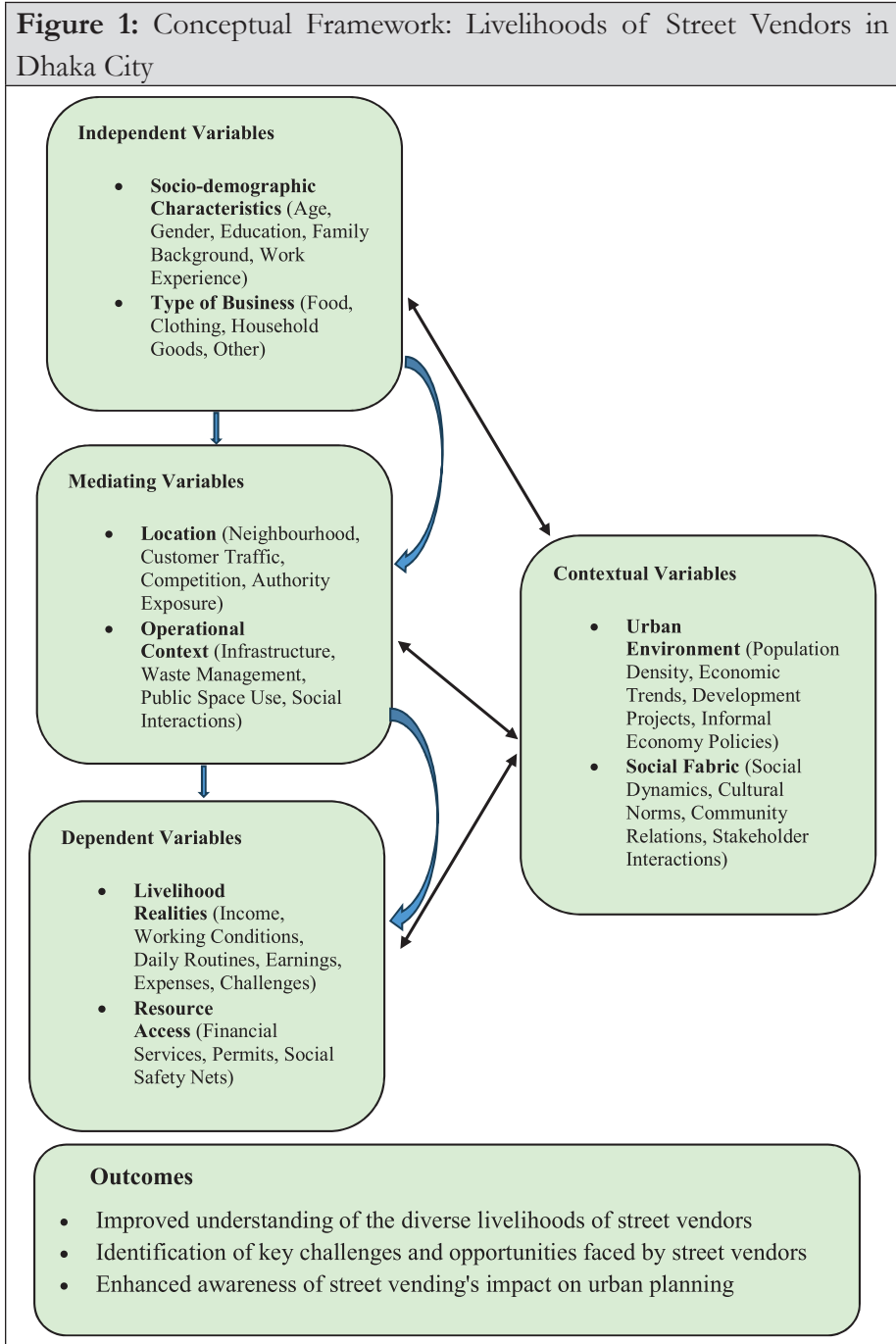
Due to the pervasive nature of street vending and the lack of a comprehensive census, this research is limited to a specific study area and a selected number of vendors. However, it provides a foundation

for addressing broader issues related to street vending in Dhaka through future studies. In view of these discussions, the objectives of the present study are as follows:

- Identify the various types of street vending businesses operating across Dhaka City.
- Examine the livelihoods of street vendors in the context of their migration scenarios, demographic characteristics and socio-economic status.
- Identify challenges faced by street vendors and explore their coping strategies.
- Analyse the impact of street vending on the urban environment and social fabric of Dhaka City.
- Recommend plans and policy implications for regulating and supporting street vendors in Dhaka City.

This study employs a conceptual framework to explore the livelihoods of street vendors in Dhaka City. Key variables include socio-demographic characteristics (e.g. age, gender), type of business, livelihood realities (e.g. income, working conditions), resource access (e.g. loans, permits), location, operational context (e.g. infrastructure), urban environment and social fabric. By examining relationships between these variables, the study aims to understand the diverse livelihoods of street vendors, identify key challenges and opportunities and assess the impact of street vending on the urban environment and social fabric.

Figure 1: Conceptual Framework: Livelihoods of Street Vendors in Dhaka City



Methodology

This research has employed a mixed approach to gain a rich and distinct understanding of the lived experiences of street vendors in Dhaka City.

Study Area

The study focused on four areas in Dhaka City: Mirpur 10, Kochukhet, New Market and Farmgate. These areas were chosen due to their diverse characteristics, representing different urban landscapes and economic contexts. The study was conducted from April to June 2024.

Data Collection

Surveys through Structured Questionnaire. A quantitative survey was conducted in person in Bengali, the primary language of Dhaka. The survey questionnaire was administered to 35 street vendors in each of the following areas: Mirpur 10, Kochukhet, New Market and Farmgate.

Key Informant Interviews. Key Informant Interviews focused on themes directly contributing to the study's objectives. Interviews with experts from academia, government, and development organisations provided diverse perspectives on street vending in Dhaka City. The analysis revealed valuable insights into challenges, opportunities and potential solutions for improving street vendors' livelihoods and promoting inclusive urban development.

Focus Group Discussions. Two focus group discussions (FGDs) were conducted in the Mirpur and New Market areas to gather insights into street vending activities. Participants included ward councillors, street vendors, city corporation officials, law enforcement officials and BRAC representatives. Key themes discussed during the FGDs were:

- **Types of Street Vending Businesses.** Shoes, cosmetics, clothing.
- **Livelihoods of Street Vendors.** Migration, family, daily challenges.

- **Challenges Faced by Street Vendors.** Eviction, extortion, financial insecurity, uncertainty.
- **Impact of Street Vending on Urban Environment.** Role in maintaining public spaces and contributing to the economy.
- **Recommendations for Plans and Policy Implications.** Regulation, training, and support for street vendors.

On-site Observations. The researcher observed street vendors in Dhaka City to gather qualitative data on businesses, locations and environmental impacts. Field notes were also taken to document daily routines, interactions and the overall context of street vending.

Sampling Strategy

Purposive sampling has been employed to select research participants. This approach allowed for the selection of vendors who represent the diversity of the street vending community in Dhaka City, which ensured geographical variations, representation of a range of vending businesses and diversity of demographics.

Data Analysis

Qualitative Analysis. Qualitative analysis used thematic analysis to examine street vendors' livelihoods, challenges, coping mechanisms and urban planning context. This involved a detailed content analysis of focus group data and relevant literature.

Quantitative Analysis. A quantitative survey of 140 Dhaka City street vendors examined socio-demographic characteristics, business types, livelihoods, resource access, operational factors and urban context. The survey analysed independent variables (age, gender, education, etc.) against dependent variables (income, working conditions, challenges).

Literature Review

The current literature review aims to critically analyse the existing literature on the different aspects of street vending in general, with special emphasis on Dhaka City. It justifies the study's theoretical and conceptual framework, explores street vendor livelihoods and identifies knowledge gaps.

Literature Reviewed

Portes and Haller (1994). The informal economy is complex and simple, found in daily life. **Bhowmik (2001):** Street vending is a natural market driven by social needs. Vendors are often marginalised and driven into the informal sector. The study provides a detailed analysis of vendors in seven Indian cities. **Etzold et al. (2013):** Street food vending provides livelihoods for Dhaka's urban poor, offering economic benefits, social networks and upward mobility opportunities. The study recognises the importance of street food vending in urban economies and planning.

Islam et al. (2019). Street garment vendors in Dhaka face economic difficulties (low income, irregular earnings, limited credit), social and legal challenges (harassment, discrimination, limited social security), and limited access to resources (housing, healthcare, education). These limitations hinder their ability to improve their livelihoods. **Jamir and Pongen (2022):** Educated Street vendors in Nagaland had wider business ideas, better customer interaction, and earned twice as much as uneducated vendors. **Solesbury (1999):** Sustainable Livelihood Approach (SLA) is a framework for understanding how people cope with poverty. It considers multiple assets (physical, financial, human, social, and natural capital). SLA can inform policy decisions by emphasising sustainable livelihoods.

Bourdieu (1986). Social capital (networks, relationships) is important for accessing resources and opportunities. This theory helps understand the livelihoods of street vendors. **Husain et al. (2015):** Street vendor income depends on products, location, volume and terms of trade. **Lefebvre**

(1974): Space is a social product shaped by social actors. Street vendors contribute to urban space production through their activities. Saha (2011): Street vendors face challenges in the informal sector. Saha explores the relationship between urban governance and street vending, focusing on policies and opportunities for improvement.

Detailed Area Plan (2022-2035). Proposes establishing designated vending zones to reduce congestion and conflict, providing a more organised environment for street vendors. BRAC Institute of Governance and Development: Recommends improvements to infrastructure in vending zones, such as providing basic amenities, to enhance working conditions and improve street food hygiene and safety.

Research Gap Derived from Literature Review

Existing research has gaps in understanding the diverse experiences of street vendors in Dhaka City. A comprehensive study is needed to address these gaps and provide valuable insights.

Findings

Types of Vending Businesses vis-à-vis Average Livelihoods

The survey found a wide range of products sold in Dhaka streets. Twelve common types were analysed in the research. Vendors' average initial investment, monthly income and daily profit varied by product type. For most of the products, vendors have lower margins. Vegetable vendors had the lowest margins. Cloth and Shoe vendors showed a wider variation in investment-income-profit profiles. Only for Books, maximum vendors were found with a reasonable income profile.

| Table 1: Types of Vending Businesses vis-à-vis Average Livelihoods | | | | | | |
|--|----------------------------|------------|------------------------|------------|----------------------|------------|
| Types of Vending Businesses | Average Initial Investment | | Average Monthly Income | | Average Daily Profit | |
| | Taka | Respondent | Taka | Respondent | Taka | Respondent |
| Fruits (18) | Less than 10,000 | 12 | Less than 20,000 | 14 | 300-500 | 9 |
| | 10,000 - 30,000 | 4 | 21,000-40,000 | 2 | 500-700 | 5 |
| | 71,000 -100,000 | 1 | 41,000-60,000 | 1 | 1000 or more | 4 |
| | More than 100,000 | 1 | 81,000-100,000 | 1 | - | - |
| Vegetable (11) | | | | | Less than 300 | 1 |
| | Less than 10,000 | 11 | 20,000 or less | 11 | 300-500 | 9 |
| | | | | | 500-700 | 1 |
| Fish (5) | Less than 10,000 | 1 | | | 300-500 | 3 |
| | | | | | 500-700 | 1 |
| | 10,000 - 30,000 | 4 | 20,000 or less | 5 | 700-900 | 1 |

| Table 1: Types of Vending Businesses vis-à-vis Average Livelihoods | | | | | | |
|--|----------------------------|------------|------------------------|------------|----------------------|------------|
| Types of Vending Businesses | Average Initial Investment | | Average Monthly Income | | Average Daily Profit | |
| | Taka | Respondent | Taka | Respondent | Taka | Respondent |
| Street Food (18) | Less than 10,000 | 14 | 20,000 or less | 12 | 300-500 | 10 |
| | 10,000 - 30,000 | 4 | 21,000-40,000 | 6 | 500-700 | 4 |
| | | | | | 1000 or more | 4 |
| Tea/ Cigarettes (8) | Less than 10,000 | 6 | 21,000-40,000 | 7 | Less than 300 | 2 |
| | 10,000 - 30,000 | 1 | 41,000-60,000 | 1 | 300-500 | 5 |
| | 71,000 – 100,000 | 1 | - | - | 1000 or more | 1 |
| Home Decor Items (9) | Less than 10,000 | 2 | 20,000 or less | 9 | 300-500 | 8 |
| | 10,000 - 30,000 | 7 | | | 500-700 | 1 |
| | | | | | Less than 10,000 | 1 |
| Kitchen Utensils (7) | 10,000 - 30,000 | 4 | 20,000 or less | 6 | 500-700 | 2 |
| | 31,000 – 50,000 | 1 | 21,000-40,000 | 1 | 300-500 | 1 |
| | 51,000 – 70,000 | 1 | | | 1000 or more | 1 |

| Table 1: Types of Vending Businesses vis-à-vis Average Livelihoods | | | | | | |
|--|----------------------------|------------|------------------------|------------|----------------------|------------|
| Types of Vending Businesses | Average Initial Investment | | Average Monthly Income | | Average Daily Profit | |
| | Taka | Respondent | Taka | Respondent | Taka | Respondent |
| Bags (6) | Less than 10,000 | 3 | 20,000 or less | 3 | | 3 |
| | 31,000 – 50,000 | 1 | 21,000-40,000 | 1 | | 1 |
| | 71,000 – 100,000 | 1 | 41,000-60,000 | 2 | 1000 or more | 2 |
| | More than 100,000 | 1 | | | | |
| Cloths (27) | Less than 10,000 | 10 | Less 20,000 | 14 | 300-500 | 11 |
| | 10,000 - 30,000 | 5 | 21,000-40,000 | 9 | 500-700 | 5 |
| | 31,000 – 50,000 | 3 | 41,000-60,000 | 4 | 700-900 | 1 |
| | 71,000 – 100,000 | 5 | - | - | 1000 or more | 10 |
| | More than 100,000 | 4 | - | - | - | - |
| | Less than 10,000 | 5 | 20,000 or less | 9 | Less than 300 | 1 |
| Shoes (14) | 10,000 - 30,000 | 5 | 21,000-40,000 | 4 | 300-500 | 8 |
| | 31,000 – 50,000 | 1 | 41,000-60,000 | 1 | 500-700 | 2 |
| | 51,000 – 70,000 | 1 | - | - | 700-900 | 2 |
| | 71,000 – 100,000 | 2 | - | - | 1000 or more | 1 |

| Table 1: Types of Vending Businesses vis-à-vis Average Livelihoods | | | | | | |
|--|----------------------------|------------|------------------------|------------|----------------------|------------|
| Types of Vending Businesses | Average Initial Investment | | Average Monthly Income | | Average Daily Profit | |
| | Taka | Respondent | Taka | Respondent | Taka | Respondent |
| Cosmetics/ Jewellery (10) | Less than 10,000 | 6 | 20,000 or less | 7 | 300-500 | 5 |
| | 10,000 - 30,000 | 2 | 21,000-40,000 | 2 | 500-700 | 2 |
| | 31,000 – 50,000 | 1 | 41,000-60,000 | 1 | 700-900 | 2 |
| | 51,000 – 70,000 | 1 | - | - | 1000 or more | 1 |
| Books, News Paper (7) | Less than 10,000 | 2 | 20,000 or less | 2 | 300-500 | 3 |
| | 10,000 - 30,000 | 1 | | | | |
| | 31,000 – 50,000 | 1 | 21,000-40,000 | 5 | 700-900 | 3 |
| | 71,000 – 100,000 | 1 | | | | |
| | More than 100,000 | 2 | | | | |
| | More than 100,000 | 1 | | | 1000 or more | 1 |

Source: Developed by the author from data spreadsheets obtained from Field Survey

Socio-Economic Conditions of the Street Vendors

Table 2 shows that vendor household sizes are generally 5-6 people, except for graduates (rarely found) with smaller families. Education level correlates with higher investment, income and daily income. Illiterate to class 10 vendors earn under 20,000 monthly, while SSC and above earn 20,000-40,000. Work hours are consistently long (12+ daily, 21-28 monthly), with little data on graduates.

| Table 2: Socio-Economic Conditions of the Street Vendors | | | | | | | |
|---|--------------------------------|------------------------|----------------------------|------------------------|----------------------|-------------------------------|--|
| Literacy | No of Vendors/ (Percentage) | Average household size | Average Initial Investment | Average Monthly Income | Average Daily Income | Average Working Hours per day | Average number of monthly working days |
| Illiterate | 16 (11%) | 5 to 6 | Less than 10,000 | 20,000 or less | 300 to 500 | More than 12 hours | 21-28 days |
| Class 1-5 | 61 (43%) | 5 to 6 | 10,000 to 30,000 | 20,000 or less | 500 to 700 | More than 12 hours | 21-28 days |
| Class 6-10 | 45 (32%) | 5 to 6 | 20,000 to 30,000 | 20,000 or less | 500 to 700 | More than 12 hours | 21-28 days |
| SSC | 9 (6%) | 6 | 30,000 to 50,000 | 20,000 to 40,000 | 700 to 900 | More than 12 hours | 21-28 days |
| HSC | 7 (5%) | 5 to 6 | 50,000 to 70,000 | 20,000 to 40,000 | More than 1000 | More than 12 hours | 21-28 days |
| Graduate & Above | 2 (1.5%) | 4 to 5 | 50,000 to 70,000 | 20,000 to 40,000 | 500 to 700 | 8 to 12 hours | All days in a month |

Source: Developed by the Author from Data Spreadsheets Obtained from Field Survey

Financial Source of Street Vendors

Out of 140 respondents, 67 are found self-financed, and 28 vendors receive help from family members. This group was found to be cautious of not getting into any formal or informal loan trap. Relatively a smaller number of vendors take loans either from individuals (27) or from banks/cooperatives (16). An insignificant number of respondents (only 2) was found to practice Pay after Sale basis business.

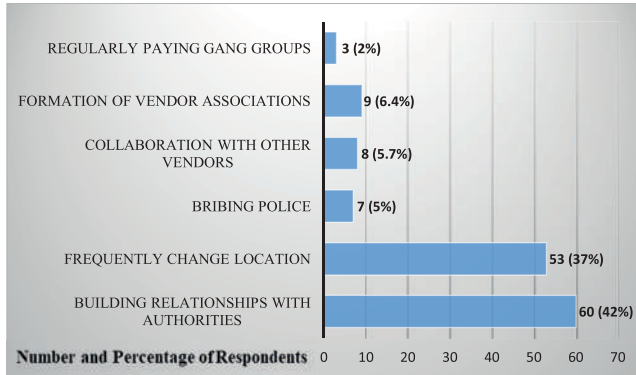
Main Challenges Faced by Street Vendors

During the survey, the vendors have identified numerous factors as main challenges. For a better understanding of the respondents, a wide variety of options were given to them. 50 (36%) out of 140 vendors identified police harassment as their main challenge, while inadequate infrastructure and facilities (25), competition (22), financial instability (14) and theft/extortion (9) remain as their diversified responses in describing their challenges in street vending.

Coping Strategy Adopted by Street Vendors and Motivating Factors

Vendors primarily use relationships (42%) and relocation (37%) to adapt and thrive. Other survival tactics include bribing police (5%), vendor collaboration (5.7%), associations (6.4%) and gang payments (2%).

Figure 2: Response on Coping Strategies



Source: Developed by the Author from Data Spreadsheets Obtained from Field Survey

Environmental Impacts (Waste Management, Public Space Utilization)

There are complimentary effects of sanitation, pollution and waste management associated with the street vending business. 79 vendors out of 140 responded that they face sanitation, pollution and waste management problems in and around their workplaces, while a good number (61) said ‘no’. Area-wise survey reveals that New Market Area (27) faces this problem the most while Kochukhet Area (5) the least.

Social Dynamics and Urban Planning and Policy Development

Despite challenges, vendors foster positive social interactions, relationships and conflict avoidance (Table 3). They value good customer relations (92%) and authority interactions (83%). Vendors also support regulations, licensing and time-space management, advocating for relocation (61), new employment (31) and legal frameworks (24) to improve urban development.

| Table 3: Response to Social Interaction and Orderly Ways of Conducting Businesses | | | |
|---|----------------------|----------|------------|
| Questions | Indicators | Response | Percentage |
| How do you rate your relationship with customers while dealing with them? | Excellent | 7 | |
| | Good | 130 | 92% |
| | Average | 2 | |
| | Didn't Reply | 1 | |
| How would you rate your interactions with authorities (police, city officials, etc) regarding street vending regulations? | Excellent | 1 | |
| | Good | 117 | 83% |
| | Average | 21 | |
| | Didn't Reply | 1 | |
| Would it be beneficial if the authorities set you a certain time or place for business? | Yes | 139 | 99% |
| | No | 0 | |
| | Didn't Reply | 1 | |
| What changes or improvements do you propose to alleviate the challenges faced by street vendors? | Relocation | 61 | |
| | Get a new employment | 31 | |
| | Legal Framework | 24 | |
| | Receive a subsidy | 24 | |
| Source: Developed by the Author from Data Spreadsheets Obtained from Field Survey | | | |

Key Findings from Focused Group Discussions with Street Vendors

Economic Role and Challenges

- **Economic Importance.** Street vendors provide affordable goods to many residents, especially low and middle-income earners. They offer essential items not always available in traditional markets.

- **Economic Hardships.** Despite average incomes, vendors struggle to meet basic needs due to housing costs and other expenses. Peak seasons offer temporary relief.
- **Lack of Savings.** Vendors lack savings or assets to transition to agriculture or formal employment, making them vulnerable to future challenges.
- **Extortion and Harassment.** Vendors face regular extortion, frequent evictions without valid reasons and lack of financial protection.

Government Initiatives and Vendor Perspectives

- **Support for Government Initiatives.** Vendors are willing to support government initiatives for alternative street markets and pay a security deposit. They favour designated areas with stalls and shutters.
- **Need for Legal Framework.** Vendors emphasised the need for a clear legal framework to regulate their activities and protect their livelihoods.

Future Outlook and Recommendations

- **Transition to Formal Occupations.** Vendors expressed a desire to transition to formal occupations but faced challenges due to a lack of skills and capital.
- **Government Support.** Vendors urged the government for assistance to secure their livelihoods and facilitate a transition to formal employment.
- **Enhanced Cooperation.** Stakeholders need to work together to address the challenges faced by street vendors and find sustainable solutions.

Key Findings from Key Informant Interviews

Street Vendor Planning and Policy

- **Effectiveness of Street Markets.** The effectiveness of street markets varies by location. Vibrant areas like New Market attract more

customers, while less familiar areas like Manik Mia Avenue may require more effort to attract customers.

- **Policy Formulation.** Developing policies for street vending requires understanding the informal economy, urban planning and public space management. In the absence of formal policies, initiatives like public awareness campaigns can be implemented.

Challenges and Opportunities

- **Economic Challenges.** Vendors face difficulties in managing livelihoods in Dhaka due to high living costs.
- **Stakeholder Influence.** Powerful individuals may benefit from street vending, making regulation challenging.

Recommendations

- **Comprehensive Approach.** Policies should address the economic challenges faced by street vendors, their role in the informal economy, and the need for urban planning and public space management.
- **Stakeholder Involvement.** Public representatives, NGOs and other stakeholders should be involved in developing and implementing solutions.
- **Gradual Implementation.** A phased approach, starting with pilot projects and public awareness campaigns, can help build trust and support for regulatory measures.

Key Findings from On-Site Observations

Locational Characteristics

- **Farmgate.** A diverse range of products due to its high foot traffic.
- **Mirpur-10.** A more structured environment due to recent formalisation efforts.

- **Kochukhet.** Primarily mobile vendors selling fruits, vegetables and street food. Many low-income garment workers are customers.
- **Dhaka New Market.** A popular area for side shopping, attracting high and middle-income customers.

Challenges Faced by Hawkers

- **Extortion.** Hawkers pay daily, weekly and monthly fees to local linemen or collectors.
- **Fee Distribution.** Collected fees are shared among various entities.
- **Vendor Coping Strategies.** Coping strategies vary by location. Mobile vendors in Kochukhet avoid the police by moving quickly.

Discussion

Urban Informality and Street Vending Business in Dhaka City

Urban informality refers to economic activities, settlements, and land uses that operate outside formal legal and regulatory frameworks. The informal economy in Dhaka, especially street vending, has grown significantly but remains largely untraced. Despite its informality, street vending plays a vital role in the city's economy. While the BBS Labor Force Survey 2022 provides national-level data on the informal economy, specific figures for street vendors in Dhaka City are lacking. Estimates vary widely, highlighting the need for more accurate data to inform policy development.

Livelihood Analysis of Street Vendors

The livelihoods of street vendors in Dhaka City are characterised by a mix of challenges and opportunities. Many vendors migrate to the city seeking better economic prospects, but their earnings are often low, and their working conditions can be challenging. Factors such as gender, age, education, family size and migration status influence their livelihoods. Street vendors offer a variety of products catering to the diverse needs of

Dhaka's low-income population. Their choice of products and location are influenced by factors like demand, accessibility and competition.

Most street vendors in Dhaka are unemployed or have limited skills. Many migrate from rural areas to seek better opportunities. They are typically aged 21-50 and married, with limited education. Despite this, many invest and earn satisfactory incomes. Most vendors are mobile and offer diverse products. Pedestrian traffic, high sales and proximity to shopping centres influence their business locations.

Analysis of Key Challenges and Coping Strategies

Street vendors in Dhaka face numerous challenges, including police harassment, inadequate infrastructure, competition, financial instability and health risks. Police harassment is a significant obstacle, hindering their operations. Inadequate infrastructure and facilities further complicate their work. Competition from other vendors impacts customer acquisition and pricing. Financial instability, with inconsistent income and limited access to credit, is a major concern. Additionally, health and safety risks are prevalent in their working environment.

To cope with these challenges, vendors often rely on building relationships with local authorities to gain protection and preferential treatment. Alternatively, frequent location changes can help avoid conflicts, competition and regulatory issues. By employing various coping strategies, vendors navigate complex socio-economic conditions and maintain their businesses. Their ability to survive and thrive is influenced by their sociodemographic characteristics, which contribute to their diverse livelihood abilities.

Analysis of the Impact of Street Vending on Urban Planning

Street vending can be both beneficial and problematic for urban environments. It can contribute to a vibrant atmosphere and provide

employment opportunities, but unregulated vending can lead to congestion and safety concerns. Balancing these aspects requires careful planning and management. Government regulations have received mixed responses from vendors, with some supporting designated spaces and others concerned about income loss. Successful implementation depends on legal support and vendor compliance.

Street vendors in Dhaka face challenges like waste management and inadequate public space. However, they generally maintain good customer relations and are willing to cooperate with authorities for orderly development.

Policy Implications

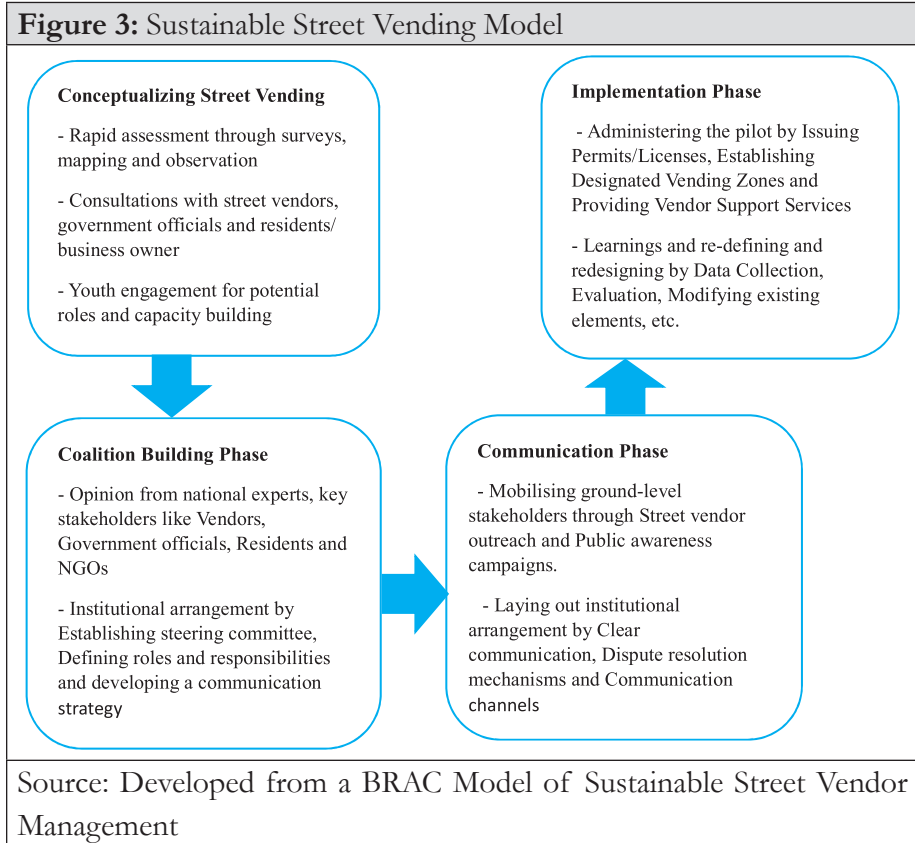
The successful integration of street vendors into the formal economy requires a comprehensive and meaningful approach. Key policy implications include:

- **Economic Inclusion.** Street vendors play a crucial role in economic activity, contributing significantly to local economies. However, their informal status limits their potential. To harness their full potential, formalisation is essential. This involves creating a comprehensive database, implementing a permitting system and leveraging the expertise of NGOs to provide microfinance and training. By supporting street vendors, we can foster inclusive growth and development.
- **Revitalising Public Space Management.** Space is not merely a physical entity but a social construct shaped by our values and practices. Public spaces like parks and plazas are designed and used to reflect societal norms. Urban planning decisions influence the availability, location and design of public spaces. Effective public space management ensures these spaces are safe, enjoyable and functional. While street vendors lack legal recognition in Bangladesh, they can be integrated into public space management to contribute to urban vitality and economic activity.

- **Vendor Management as per Detailed Area Plan (DAP).** Dhaka Structure Plan 2016-2035 recognises the significant role of the informal sector in the city's economy. It proposes designated spaces for vendors, outlines strategies for implementation and emphasises the importance of vendor management. During the entire research, no agency was found to be aware of the above plan.
- **Evolutionary Livelihood Approach.** There is a need for a gradual approach to street vendor livelihoods. A revolutionary approach may lead to conflict and resistance. Policymakers should adopt an anthropological approach, considering cultural norms and behavioural patterns. Gradual changes, such as time restrictions or regulated set-ups, should be implemented with careful consideration. A focus on good governance, rather than rigid policies, can foster a more effective and enduring solution.
- **Integrating Street Vending in Urban Planning.** Integrating street vendors into urban planning can enhance public spaces. By considering factors like front-edge zones, buffer zones and furniture zones, cities can create spaces that accommodate vendors' needs. As Jan Gehl suggests, roads serve multiple purposes, including public interaction and utility. Street vendors can contribute to this public sphere by providing services, improving social interaction, and even aiding in public space maintenance.

Outlining a Sustainable Street Vending Model

Building a sustainable street vending model requires a multi-phase approach. It involves research, stakeholder engagement, public support building and effective implementation. An extract from BRAC's proposed model outlines key elements for a sustainable street vending model.



Implementing a Sustainable Street Vending Model

A successful implementation strategy for a sustainable street vending model in Dhaka City requires a multi-phased approach.

Short-Term Implementation

- **Public Space Design.** Conduct a survey to assess public spaces and develop a suitable design for street vending.
- **Operational Rules.** Establish clear rules regarding operating times, designated vending spaces, operating days and vendor registration.

Mid-Term Implementation

- **Alternative Employment.** Develop a plan to provide alternative employment opportunities for vendors, such as motorbike driving, construction or security-related jobs.
- **Transition Support.** Offer financial assistance, training and support to facilitate a smooth transition to alternative occupations.

Long-Term Implementation

- **Vendors' Association.** Form a vendors' association to represent their interests and provide support services.
- **Social Welfare.** Establish a system for vendors' savings and explore options for healthcare and accommodation facilities.

Effective governance and public participation are crucial for sustainable street vending. Public-private partnerships and community engagement can facilitate implementation. By adopting this approach, Dhaka City can create a sustainable and inclusive street vending model.

Recommendations

Based on the findings of the research, the following recommendations are made:

- **Economic Inclusion of Street Vendors.** To integrate street vendors, establish a comprehensive database and implement a permitting system. Leverage NGOs for support services and promote access to microfinance. Implement cashless payment systems like the Bangla QR Code to facilitate economic inclusion.
- **Public Space Management and Urban Planning.** To create inclusive and vibrant public spaces, recognise public spaces as social constructs. Develop policies to integrate street vendors into public space planning. Establish designated vending zones and improve public space amenities. Enforce regulations fairly to ensure a balanced environment.

- **Implementing a Vendor Management Strategy Based on the DAP-2022-2035.** Implement a comprehensive vendor management strategy aligned with the DAP-2022-2035.
- **Adopt an Evolutionary Approach to Street Vendor Livelihoods.** To improve street vendor livelihoods, policymakers should consider cultural norms and social context, implement gradual changes, involve communities, explore alternative livelihoods and provide support services.

Conclusion

The study explores the complex world of street vending in Dhaka City, highlighting its significant role in the urban economy. It reveals the diverse nature of street vending, shaped by factors like product variety, location and vendor profiles. The research emphasises the importance of location and the need for comprehensive data to inform effective policies. Additionally, the study examines the challenges faced by street vendors, including poverty, unemployment and lack of formal recognition. Despite these challenges, vendors demonstrate remarkable resilience and adaptability. The study underscores the need for supportive policies to address these challenges and improve the livelihoods of street vendors.

The study examines the intricate relationship between street vending and the urban environment, recognising both its economic potential and challenges. It emphasises the importance of effective public space management and a balanced approach that considers the rights of vendors and the city's overall well-being. The study proposes strategic approaches to integrate street vendors into the formal economy and urban planning, including economic inclusion, urban planning integration and a gradual evolutionary approach. Formalisation, collaboration and social support are crucial for the successful implementation of these strategies. By adopting these measures, Dhaka City can harness the potential of street vending while enhancing the overall urban environment.

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IMPACT OF INDIA-CHINA RELATIONS ON ECONOMIC SECURITY OF SOUTH ASIAN COUNTRIES: THE CASE STUDIES OF SRI LANKA, NEPAL AND MALDIVES

Air Commodore Suresh Kumar Tiwari, ndc

Introduction

South Asia's location astride major Sea Lines of Communication (SLOCs) renders it a crucial geostrategic importance, and a perpetual arena for struggle to gain influence. India, the resident power and China, the outsider are also heavily invested, though for different reasons. The two, amongst the largest economies of the world share a contested border measuring a little under 4000 Km, and a source of distrust and mistrust. While India guided by its philosophy of 'vasudhaiv kutumbkam' (entire world is a family) has professed to take along all regional countries in true spirit of the 'three mutuals- mutual respect, mutual sensitivity and mutual interest'; China appears intent on expanding into the region with a view to contain, curtail and eventually displace India from its traditional area of influence in its march to global dominance.

South Asian countries have historical deep-rooted connections with India. India has always been the first responder during regional crises. By virtue of its size, and economy, it has enjoyed a preeminent position in the region. The situation however, has been complicated by the entry of China. Its focussed and persistent attempts at cultivating the South Asian countries through economic largesse has introduced uncertainties. The increasing economic dependency of the focus countries; Sri Lanka, Nepal and Maldives on readily available Chinese loans does not bode too well for these countries' strategic autonomy. These so called 'no-strings' attached loans, presumably without preconditions and with implied assurance of

non-interference in internal affairs, are not without their own significant costs. By cultivating Sri Lanka and Maldives, China aims to secure the SLOCs besides edging out India and by cultivating Nepal onto its side, it aspires to break the strong cultural and civilisational bonds between the two. However, to achieve the intended goal, it must ensure the erosion of the economic sovereignty and strategic autonomy of these nations. Therein lies the danger for the focus countries in particular but South Asia in general. This paper attempts to briefly review India-China relations with an emphasis on South Asia, especially their economic engagement with the focus countries. It suggests policy considerations for the focus countries to ensure continued economic benefits while safeguarding strategic autonomy.

Review of Literature

There is scant literature on impact of the India-China relations on economic security of South Asian countries. This paper will attempt to fill that gap. Bilateral relations between the two Asian giants have generally been distant when not adversarial. Notwithstanding occasional attempts at rapprochement, combination of confrontation, competition and cooperation persists. This view is shared by many scholars including Singh (2018), Denisov (2020) and Nga (2021). Denisov (2020, p. 225) terms “relations between India and China undoubtedly unique, representing something of a mixed type of ‘amity and enmity’ in international relations”. In the last half decade, there have been major friction points between the two at Doklam in Bhutan and skirmishes at Galwan valley in Ladakh. In the period before and since, there have been a number of goodwill interactions. The relationship lies somewhere between the utopian possibilities and achievable practicalities and is likely to remain competitive for the foreseeable future.

Economic security is perhaps second only to existential threat for a state. This overbearing desire can be leveraged by stronger economies to influence strategic decision making. It is clearly evident that “in countries like Sri Lanka, Nepal, Maldives, Bangladesh and Bhutan, China is hyper active and

controlling strategic assets and expanding its presence in the Indian Ocean region” (Singh, 2018, p. 55). Denisov (2020) takes a similar view pointing out that India sees a threat not only in the military potential of China, but also in the Chinese ‘smart power’ in the form of investments in the economies of its traditional partners. The threat of debt trap potential is also being increasingly realised by these countries (Singh, 2020). They need to be therefore aware of the dangers and put preventive measures in place.

Research Methodology

Qualitative Research methodology using quantitative data to supplement analysis and support arguments has been employed. Data collection methods include Key Informant Interviews with five scholars from four regional countries viz. Bangladesh, India, Nepal and Sri Lanka. Other sources include websites of governments, non-governmental entities, multilateral bodies, and books, papers, briefs, reports, monographs etc.

Theoretical/Analytical Framework

Factors involved in the research are the India-China relations and the ways, means and measures in which the focus countries get impacted by such relations; both leading to considerations for policy development. India-China relations as also engagement with focus countries have been viewed through the theoretical underpinnings of neo-realism/structural realism, though some aspects display the traits of liberalism, especially those of India-focus country relations. An anarchic international system motivates a state, especially one with the requisite wherewithal to accumulate as much power as possible in keeping with Mearsheimer’s (2001, p. 19) postulation that ‘states are almost always better off with more rather than less power’. This requires influence operations, military and economic engagement with target countries, and build up to a hegemonic position. China’s engagement with the South Asian countries also finds reflection in Kautilya’s Mandala Theory enunciated in the Arthashastra (Mishra

S., 2012). A realist approach can help explain the motives of China in enhancing such engagements beyond what would be considered normal in country-to-country bilateral relations.

Though Realism and economic interdependence appear to oppose each other; powerful states are increasingly considering economic engagement as an important ingredient of overall realist design as it offers greater opportunities for further consolidating the patron-client relationship with smaller countries through the veneer of interdependence. At the core of such interdependence lies economic dependence. With this understanding, drawing upon the security and economic paradigm of a big nation-small nation relationship, analysis of certain factors is assessed to be helpful in formulating meaningful policy responses. These factors are loans and grants, infrastructure investments, trade, soft power influence and, political play and policy interference.

Nature of India China Relations

In July 2020 while the world was learning to survive one of the deadliest diseases of modern times, the Covid-19; a group of Indian soldiers were fighting to survive the unilateral onslaught of a Chinese Army battalion in a remote corner of Indian territory of Ladakh. The Galwan valley skirmish, as the border conflagration between the two of the largest Armies of the world came to be referred to in the days to follow, claimed the lives of 20 Indian soldiers and at least four Chinese soldiers (BBC News, 19 February 2021). In many ways, the Galwan skirmish was symptomatic of the troubled India-China border management. With differing perceptions of where exactly the border runs, the patrols of the two Armies have often crossed each other's path while remaining on own territory. This has largely been managed peacefully. In the last decade or so however, the increasing belligerence of China demonstrated through coercive military action at multiple points along the border had put tremendous strain on the delicate balance. That it resulted in the loss of precious lives was most unfortunate. The latest thaw announced during Xi-Modi bilateral meeting

on the sidelines of 16th Brazil, Russia, India, China and South Africa (BRICS) summit at Kazan in Russia appears promising. Days to follow will test China's commitment and sensitivity to India's concerns.

On 01 April 1950, India became the first country outside the socialist bloc to establish diplomatic relations with China. Eager to please its large neighbour, it gave up its special rights in Tibet inherited from British, accepted one China policy, and even actively promoted China in the UN. The period of bonhomie and Hindi-Chini bhai-bhai through the early 1950s could not have foreseen the border war of 1962. Since the war, peace and tranquillity in the border areas have remained a challenge, while the bilateral trade has flourished. The multifaceted nature of this relationship is clear; ranging from cooperation on relatively benign issues of trade and commerce to hardened positions on sensitive issues like territorial integrity and regional influence. While competition is a reality, cooperation forced by geoeconomics and geopolitical compulsions provides the moderating influence. Ogden (2022, p1) calls this relationship resembling a 'double-edged sword, whereby elements of their interaction can be regarded as having concurrent benefits and liabilities'. One of the expressions of China's desire to dominate Asia is an increasing engagement with South Asian countries to encircle India in what has been referred to as 'string of pearls' by Juli MacDonald. Tran (2023, pp. 123-124) is unequivocal in claiming that "China's strategic interests in South Asia are undoubtedly motivated by a desire to counterbalance India's rising power and influence." India, in turn, views growing Chinese presence in its neighbourhood, especially the 'higher than mountains', 'deeper than oceans' and 'sweeter than honey' relationship with Pakistan, as a source of major security concern. China is not an internal actor in South Asia. It is not a 'resident power', but with steady and substantial economic engagement, it has acquired the stature of one, and a keen interest in reshaping and redefining the security architecture.

India-Focus Country Relations

India is the closest neighbour of all the three focus countries and it shares historical and cultural ties with all of them. Consequently, the diplomatic ties were established at the earliest available opportunity once the countries gained independence. Similarity of customs and traditions, food habits, language etc. with Nepal and Sri Lanka is astounding while that with Maldives is not distant. The close people to people connect is visible in many connectivity projects that India has launched. It was also reflected in the substantial Covid support including vaccines, medicines, medical equipment, testing kits etc. provided by India. In many cases, citizens of these countries were also airlifted in Indian aircraft from across the globe. India guided by its 'Neighbourhood First' policy has sought to maintain close and special relations with them. Significant assistance through loans and grants, currency swap agreements, deferment of loan liabilities etc. has also been provided by India from time to time and as per the requirement of each country. A large number of citizens from each of the countries reside in India and Indians in turn live and work in great numbers in the three countries. Economic ties span across varied sectors including connectivity, housing, health, infrastructure, education, agriculture etc. India also provides large number of scholarship slots to students from these countries. India is amongst the largest trading partners of all the focus countries besides being one of the biggest Foreign Direct Investment (FDI) contributors and source of tourists. The four countries share a broad understanding and similar views on major issues of international interest. There is extensive cooperation between India and each of the focus countries in the field of defence including supply of defence equipment, capacity building, military exercises, and training.

China-Focus Country Relations

China has diplomatic relations with the focus countries, all of whom are active participants in China's flagship project, Belt and Road Initiative (BRI), albeit with varying degree of involvement. Resultantly huge investments

have flowed in infrastructure projects like Hambantota and Colombo port city in Sri Lanka, Velana International Airport and desalination plants in Maldives, Pokhara International Airport and post- earthquake reconstruction projects in Nepal, to name a few. China provided substantial support during Covid through both commercial sale and grants for medical equipment, vaccines, and medicines. China enjoys highly positive image in the popular perception in these countries. China has sponsored many scholarships to students and has also opened Confucious centres in these countries. Besides being a very large source of economic assistance and developmental partner to each of these countries, China has been a big provider of FDI, loans and grants. Its economic engagement extends across infrastructure, power, education, trade and commerce etc. Trade imbalance which has always been in China's favour has been consistently growing. There has been rapid progress in the defence cooperation as well with China supplying defence equipment including fighter aircrafts and naval vessels, and providing training and some capacity building. Military exercises have also been a regular feature.

Analysis of Chinese Engagements: Enlarging Footprints

Expanding Influence

China and India have both invested in and provided financial and other assistance to the focus countries. However, the nature and characteristics of these investments has been contrasting. In some for instance, China's endeavour has been to displace the Indian companies with promise of faster and efficient completion, thus forcing the partner to choose one over the other (Pal, 2020). It is instructive to note that China has invested precious little in the economic development of Bhutan and does not support any of its security concerns through capacity building or funding provision, as Bhutan maintains a policy of strict neutrality (Tran, 2023). A low probability of strategic return on economic investment has kept China out of Bhutan. By implication, it is present where it senses strategic gains along with economic benefits. As per IMF data for 2013 to 2016, "China's

contribution to the public debt of heavily indebted poor countries nearly doubled from 6.2 percent to 11.6 percent.”

The Communist Party of China (CPC) wishes to put China at the centre of the world by 2049 and occupy a position of dominance. South Asia provides an attractive place to start with. Within South Asia, India must be tackled first because of the long period of a competitive relationship and possibility of it continuing endlessly. There is an old Chinese stratagem, one of 36 such, “hexiao kongda” meaning ‘cooperate with the small to counter the big’ (Kondapalli, S. (2024). Interview with the author). This appears to be playing in South Asia. PLA has consistently maintained a position that India wants to dominate Indian Ocean Region. Some in the government have opined that ‘Indian ocean is not for India’. India has never claimed ownership of Indian ocean, a proposition more laughable than outrageous. The assertion is perhaps to justify China’s active presence in the region. Under pressure from China’s aggressive expansion in the region, India has sought to invigorate its linkages with the focus countries. In terms of scale, scope and speed of engagement, India which hitherto had been considerably slow and even hesitant, appears to be catching up off late. As India bolstered by its recent policy interventions, and a whole of government approach seeks to reassert itself in the region, China even on a standalone basis may not be the best option for the focus countries, as evident in the following analysis.

Analysis of Chinese Loans and Grants

The clarity on bilateral loan arrangements involving China is inadequate. Chinese debt is however known to be dear, with interest rates being about three times of other bilateral arrangements (Ninan, 2022). It is also relatively inflexible in terms of other conditionalities like grace period and restructuring provisions. Possibility of Debt trap is a genuine concern. Sri Lanka being forced to lease Hambantota port to China for 99 years and being obliged to allow docking of spy ship Yuan Wang in disregard of India’s sensitivities is an example of economic dependence dictating strategic decision making (interview with Prof Amarasinha of Sri Lanka).

It is said that China not only provides the loans but also offers to do the backend formalities and the associated paper work (Pal, 2021), during which clauses are introduced to provide the lender with disproportionate benefits. Revenue sharing arrangement from Pokhara airport in Nepal, loans to private parties in Maldives with Maldivian sovereign guarantee are two of the many such instances. There are other cases where processes in focus countries have been sought to be subverted and officials bribed.

Analysis of Infrastructure Investments

China's preferred means of engagement is through infrastructure investments as part of BRI. This offers opportunities for intervention during project selection, tendering process, project implementation and enables control of the completion timeframe for maximum impact. There are multiple instances of Chinese companies taking undue advantage of inadequately drafted contracts to benefit themselves. There has also been a noticeable tendency to create infrastructure far in excess of actual requirements, by projecting unrealistic future growth. While China gets to invest more of its money, the project becomes unsustainable and economically unviable. Hambantota port in Sri Lanka and Gwadar in Pakistan stand out as classic examples of such faulty projection.

Analysis of Trade Data

China's trade with every one of the focus countries and indeed with most of the world is heavily tilted in China's favour. Adverse import-export balance of the focus countries vis-à-vis China has been continually rising impacting their current account deficit and leading to inflationary pressures. As can be discerned clearly from the tables placed below, their trade imbalance with China is high while that with India is moderate. China is also known to be indulging in economic muscle flexing. When Sri Lanka refused to accept shipment of Chinese organic fertiliser because of non-conformance to desired standards, the country was taken to arbitration

and made to cough up a significant amount in damages, notwithstanding more than two decades of close collaboration and economic engagement. India helped by providing one lakh ton of nano nitrogen fertiliser.

Table 1: Trade Data

| Volume of Trade: Focus Countries with China (in Million USD) | | | | | | |
|---|------------------|---------------|---------------|---------------|-----------------|---------------|
| YEAR | SRI LANKA | | NEPAL | | MALDIVES | |
| | EXPORT | IMPORT | EXPORT | IMPORT | EXPORT | IMPORT |
| 2016 | 215 | 4271 | 18 | 1247 | 0.1 | 286 |
| 2017 | 430 | 4189 | 22 | 1267 | 1 | 281 |
| 2018 | N/A | N/A | 22 | 1738 | 0.3 | 488 |
| 2019 | 257 | 4033 | 18 | 1940 | 0 | 469 |
| 2020 | 252 | 3582 | 6 | 1340 | N/A | N/A |
| 2021 | 306 | 5098 | 8 | 2383 | 0.02 | 324 |
| Volume of Trade: Focus Countries with India (in Million USD) | | | | | | |
| YEAR | SRI LANKA | | NEPAL | | MALDIVES | |
| | EXPORT | IMPORT | EXPORT | IMPORT | EXPORT | IMPORT |
| 2016 | 753 | 3825 | 395 | 5816 | 2 | 276 |
| 2017 | 790 | 4494 | 420 | 6520 | 3 | 284 |
| 2018 | N/A | N/A | 462 | 8237 | 3 | 287 |
| 2019 | 774 | 3830 | 660 | 7777 | 3 | 290 |
| 2020 | 654 | 3006 | 624 | 6257 | N/A | N/A |
| 2021 | 891 | 4741 | 1334 | 9584 | 6 | 318 |

Source: World Integrated Trade Solution @ <https://wits.worldbank.org/CountryProfile/en/Country>
 *Rounded off to nearest million

Analysis of Soft Power Influence

China has been proliferating its soft power, a major motivation being to break down the barriers imposed by its distinct language and culture which is alien to the South Asian countries. Nepal has seen mushrooming of Chinese Confucius institutes (Jha, 2024). Under influence of Chinese authorities, Nepalese schools have included Mandarin as one of the languages without the dealing ministry’s knowledge. China is leveraging its Buddhist cultural links amongst the Sinhalese community in Sri Lanka. While such multi-dimensional attempts at soft influencing by themselves

are harmless and even somewhat desirable as these promote harmony and mutual understanding; the underlying intent may not be as benign. China is learnt to be linking these with aid and assistance schemes and therein lies the concern.

Analysis of Political Play and Policy Interventions

It has been often remarked that lure and charm of China's investments and money emanates from their non-interference in internal affairs of a country. This is a fallacious argument borne out of inadequate understanding as the evidence is quite contrary. Bhatta (2018, pp. 8) while identifying political stability in Nepal as China's main concern goes on to remark, "China also wants to have a government loyal to it for its own security interests; this explains its deep interest in the internal affairs of Nepal." Chinese involvement in Nepalese politics extends to political funding and proactive mediation between the two left parties encouraging them to put up united front. Officials of Chinese companies engaged in Nepal are often seen in the ministries dealing with developmental activities, on the pretext of monitoring the progress on Chinese funded projects (Pal, 2021). China, itself a single party non-democratic nation has understood the functioning of democracies well. The political compulsions of parties in a democracy manifest in many different ways, one of them being the desire of being seen by the public as having delivered the promised public goods. Chinese are known to time their project completion just before elections to show the ruling dispensation in good light, with its obvious political implications.

Communist Party of China has tried to maintain a working relation with all communist parties in the region. Regular party-to-party ideological engagement across nations is not a widely accepted or practised polity in the wider world. This is a clear departure from norms with its own connotations. On the occasion of 100 years of CPC, 11 political parties of Sri Lanka issued a joint statement in July 2021 in highly deferential language, a portent of deeper network.

Managing External Relations for Economic Security: Policy Options for Sri Lanka, Nepal and Maldives

India and China are both involved in the three focus countries in multi-faceted ways, each being driven by its interests and strategic considerations which may not necessarily align or even converge. The focus countries consequently have a difficult task of navigating the troubled waters. India can provide the net security in the region. Its proximity, relative military power, strong economy and more importantly shared history, culture and outlook will always bestow a place of prominence. Any attempt to upset the obtained situation, especially if it has bearing on security, will invite counter response. India however, cannot provide all the resources required for genuine developmental needs of these countries. China can; at a higher cost. Evaluation of that cost by the focus countries is essential in the interest of their economic security and strategic autonomy. Over half of the interviewed scholars pointed to evidence of debt trap while all of them assessed moderate to high risk of economic dependency and erosion of strategic economy of the focus countries at the hand of China. This must become a very critical consideration therefore, in the choices made by them. Some factors which must be considered in policy formulation and a few options are discussed in the succeeding paragraphs.

Loans at Internationally Prevalent Interest Rates. China offers loans at rates much higher than multilateral lending institutions. As such Chinese loans should be low priority. Whenever extraordinary situations arise and a country is forced to borrow from China, it should insist on internationally prevalent interest rates. Nepal provides a fine example of refusing high interest loans. Nepal has made it clear that if they do not get grants and had to take loans, it would be as per international norms at rates not exceeding 2 percent (Jha, 2022). Bangladesh cancelled the Sonadia deep-sea port project when China changed the terms from soft loan to commercial loan. Instead, Matarbari port, a short distance away, is now being developed with the help of Japan, entailing 0.1% interest rate to be paid over thirty years after an initial ten-year grace period (Pal, 2021).

Policy tenet therefore should be to discourage the government of the day to borrow at higher interest rates regardless of the source. Should it be inescapable due to pressing developmental needs, a mechanism involving rigorous consultation and authorisation as an exception, must be evolved.

Preference to Multi-Lateral Institutions for Borrowing. Borrowing from a multi-lateral institution may call for adjusting policies as per the wishes of the lender, but there is never ever a danger to sovereignty or strategic autonomy. In case of a debt trap, “the lending countries have complete economic control eliminating the economic independence and self-reliance of the borrower, leading to partial or complete hold when the country is unable to manage its repayment obligations” (Karim et al, 2023). ‘Compromised economic independence’ as Attanayake (2021) calls such over dependence on any one power is alarming for a country’s security interests besides impinging on its dignity and honour. Nepal’s case is instructive in this regard. Nepal accepted substantial medical help from China during Covid but no financial assistance. Getting soft loans, concessional loans, and grants from traditional sources like USA, India, UK, and ADB made more sense (Pal, 2021). Policy tenet should be to borrow primarily from multi-lateral institutions.

Careful Scrutiny of Infrastructure Projects for Viability, Sustainability and Transparency. Besides pushing in unviable projects, some Chinese companies allegedly introduce malpractices into the entire system of selecting, processing and implementing. Lack of transparency in the bidding process, mostly insisting on no bidding and large-scale corruption often happen. Nepal having insisted on accepting only those BRI projects which were open to all bidders in a transparent manner has ended up not implementing many of them (Jha, 2022). Among the countries in the region, the ones in turmoil are those with the greatest exposure to Chinese debt. In many cases, scope of the projects is far in excess of actual demand thereby rendering them unprofitable. The low return on investment increases the interest burden creating fiscal problems. Hambantota and Gwadar ports are cases in point. Policy should be to scrutinise all projects

thoroughly especially those being built on commercial loan, for long term economic viability, sustainability and having identified the project, ensuring transparency in all processes.

Capacity Building in Contract Writing and Debt Restructuring.

Strengthening of institutional processes and capacity building of institutions and officials are critical enablers to transparent and corruption free contract management. Some Chinese companies have time and again displayed their penchant for introducing adverse contractual provisions. In the case of Colombo port city development contract, a clause was included, discovered later during an audit and reworded, vide which the Sri Lankan government was to compensate the company for any losses arising out of natural disasters; in contrast to what such developmental contracts normally incorporate. Also surprising was the inclusion of a stipulation vide which the airspace above Colombo port city would be considered Chinese airspace (Pal, 2021). Discussions on debt restructuring invariably go in favour of China, as happened with the lease of Hambantota port. Utmost care in contract writing to obviate inclusion of detrimental clauses and hard bargain during discussions on debt restructuring are obvious safeguards.

Balancing with Sensitivity. Balancing is a recourse often taken by smaller countries, South Asia being no exception. While it may be possible to balance on most issues and occasions, it is difficult to balance on every issue and every occasion. Besides, the dynamics of major power rivalries in Asia are complex and troubled requiring skilful application of mental agility and strategic acumen to balance correctly. In the South Asian context, the balance may not lie in taking the middle path or an equidistance approach. While India has direct proximal security interests in the region, China has mostly economic interests and that of containing India's growth and curtailing India's influence. Projects with direct security and sovereignty implications for India are best avoided despite their economic appeal. Alternatively, these can be implemented through Indian involvement. On rare occasions, when the concern pertains to China; these must equally be

handled with care. Balancing with sensitivity is the obvious policy tenet that should be adopted by the focus countries.

Reducing Dependence on Extra Regional Countries by Invigorating Regional Trade. One of the simplest ways to avoid over dependence on extra regional countries and to promote regional cooperation is to encourage regional trade without barriers. Focus countries should use the platform of regional forums like the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and Indian Ocean Rim Association (IORA) to enhance regional trade and connectivity. It is ‘paradoxical’ that while South Asian states are signing Free Trade Agreements with countries across oceans, they are not doing so with their neighbours (Bhatta, 2018). Besides boosting economy, such engagement will usher in regional harmony thus minimising the need to create and maintain huge security set up releasing much needed funds for growth and development. Policy option to invigorate regional trade and reduce dependence on extra regional countries must be aggressively pursued by the focus countries.

Conclusion

Global power play is replete with moves and counter moves. In the world of realpolitik, rarely anything is what it appears to be and it is seldom that a relation is not solely founded on own interest. The focus countries must be cognisant of the slippery ground and exercise their choices wisely. It has been a long operationalised Chinese policy to keep India within South Asia. Repeated referrals to India, as an important country in South Asia by its state-controlled media and insistence on using ‘Asia-Pacific’ instead of the more prevalent ‘Indo-Pacific’ are some of the indicators of this mindset. China assesses that if India keeps rising, the space for China which is rising at a faster pace by all yardsticks will get that much restricted. There are strong indications that the future outlook of India-China relations will remain competitive. China’s economy provides it the biggest handle for influence. Its presence in South Asia is bound to increase on

the strength of its considerable economic clout and the desire to contain India. This poses challenges to the focus countries of balancing their inter-se relations with the two Asian giants and to evolve policies which protect their economic security and ensure strategic autonomy.

The focus countries must learn from each other's experience and those of others, reinforce their systems and evolve policies to plug seeming vulnerabilities and safeguard against uncertainties. There are competing scenarios and which one plays out eventually will be dictated by a myriad of factors. India's deep connections across domains of engagement including cultural, historical, social, geographical proximity etc. will always be a limiting factor on how much China can influence the region. In the same breath though, the close proximity exposes India to heightened levels of criticism in these countries, which often downplay the contribution. All these countries are in need of developmental funds and all of them would like to balance against the regional big brother India. China fulfils both the requirements (Pal, 2021). Besides, India like any other democracy has its own limitations in policy formulation and building internal consensus, not to mention its own developmental needs and limited resources. China has clear advantage and not surprisingly appears very lucrative to the South Asian countries. However, the costs involved must be considered very thoughtfully by the focus countries. Policy options developed in the paper have the potential to safeguard the economic interests of the focus countries ensuring maximum benefits from the two regional heavy weights without fear of economic dependency leading to economic subjugation and consequent erosion of strategic autonomy.

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INTERNALLY DISPLACED PERSONS MANAGEMENT AND NATIONAL SECURITY: AN APPRAISAL OF NORTH EAST REGION OF NIGERIA

Group Captain Adebayo Adekanmo Petinrin
ndc, afwc, psc

Introduction

In the modern world of the 21st century, global society faces a variety of contemporary challenges. These include political instability, armed conflicts, the far-reaching influence of transnational organized crime, and terrorism. These complex threats present substantial dangers to the well-being and economic success of people across the globe. Individually or combined, these challenges have led to significant humanitarian emergencies characterized by loss of life, widespread hunger, increased poverty, and large-scale displacement of populations from their homes. This involuntary migration often results in urgent issues related to refugees and Internally Displaced Persons (IDPs).

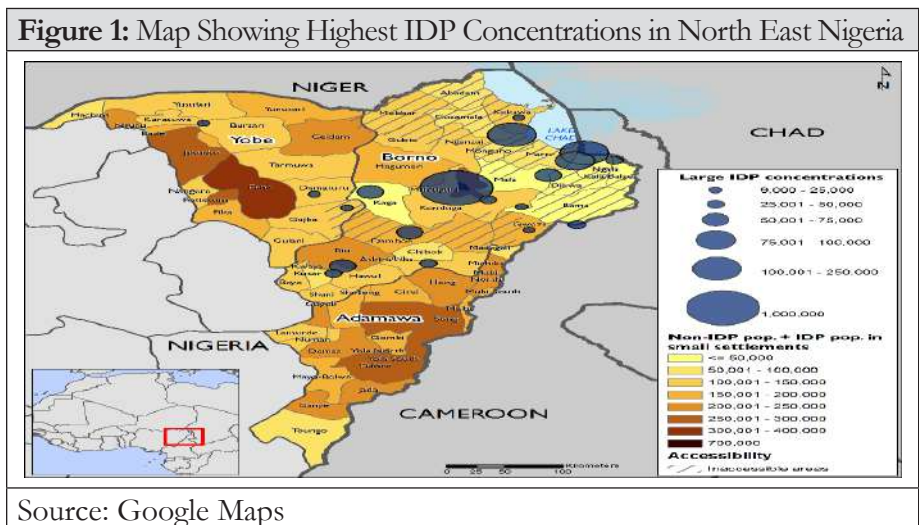
An IDP refers to any individual forced to abandon his/her habitual residence due to perceived or actual threats, relocating within the confines of their country's borders. Unlike refugees, who seek refuge beyond their nation's boundaries to escape conflict, persecution, or natural calamities, IDPs remain within their country of origin (Russell, 2016). Yet, their plight is similarly fraught with peril. Displaced persons often confront a host of challenges including health risks, food insecurity, joblessness, criminal exploitation, abuse, social unrest, and governmental repression, particularly in instances where adequate support systems are lacking.

National security encompasses far more than the traditional notion of safeguarding territorial borders; it involves protecting individuals from

pervasive and severe threats in a manner that promotes their survival, well-being, and dignity. This broader conception of security extends beyond mere defense to prioritize the safety and welfare of all citizens, with particular attention to vulnerable groups such as IDPs. Central to this approach is ensuring that individuals are shielded from a range of perils, including hunger, disease, and disruptions to their daily lives, thereby guaranteeing them “freedom from fear,” “freedom from want,” and “freedom to live in dignity” (Peace Building Policy, 2013). In this context, IDPs management encompasses a comprehensive set of measures aimed at effectively utilizing available resources to address the specific needs and challenges faced by displaced populations.

The North East (NE) region of Nigeria has faced Boko Haram terrorist attacks since 2009, resulting in significant violence and displacement. Boko Haram, founded by Mohammed Yusuf, initially advocated for Islamic law but turned violent, targeting population centers and security agencies. Major attacks include bombings in NE Nigeria since 2009, the UN Office in Abuja in 2011, and the Headquarters 1 Division Kaduna in 2012. Despite efforts to curb their activities, Boko Haram’s impact spread nationwide, causing approximately 350,000 deaths and displacing about 3 million people at the peak of the crisis in 2014 (UNHCR, 2019). By 2020, over 2.1 million IDPs were recorded (UNHRC, 2020).

As of 2024, over 2 million IDPs are in various camps or living with relatives in less affected areas (Aliu, 2024). Most are in Borno, Yobe, and Adamawa, with 40 percent in camps and 60 percent in host communities (Reliefweb, 2023). The displacement has led to emotional challenges, loss of livelihoods, and insecurity. Boko Haram’s activities have exacerbated social issues, particularly affecting children. These challenges highlight the need for effective IDP management to enhance national security in NE Nigeria, where there were over 2,295,534 IDPs as of June 2024 (Reliefweb, 2024).



Identification of Research Problem

The primary responsibility for safeguarding IDPs in Nigeria lies with the FGn, particularly through agencies like NEMA and the National Commission for Refugees, Migrants, and IDPs (NCFRMI). State Emergency Management Agencies (SEMAs) and international partners also play crucial roles in providing essential support, including food, shelter, and healthcare. The FGn has initiated projects like the Safe School Initiative (SSI) to address challenges faced by IDPs. However, the management of IDPs remains problematic, impacting national security in the NE region.

The population of IDPs in the NE region surged from 65,000 in 2010 to more than 2,300,000 in 2024 (Reliefweb, 2024). This increase has strained resources and infrastructure, leading to inadequate access to food, water, healthcare, and education. Over 92 per cent of IDPs are not in formal camps and rely on host communities, which often lack sufficient government support. These shortcomings have created significant support gaps, particularly in areas such as resettlement and reintegration. Against this backdrop, the study aims to answer some research questions.

Research Objectives

The objectives of the research are:

- Appraise the issues associated with management of IDPs in NE towards enhancing national security in Nigeria.
- Examine the contributions of IDPs management in NE to national security in Nigeria.
- Identify the challenges of IDPs management in NE for enhanced national security in Nigeria.
- Proffer strategies to mitigate the challenges of IDPs management in NE for enhanced national security in Nigeria.

Scope of the Study

The scope of this study was delineated by time, space, and content boundaries. The subsequent paragraphs discuss the limitations.

Time Boundary. The study spans the years 2014 to 2024. This time frame was selected because it encompasses a period marked by a significant rise in the number of IDPs due to Boko Haram activities in the NE region, as well as the government's intensified efforts to address their challenges and improve national security.

Space Boundary. The study concentrated on IDPs in three NE states: Adamawa, Borno, and Yobe. These states were selected because they host the majority of IDPs in the NE region of Nigeria, thus reflecting the broader challenges in managing IDPs across the area.

Content Boundary. The study focused specifically on IDPs management resulting from Boko Haram insurgent activities in the NE. This focus was selected because improving the management of IDPs due to the insurgency could significantly contribute to enhancing national security in the region.

Literature Riview

The study examines two main variables: IDP management as the independent variable and national security as the dependent variable. It defines these variables and explores the relationship between them.

Synthesizing the concepts of IDPs and their management, this study defines IDP management as the strategic use of human and institutional resources to alleviate the negative effects of displacement on IDPs. It includes safeguarding their rights and dignity while enhancing their overall well-being within their own country. This definition adopts a comprehensive approach that tackles the various challenges faced by IDPs, such as securing basic needs, protecting them from harm, and providing opportunities for sustainable livelihoods. By emphasizing the protection of IDPs' rights, dignity, and well-being, this definition highlights the necessity for thorough and empathetic management practices that focus on the needs of displaced individuals.

National security encompasses the protection of citizens and a nation's territorial integrity, and its interpretation varies among scholars, researchers, organizations, and experts. Brown (1983) defined national security as the capacity to safeguard a nation's territory and sustain positive economic relations worldwide. While this broad definition covers economic and territorial aspects, it overlooks a crucial element of national security that is central to this study.

Managing IDPs involves addressing a range of social, physical, and economic challenges that affect their well-being, including access to food, shelter, healthcare, education for children, employment, and human rights protection. On the other hand, national security focuses on safeguarding the survival, livelihood, and dignity of individuals, especially vulnerable groups like IDPs. It seeks to meet essential needs—such as food, shelter, healthcare, education, and employment—while upholding their rights and dignity through efforts by both government and non-governmental organizations. Effective management of IDPs ensures they have access to necessary resources, improves their safety and well-being, and protects their rights and dignity, thereby contributing to enhanced national security.

Existing literature lacks a specific focus on IDP management's impact on national security in Nigeria, especially in the NE. This study aims to fill these gaps by examining IDP management strategies in the NE and their relationship with national security. It seeks to provide insights into addressing the needs of vulnerable IDPs in NE towards enhancing national security in Nigeria.

Overview of Internal Displaced Persons Management and National Security in Nigeria

The FGN first created National Emergency Relief Agency (NERA) in 1976 as a formal disaster management mechanism tasked with distributing relief materials to disaster victims (Ningi, 2016). However, NERA's limited mandate hindered its ability to address the needs of IDPs effectively. This shortfall became evident during the Maitatsine conflicts in the 1980s, which displaced over 60,000 individuals and severely impacted national security in Nigeria.

Acknowledging NERA's limitations, the FGN established the NEMA in 1999 to oversee all disaster-related issues in Nigeria (Nuhu, 2015). The government also mandated the creation of State Emergency Management Agencies (SEMAs) and Local Emergency Management Committees (LEMCs) to ensure response agencies were closer to disaster sites.

Since 2009, the Boko Haram insurgency in NE Nigeria, particularly in Adamawa, Borno, and Yobe states, has displaced over 2.2 million people and caused widespread destruction. IDPs in these areas face severe challenges, including limited access to shelter, food, water, and education, which significantly undermines regional national security. In response, the Federal Government of Nigeria expanded the mandate of the National Commission for Refugees, Migrants, and IDPs (NCFRMI) in 2009 to include IDP resettlement and rehabilitation. However, the institutional framework of NCFRMI remained unchanged, creating a gap that still needs to be addressed.

In 2012, the FGN ratified the African Union Convention for the Protection and Assistance of IDPs in Africa (ACPAI), which established a normative framework for preventing displacement and supporting IDPs. Although the government revised the draft National Policy on Internal Displacement (NPI) to align with ACPAI, it has not yet been officially adopted. This delay leaves a gap in policy implementation for managing IDPs, which is crucial for enhancing national security in NE Nigeria.

Research Methodology

Research Design

The research design encompasses nature of research and the methodology employed. The ensuing paragraphs will elaborate on the specifics of the research design.

Nature of Research. The study uses a descriptive research design with a focus on survey methods to thoroughly explore the topic. Given the issue's complexity, an Ex-post-facto approach is employed to analyze trends, connections, and challenges after they have occurred. A mixed methodology is utilized for both data collection and analysis, providing a comprehensive examination of the subject. According to Dulock (1993), the descriptive study methodology is well-suited for understanding the complex concept of IDP management in this research.

Research Method. Mixed methods were employed to ensure comprehensive data collection, utilizing both questionnaires and unstructured interviews with resource persons in relevant institutions and stakeholders. The findings are presented using analytical tools, tables, charts, and figures to enhance clarity and facilitate a deeper understanding of the results.

Study Population. The population of the study is drawn from IDPs camp and humanitarian workers in NE states of Adamawa, Borno, and Yobe, and it is estimated at over 2.2 million as at June 2024 (United Nations Office for the Coordination of Humanitarian Affairs, 2024).

Sample Size. The estimation of the sample of the study was conducted to determine a subset of the population of the study. Taro Yamane Formula was used to estimate the sample from the population of the study. Using a population of 2,295,534, a confidence level of 95 per cent and error margin of 5 per cent, the sample size was calculated at 400.

Method of Data Collection

Primary Data Source. The KSI interviews in the study were conducted through unstructured interviews, enabling in-depth discussions with the respondents. Subsequently, the responses obtained were transcribed to facilitate content analysis, aiding in comprehending the submissions made by the respondents.

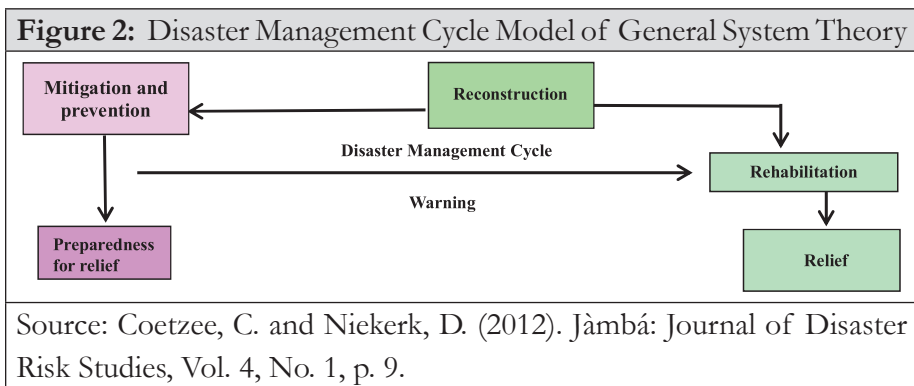
Secondary Data Source. The research gathered secondary data from a variety of sources, including journals, published and unpublished books, and magazines. Additional secondary data sources comprised focus group discussions (FGDs), articles, seminars, conference papers, reports, newspapers, and online resources. The researcher extensively utilized resources from the National Library Abuja, the Bureau of Statistics Abuja (NBS), and online libraries.

Theoretical Framework

General Systems Theory. The GST introduced by Ludwig Von Bertalanffy in 1968, was adapted to the disaster management cycle by Baird in 1975 (Coetzee & Niekerk, 2012). This cycle encompasses phases such as prevention, mitigation, warning, relief, rehabilitation, and reconstruction. Scholars have associated different aspects of GST with these phases: mitigation, prevention, and preparedness are considered input elements; warning and reconstruction are seen as feedback and external elements, respectively; and rehabilitation and relief are categorized as output elements (Coetzee & Niekerk, 2012).

Bertalanffy (1968) introduced GST, defining a system as a collection of inter-related subsystems that interact to form a whole. This concept describes systems as smaller, independent systems operating within a larger system, working together to enhance overall productivity.

The phases for the disaster management cycle are illustrated in Figure 2.



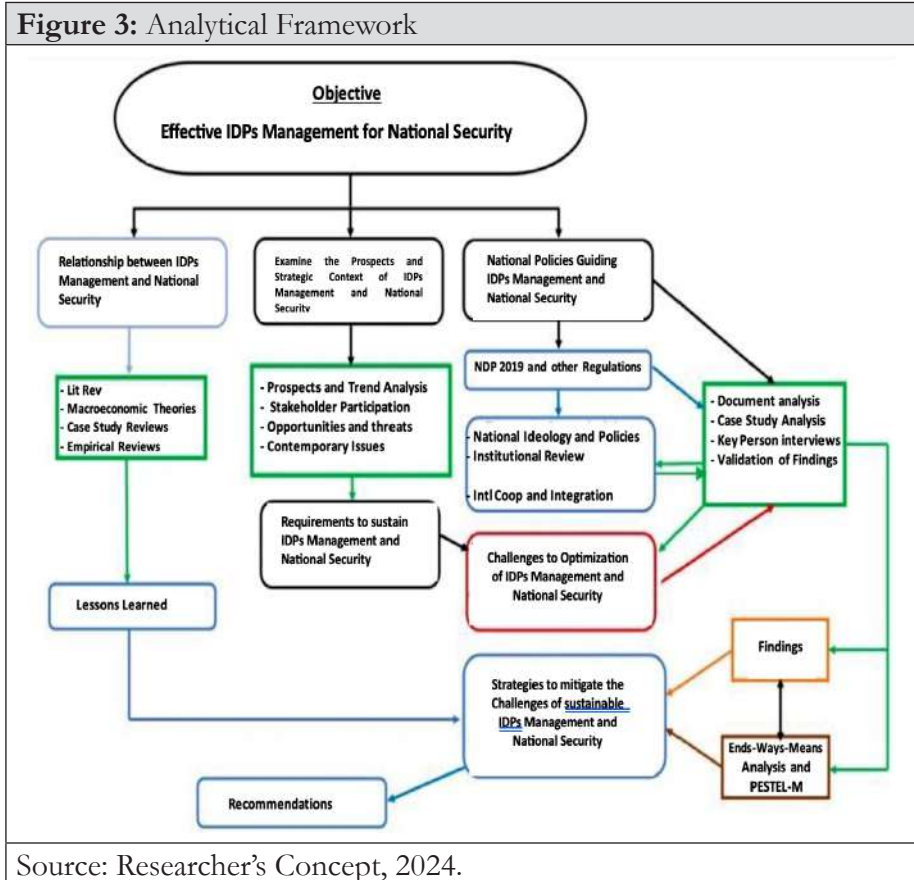
Critics of GST argue that it overlooks the importance of social integration for effective systemic mechanisms and struggles with addressing growth and change (Graham & Mackeena, 2000). Additionally, Goulder (1970) criticized GST for its lack of focus on substantive concepts and social relations.

Despite these criticisms, GST remains relevant to this study due to its alignment with the disaster management cycle. It offers a framework for managing IDPs in Nigeria through stages like mitigation, prevention, and preparedness. Governments can utilize GST to improve IDP management by incorporating warning systems, feedback mechanisms, and comprehensive rehabilitation and relief plans.

Analytical Framework

The study employs analytical and document analysis to interrogate data related to the factors that influence the key actors of IDPs management in Nigeria. Finally, it uses the findings developed through this process to draw an inferential understanding of how the IDPs management enhances national security in Nigeria. Figure 3 depicts the framework.

Figure 3: Analytical Framework



Source: Researcher’s Concept, 2024.

The research examined the management of IDPs in NE Nigeria as a vital factor for boosting national security. This goal was pursued by evaluating IDP management within global, regional, and national contexts. Insights from case studies in Colombia and Uganda highlighted key opportunities and threats in IDP management, crucial for addressing Nigeria’s national security issues.

Analysis of Data and Results

Sample Size and Distribution of Questionnaires

The study initially involved a sample size of 400. However, to accommodate potential errors and invalid responses, an additional 100 questionnaires were incorporated, resulting in a total of 500 distributed questionnaires.

Institutional Framework

According to Part III Section 8(1) of the NEMA Act, SEMAs must be established at the state level to report IDP situations to NEMA (Aliu, 2024). Additionally, the National Disaster Management Framework (NDMF) of 2010 mandates that states support the formation of LEMCs at the local government level (PreventionWeb, 2010). These initiatives are designed to ensure a prompt response to IDP needs.

The issue of adequacy and efficiency of the institutional framework was commented on by all respondents within the sample. The respondents' opinions are at Table 1.

| Table 1: Respondents' Opinions on whether there is Adequate Institutional Framework for Internal Displacement Persons Management in North East Nigeria | | | |
|---|-----------------|------------------|-----------------------|
| Serial | Response | Frequency | Percentage (%) |
| (a) | (b) | (c) | (d) |
| 1. | Agree | 22 | 5.29 |
| 2. | Disagree | 384 | 92.31 |
| 3. | Indifferent | 10 | 2.20 |
| 4. | Total | 416 | 100 |
| Source: Author | | | |

The limitations in the institutional framework for effective management of IDPs in the NE could therefore be linked to weak political will at the state level. A good and responsive institutional framework would engender effective IDPs management to enhance national security in Nigeria in line with the disaster management cycle of GST. Institutional framework is thus a major consideration in IDPs management in NE for enhanced national security Nigeria.

Institutional Capacity

To bolster its capacity for managing IDPs and improving national security in NE Nigeria, NEMA expanded its workforce from 2010 to 2022. Atatoum (2024) reported a 65.9 percent increase in permanent staff, growing from 449 in 2010 to 745 by 2022. The number of ad hoc staff also rose by over 126 percent, from 130 in 2010 to around 421 in 2022. NEMA focused on capacity-building, with more than 59 percent of its staff participating in training programs. Badanaro (2024) noted that these initiatives significantly enhanced NEMA’s ability to provide relief, increasing food accessibility in camps from 24 percent in 2010 to over 56 percent in 2023, thereby strengthening national security in NE Nigeria.

The lack of adequate staff has exacerbated gaps in protection support for IDPs, negatively affecting national security, as evidenced by field surveys on NCFRMI’s protection support, detailed in Table 2.

| Table 2: Respondents’ Views on whether there is Adequate Institutional Capacity for Internal Displacement Persons Management in North East Nigeria | | | |
|---|-----------------|------------------|-----------------------|
| Serial | Response | Frequency | Percentage (%) |
| (a) | (b) | (c) | (d) |
| 1. | Adequate | 20 | 4.81 |
| 2. | Inadequate | 383 | 92.07 |
| 3. | No Response | 13 | 3.12 |
| 4. | Total | 416 | 100 |
| Source: Author | | | |

The result of the field survey indicates that 383 respondents, and 92.07 percent of the total respondents agreed that the institutional capacity for IDPs management in NE is inadequate. Only 4.81 percent of the total respondents agreed that institutional capacity is adequate, the remaining 13 respondents did not respond. The majority of the respondents agreed that the institutional capacity is not adequate for IDPs management in NE towards enhancing national security in Nigeria.

Analysis of Data and Findings on the Contributions of Internally Displaced Persons Management in North East to National Security in Nigeria

There are contributions of IDPs management to national security in Nigeria. These contributions are access to education, food security, public health, and socio-economic well-being. These contributions are discussed subsequently.

Access to Formal Education

In NE Nigeria, about 1,200 schools were closed by March 2024 due to conflicts, which affected 319,000 students' access to education (Ahmed, 2024). Many of these closures occurred because schools were repurposed as IDP camps. Efforts to address IDP issues included the commissioning of Aliko Dangote Primary School by President Buhari and a significant investment of 3.85 billion in school construction and rehabilitation between 2017 and 2018 (Adebajo, 2023). By 2023, the number of closed schools had reduced to 802, thus improving educational access in the region (UNICEF, 2023).

The field survey results indicate that 370 respondents, or 88.94 per cent of the total, believe that IDP management has improved access to education in NE Nigeria. In contrast, 33 respondents, or 7.93 per cent, disagreed, while 13 respondents did not provide a response. Overall, most respondents feel that IDP management has positively impacted access to education in the region, contributing to enhanced national security in Nigeria.

The field survey findings were corroborated by Akinola (2024), who reported that agencies involved in IDP management in the NE region have successfully provided educational facilities in most IDP camps and host communities since 2009. Ngada (2024) also confirmed that, in 2023, over 403,450 children received formal education in various IDP camps throughout the NE region. Thus, IDP management has significantly

improved access to education in the region, contributing to enhanced national security in Nigeria. Thus, IDPs management has contributed to access to formal education in NE for enhanced national security in Nigeria.

Analysis of Data and Results of the Challenges for Managing Internally Displaced Persons in North East and National Security in Nigeria

This section examines the challenges undermining IDPs management in NE towards enhancing national security in Nigeria. These challenges include weak political will at the state level, inadequate budgetary allocation, and lack of cooperation. Others include absence of centralised database for IDPs as well as failure to adopt durable solutions for RRR. These challenges are discussed subsequently.

Weak Political Will at the State Level

Weak political will at the state level presents a significant challenge to IDP management in Nigeria. Ahmed (2024) reports that, as of May 2024, many SEMAs in NE Nigeria are hindered by structural deficiencies, making it difficult to respond effectively to flood disasters in IDP camps. This issue arises partly because some SEMAs lack legal backing in certain states and due to the absence of LEMCs in many LGAs. Mohammed (2024) attributes this problem to insufficient political will from state governments and the lack of legal authority for NEMA to sanction non-compliant states. This gap in institutional support creates challenges for IDP management and impacts national security in Nigeria.

During the field survey, respondents were asked whether weak political will at the state level constitutes a hindrance to IDPs management in Nigeria. Below is the result of the survey at Table 3.

| Table 3: Respondents' Views on whether Weak Political Will at the State Level Constitutes a Hindrance to Internal Displacement Persons in North East Nigeria | | | |
|---|-------------|-----------|----------------|
| Serial | Response | Frequency | Percentage (%) |
| (a) | (b) | (c) | (d) |
| 1. | Agree | 381 | 91.59 |
| 2. | Disagree | 23 | 5.53 |
| 3. | No Response | 12 | 2.88 |
| 4. | Total | 416 | 100 |
| Source: Author | | | |

This finding is supported by Ahoyo (2024), who noted that weak political will has led to inefficiencies in SEMAs and the non-establishment of LEMCs by state governments. He highlighted that the absence of LEMCs contributed to the loss of some IDPs in 2022 due to delayed responses and slow relief distribution. Additionally, Adamu (2024) revealed that over 60 percent of existing SEMAs lack the necessary equipment for effective IDP management. He also noted that inadequate institutional capacity at the state and local levels led to delays in relief distribution, resulting in the deaths of over 60 people in IDP camps in 2023. Thus, weak political will at the state level continues to challenge IDP management efforts and affects national security in NE Nigeria.

Prospects for Improving Internally Displaced Persons Management Towards Enhanced National Security in Nigeria

There are prospects for improving IDPs management in NE Nigeria. The prospects include Presidential Committee for North East Initiatives (PCNI), and Grassroots Emergency Volunteer Corps (GEVC). These are discussed subsequently.

Presidential Committee on North East Initiatives

The PCNI was established in September 2015 to coordinate various FGN initiatives in NE Nigeria, including the SSI and others. Its role includes interfacing with state governments and international partners to avoid duplication of efforts and ensure cohesive support for IDPs and other vulnerable groups.

The PCNI has taken over the responsibilities of PINE, integrating their programs into its interventions in the NE under NEMAP. Without an IFCI, the PCNI provides a platform for developing comprehensive policies and strategies for vulnerable groups in the NE, addressing their specific needs within the national response strategy. Effective implementation of the PCNI promises to enhance FGN interventions, improve the management of IDPs, and promote national security in Nigeria.

Discussion of Results of the Study on IDPs Management and National Security in Nigeria

The study found a strong positive correlation between IDP management and national security, supporting the conceptual relationship defined by James (2012). This reinforces the study's hypothesis of a direct link between effective IDP management and improved national security in Nigeria.

The theoretical framework of this study was grounded in GST and SCT. The GST framework suggests that Nigerian governments should implement strategies across four disaster management phases: mitigation, prevention, preparedness, and response. This involves proactive measures, collaboration with stakeholders, and the establishment of warning and feedback mechanisms. An effective rehabilitation and relief plan for crisis victims would enhance IDP management and, consequently, national security. SCT highlights the government's primary role in IDP management and emphasizes the importance of international support, while also predicting potential negative impacts on national security due to inadequate IDP management.

The research addressed gaps identified in previous studies, including institutional framework, capacity, coordination of support services, and IDP database management. It concluded that effective IDP management positively impacts education, food security, public health, and socio-economic well-being. However, challenges such as weak political will, insufficient budgetary allocations, inter-agency rivalry, lack of a centralized IDP database, and inadequate durable solutions for the 3R program hinder progress. Prospects for improving IDP management and national security in Nigeria include the PCNI, and the GEVC.

Summary of Research Findings

The research examined IDPs management in NE Nigeria and its impact on national security. The key findings are summarized below:

- The study found a direct correlation between IDP management and national security, indicating that improvements in IDP management enhance national security, and vice versa.
- Key issues affecting IDP management and national security in NE Nigeria include the institutional framework, capacity, coordination of support services, IDP database management, and the RRR program. There is a disproportionate focus on emergency relief for immediate needs like food and shelter, while medium- and long-term issues are often neglected. The current ad-hoc registration and documentation processes hinder comprehensive IDP management, affecting national security.
- The study noted that effective IDP management has positively impacted national security by improving access to education, ensuring food security, enhancing public health, and fostering community relationships in NE Nigeria.
- Despite these benefits, challenges remain that undermine IDP management and national security. These include weak political will at the state level, insufficient budget allocations, inter-agency rivalry, lack

of a centralized IDP database, and the failure to implement durable solutions for RRR.

- The study identified prospects for improving IDP management to bolster national security in Nigeria. These include initiatives like the PCNI, and the GEVC.

Strategies to Improve Internally Displaced Persons Management in North East for Enhanced National Security in Nigeria

Some strategies are proffered in this study to mitigate the challenges of the IDPs management in NE for enhanced national security Nigeria. These include continuous lobbying of state governments as well as establishment of a National Humanitarian Intervention Fund (NHIF). Others are harmonisation of provisions in NEMA and NCFRMI Acts, establishment of IDP Data Management Unit (IDMU) and review of the RRR Plan for NE Nigeria. These are discussed subsequently.

Establishment of a National Humanitarian Intervention Fund

Establishing the NHIF in partnership with the private sector could address the challenge of insufficient budgetary allocations for agencies managing IDPs in NE Nigeria. This initiative aims to bridge funding gaps due to declining government revenue and provide a sustainable financial solution, thereby enhancing the agencies' capacity to improve national security. Furthermore, it allows the private sector to meet corporate social responsibility goals and contribute to national development. The NHIF would also promote transparency in humanitarian aid distribution, further supporting national security.

Recommendations

It is recommended that the FGN should:

- Lobby state governments for the establishment of LEMCs by Fourth Quarter 2026.

- Establish the NHIF in collaboration with the private sector by Fourth Quarter of 2026.
- Forward draft bills on amendments of Acts establishing NEMA and NCFRMI to NASS by Third Quarter of 2026.
- Direct OSGF to set up an IDMU by Third Quarter of 2026.
- Direct PCNI to submit reviewed NEMAP to FEC by Second Quarter of 2026.

Conclusion

The study sought to investigate IDPs management in NE Nigeria and its impact on national security. Grounded in GST and SCT, it employed a field survey method to gather perspectives on the subject. The research established a direct relationship between IDP management and national security, having clearly defined the relevant variables. It reviewed the overall situation of IDP management and national security before focusing on the NE region. Despite various efforts to improve IDP management in NE Nigeria, The study highlighted the importance of a well-structured institutional framework for comprehensive IDP management in NE Nigeria to improve national security. The ability of statutory agencies to manage IDPs effectively is constrained by insufficient funding, which negatively impacts national security. Key issues include the coordination of assistance, IDDM, and RRR programs. The lack of a unified system for IDP registration, documentation, and monitoring impedes the delivery of support. Additionally, current RRR programs fail to adequately address the needs of IDPs, potentially leading to further displacements and adversely affecting national security in NE Nigeria.

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Besides his regimental duties the Senior Officer is a member of several professional bodies among which are Associate member of Chartered Institute of Finance & Control of Nigeria, Associate Member Nigerian Institute of Management, Associate member of the Institute of Certified Public Accountant of Nigeria, Associate member of the Association of National Accountants of Nigeria and a Fellow of the Association of Chattered Certified System Accountants (USA).

He attended Junior Staff Course AFCSC Nigeria, Senior Staff Course AFCSC Nigeria, Air Force War College Nigeria. The senior officer has held several operational, instructional and staff appointments in his career. Some of the major awards and decorations are Meritorious Service Star (MSS), Forces Service Star (FSS), Fellow of the Air Force War College (fwc), Passed Staff Course (psc). Group Captain Petinrin is married to Mrs Sherry Petinrin and the union is blessed with 3 boys. His hobbies are riding sport bikes and martial arts.

LEADERSHIP CHALLENGES IN BANGLADESH ARMY IN THE 21ST CENTURY-WAYS FORWARD

**Lieutenant Colonel Mohamudul Hasan
afwc, psc, Engineers**

“The greatest leader is not necessarily the one who does the greatest things. He is the one that gets the people to do the greatest things.”

-Ronald Reagan

Introduction

Leadership is an art, the ability to motivate people towards achieving an organization's goal. This is not only to set a clear vision, but it includes the information knowledge and means to realize it. Effective leadership is a combination of clear communication, decision-making capabilities, and the aptitude to motivate and inspire other individuals to show their best performance. The different leadership approaches are practiced by the leaders to lead the under-commands. However, these do not go unchallenged, particularly when we stand in the 21st century. As the contemporary world is experiencing significant shifts in individuals' lifestyles the challenges posed by the changes result from a variety of factors. It is vividly noticed that these are the advancements and changes that took place mostly in the social and economic frameworks of society over time. Lately, we've seen progress in media technology. Social media has turned the world into a connected community enabling quick and effective communication among the people (Al-Lawati, 2019). Nevertheless, leaders of these days are encountering multifarious challenges due to these changes. Characterizing the environment as 'VUCA' - volatile, uncertain, complex, and ambiguous - presents a significant challenge (Abidi and Joshi, 2018). In the fast-paced world, such changes have noticeably been felt in the military and the Bangladesh Army (BA) is not any different than others.

Being part of a bigger society, any military is not out of the influence of socio- economic changes. Over time, it has offered various diversified opportunities and challenges to military organizations. The diversification has been greatly enhanced by the induction of various cultural, financial, social, and educational backgrounds. Corresponding to many other land forces, the BA also operates in an international framework and thus, socio-economic changes are affecting the BA personnel in various ways. It has been appropriately narrated by Ruth Jolly, “If the army as an organization stands still and turns to back the tide of the social changes, they may find themselves suddenly in deep water, floundering” (Jolly, 1987). In the 21st century, BA has undergone various changes in social and economic facets. Soldiers are more exposed to the outside world. They are informed quickly about events at home and beyond. They have better communication with their near and dears at any moment. However, it invites new disciplinary trends to happen alongside this. Newcomers are brighter, more educated, and more exposed to current affairs. This has an effect in shifting the perspective and sentiment and results in a generation gap (Masum, 2021). This generation gap also impacts their conduct and behavioral forms. Some of these transformations of the current century pose considerable challenges to the functionality of leaders, particularly mid-level leaders of BA and it demands a critical analysis.

Leadership, especially, is very much about doing what is right for the situation and the people involved in it (Williams, 2006). In organizations, leaders play a role by guiding and directing individuals or groups to follow their instructions. The success of the organization largely depends on how these leaders perform their roles. Military leadership involves inspiring, guiding, and motivating people to complete the task and also inspires subordinates to sacrifice. There are various leadership approaches and styles that have been practiced over time to guide and direct the under commands. Adaptive leadership is a unique style of leadership which is specifically about transformation that empowers individuals to flourish. They can identify and exploit the high-quality, innovative, and creative ideas and talent of mavericks and change agents within the organization. It is

the art of getting people to work together to get through tough situations and succeed. On the other hand, adaptive leadership refers to that form of leadership focusing on the leaders' ability to predict, prepare, and deal with change. Leading in such an environment, complex and whose dynamics keep changing every other day, particularly needs leaders to be very agile and responsive toward these fast-evolving challenges (Govindarajan, 2016). Hence, more than ever, leaders must adapt and thrive in facing challenges and be prepared to take on the changes in processes. Adaptive leadership helps keep the mood high and operations running smoothly while also creating a culture that welcomes new ideas and changes. Adaptive leadership nurtures a culture that embraces innovation and change while enabling the Army to maintain morale and operational efficacy.

Methodology

Army leaders regardless of their position, must continuously enhance leadership skill and abilities as they progress up in the ladder (Malone, 1983). Heifetz defines Adaptive Leadership as “the practice of mobilizing people to tackle tough challenges and thrive” (Heifetz, Grashow and Linsky, 2009, pp. 14). The researcher believes that an effective adaptive leadership strategy is required to optimize the positive effect and lessen the negative influence of socio-economic changes in the Bangladesh Army. As such, the problem identified for this research is that ‘Socio-economic change in the 21st century is causing significant challenges to mid-level leaders in the BA that need thorough study and see the feasibility of adaptive leadership to address the challenges.’ The broad objective of this research was to ascertain the feasibility of applying an adaptive leadership approach for overcoming the potential leadership challenges of mid-level officers of BA posed by the changing socio-economic environment in the 21st century.

This research explores leadership challenges due to the socio-economic changes and the appropriate leadership style particularly the adaptive leadership approach at the mid-level level of the Bangladesh Army,

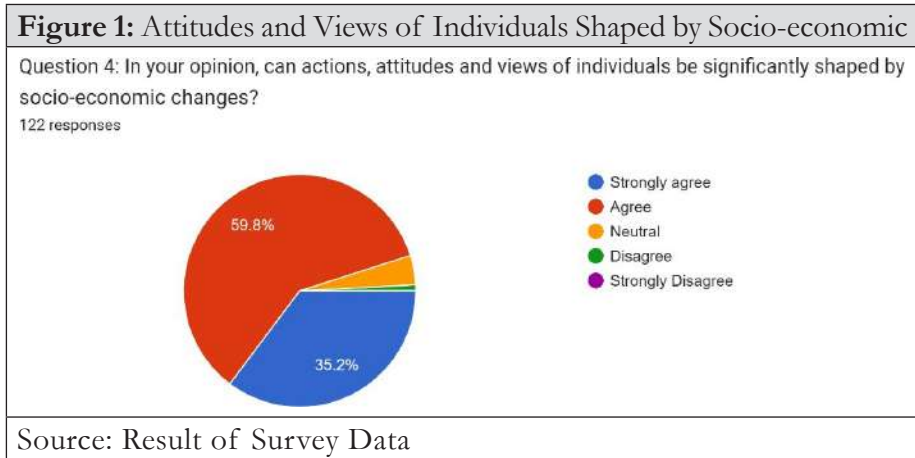
focusing on how military organizations address external societal changes and internal dynamics. It aims to provide valuable insights into the efficacy of adaptive leadership approaches for mid-level officers in organizational development. This study is anticipated to make significant contributions to military leadership theories, offer practical frameworks for leadership approaches, and strengthen the leadership capabilities of the Bangladesh Army. This study has the potential to influence policy-making, leadership training programmes, and enhance productivity in the face of changing socio-economic scenarios.

The study is an exploratory type of research. The methodology adopted a mixed-method technique using both quantitative and qualitative data analysis. Surveys, Focus Group Discussions (FGD), and structured and or semi-structured interviews were used as primary data. The survey specifically targeted officers in the rank of Major, Lieutenant Colonel, or in some cases few Colonels who have prior experience in commanding units or sub-units. Secondary data were collected from National Defence College (NDC) and Army project studies that have already been written on the related issues. In addition to that, different books, journals, articles, records, and internet sites like online publications have also been explored.

Socio-Economic Changes in the 21st Century and Impacts Faced by Mid-Level Officers

Conceptualization of Socio-Economic Transformation

The changes in culture, technology, arts, and philosophy have a significant impact on individuals' attitudes, resulting in wider social change. Socio-economic change is studied by scholars to understand how societies adapt to new circumstances and how these changes affect individuals and group characteristics. According to a survey, the majority of the respondents agrees that the attitudes and views of individuals is significantly shaped by socio-economic changes.

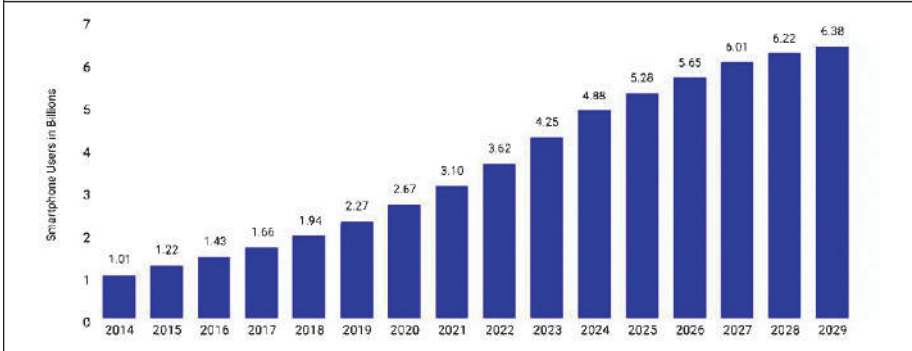


Globalization. Globalization is the result of countries becoming more interconnected and interdependent through various means such as trade, investment, technology, and cultural exchange. Technology diffusion boosts productivity and fosters innovation, while access to global educational resources enhances skills and knowledge.

Technology and Innovation. In today's digital age, the world is more interconnected than ever before, because of the widespread availability of internet access and the increasing number of smartphones. The rise of digital connectivity has brought about a greater awareness of personal fashion, social issues, and legal rights. This heightened awareness is largely influenced by popular social media platforms like WhatsApp, Facebook, YouTube, Instagram etc.

Economic Transformations. Changes in job trends, income capacity, and economic possibilities are all examples of economic transformation, which is an important part of socio-economic change. These changes can have a big effect on cultural and social models, which can change how groups work and communicate.

Figure 2: Increase Trends of Number of Smartphone Users (2014-2029)

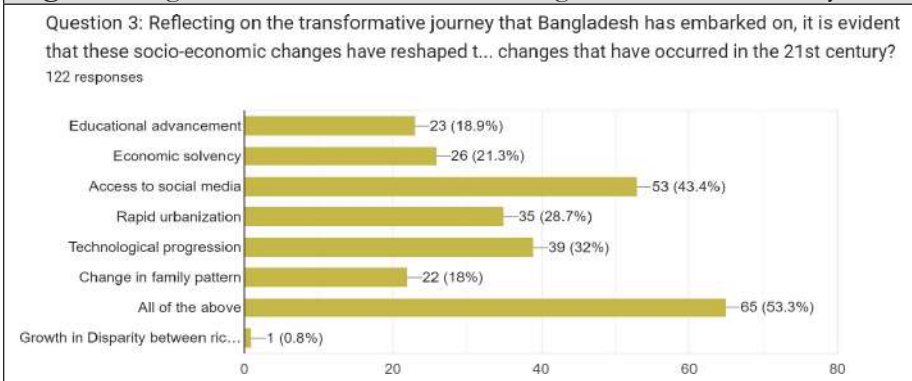


Source: <https://www.oberlo.com/statistics/how-many-people-have-smartphones>

Communication and Media. Communication and the media are important parts of changing society and the economy. The ways that people get and use information, like through electronic media and social media, have a big impact on how people think and what they value.

Factors Lead to Socio-Economic Changes in Bangladesh in the 21st Century

Figure 3: Significant Socio-economic Changes in the 21st Century



Source: Result of Survey Data

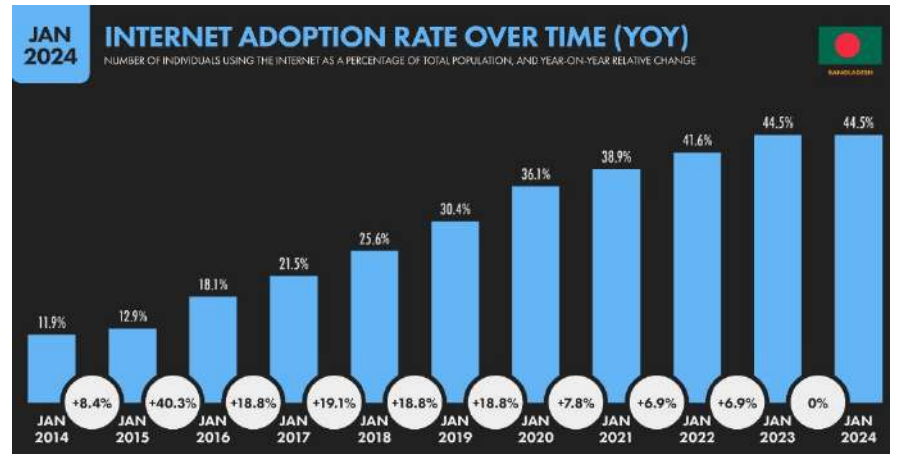
Technological Progression. Technology adoption in Bangladesh has resulted in notable changes in several societal domains. Technology access has increased connectivity and information exchange. People's awareness, understanding, and communication among communities have all risen as a result. It also fosters the emergence of new ideas and has brought the world closer together in a socio-cultural rather than geographical sense.

Multicultural Aggression. Multicultural aggression is one of the principal factors of socio-economic transformations in Bangladesh which is defined by the dynamic interaction of a variety of cultural influences. The integration of various cultures has fostered social transformation, thereby challenging ingrained beliefs and promoting the adoption of novel consumption patterns and lifestyles.

Migration and Diaspora. The national economy has been strengthened by the migration of Bangladeshis to other countries in search of better opportunities, which has also resulted in the flow of remittances, which has provided financial stability to numerous households. This migration has also facilitated the exchange of ideas and skills, thereby promoting entrepreneurial activities and innovation within the country.

Inception of Social Media. The fast evolution of media has had an impact, on the social and economic landscape of Bangladesh in the 21st century. Platforms such as YouTube, Facebook, Instagram and Twitter have revolutionized how people communicate for information sharing and connections between individuals. Social media has facilitated exchange and the dissemination of ideas influencing traditional social norms and values.

Figure 4: Internet User in Bangladesh 2024

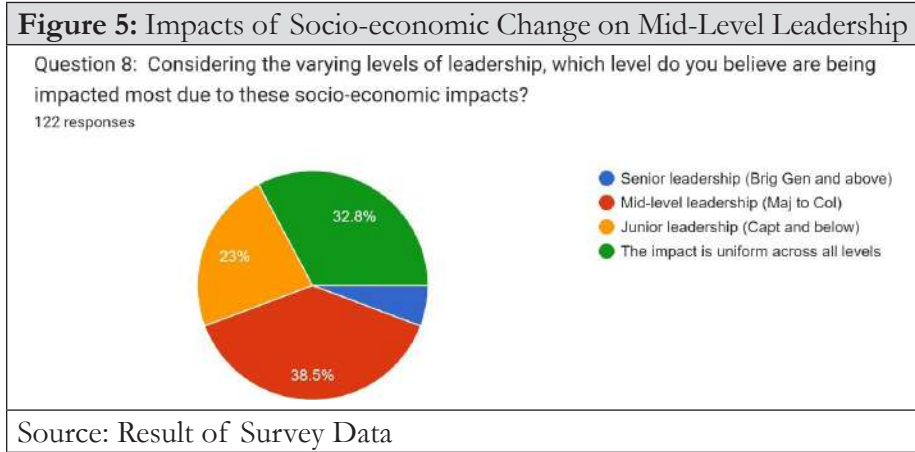


Source: <https://datareportal.com/reports/digital-2024-bangladesh>

Economic Solvency. In the 21st century, Bangladesh’s socio-economic transformations have been significantly influenced by economic solvency. The financial stability of numerous households has been enhanced by the consistent economic development, which has been driven by sectors such as remittances, information technology, and ready-made garments.

Impacts of Socio-Economic Changes Faced by Mid-Level Officers

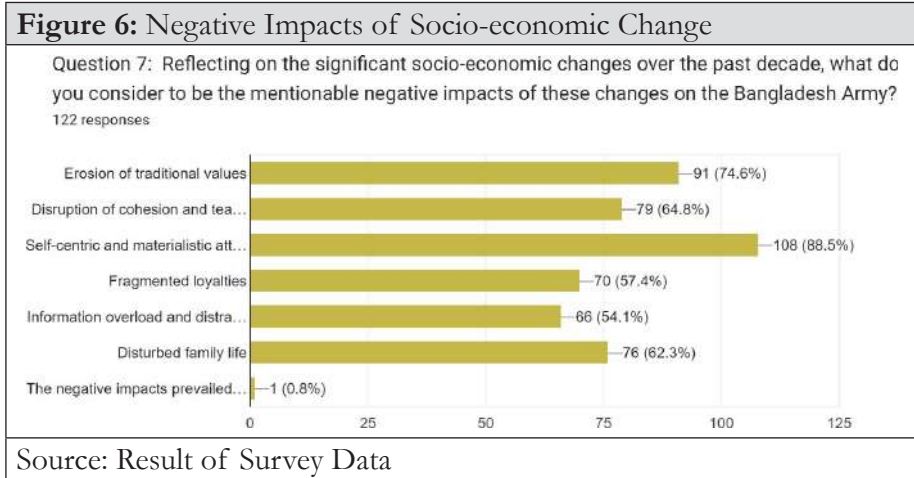
The mid-level officers of the BA have been significantly affected by the socio-economic changes of the 21st century. In the survey, 38.5% of officers opined for mid-level officers and 32.8% opined that the impact is uniform across all levels. Although these changes have resulted in positive developments, such as modernized and enhanced skills, they have also presented negative challenges, such as increased materialism and reduced family bonding.



Negative Impacts of Socio-Economic Changes

Self-Centric and Materialistic Attitude. An increasingly materialistic mentality among the under commands poses negative influences on mid-level officers of the Army which undermines key military values. When soldiers put material things and personal gain before common welfare and legitimate duty, they may act unethically, abuse resources, and disregard societal obligations (Khaled, 2024).

Erosion of Traditional Values. The military emphasizes principles such, as discipline, honesty, professionalism and loyalty. When these values are compromised it weakens the structure of the Army. The mid-level officers have been significantly impacted by socio-economic changes that have weakened the traditional values within their under-commands (Jubayer, 2024).



Distressed Family Values/ Life. The inclination towards urban lives, the preferences for small families, and the decrease in religious practices all contribute to the increasing disturbances of family issues (Iftekhar, 2024). The challenges are further intensified by social diversity and the unethical use of mobile phones and the internet. Soldiers tend to get into marriages with families of higher socio-economic status to meet social needs, resulting in a lack of ability to meet family expenses.

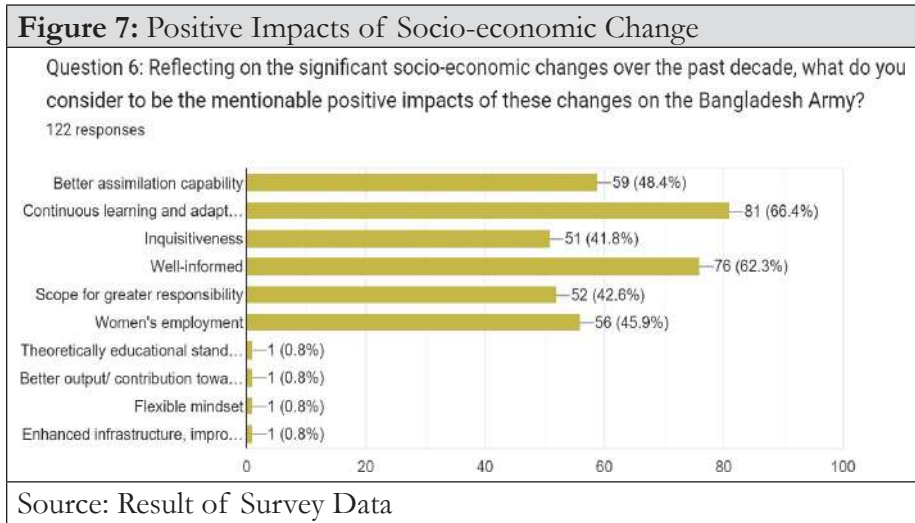
Fragmented Loyalties. Sincerity, loyalty, commitment and dedication of the soldiers are significantly affected by socio-economic changes, which leads to fragmentation in loyalties. New beliefs, thoughts, characteristics, ideas, and passions that compete with traditional Army values are introduced by increased exposure to global dynamics and the pursuit of self-objectives.

Positive Impacts of Socio-Economic Changes

Better Assimilation Capability. Better assimilation capability of the soldiers is a significant positive outcome of socio-economic changes, which includes more education, increasing diversity, and an enhancement of social integration. This capability advances unit cohesion, operational effectiveness, and overall mission success in a way that makes the Army

more inclusive and better adapted to meet the multifaceted demands of the current challenges and societal expectations (Osman,2024).

Continuous Learning and Adaptability. Continuous learning and adaptability are crucial positive outcomes of socio-economic changes in the army. It provides an enabling environment in the Army where the soldiers are motivated to continue with their learning to further skill and develop themselves (Iftekhar, 2024).



Inquisitiveness. It creates an environment where curiosity is appreciated, and the acquisition of knowledge is stimulated. The time and effort required to complete any particular assignment will be significantly reduced through their effective utilization.

Innovation and Creativity. Innovation and creativity among under-commands in the army are significant positive outcomes of socio-economic changes. This creates soldiers to think out of the box. It is welcome to cultivate problem-solving at any level. Soldiers are thus likely to be making innovative suggestions invaluable to enhancing operational effectiveness.

Leadership Response to The Impacts of Socio-Economic Changes

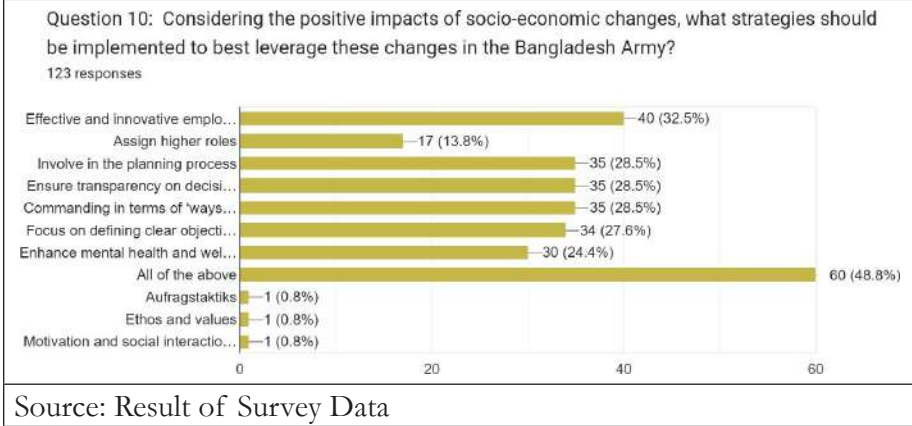
Leadership Perception and Importance of Mid-Level Leadership.

From the Bangladesh Army's perspective, it could be accepting the changes positively and utilizing them for the benefit of the organization. It is seen that inspiring subordinates to attain organizational goals, acknowledging and commending the efforts of subordinates, taking risks and advocating for subordinates, and engaging in non-routine communication with subordinates are only occasionally observed. The role of mid-level officers in the Army is crucial as they form the organization's backbone. These officers are critical to the effective functioning of the organization, as they bridge the gap between junior and senior leadership, translating strategic objectives into actionable plans and ensuring their successful implementation. Mid-level officers translate operational objectives into workable tactical plans for subordinates.

Response to the Positive Effects

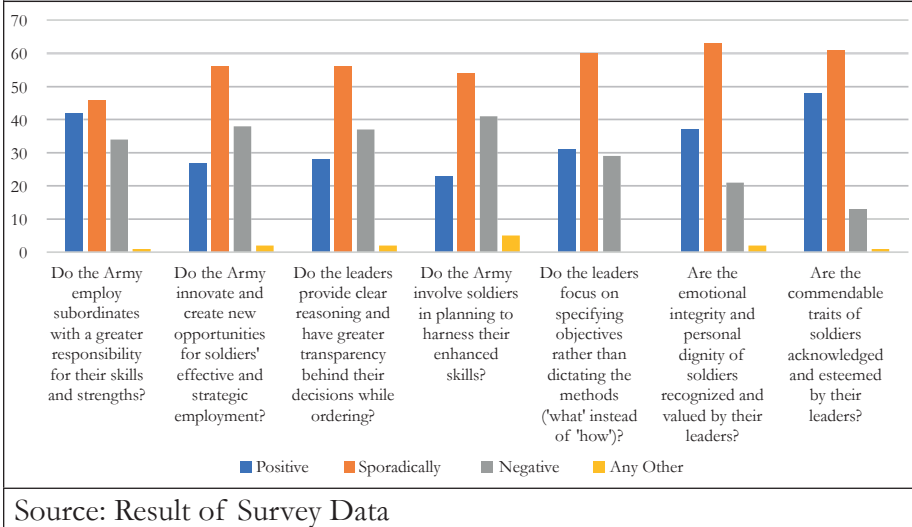
The approaches to the positive effects of changed socio-economic dynamics of the 21st century is more primitive in nature. However, the existing responses to the changes like technological and technical development, increased assimilation capability, continuous learning and adaptability to changes are a usual practice. Considering the positive impacts of socio-economic changes, survey respondents opined that a few strategies should be implemented to best leverage these changes in the Bangladesh Army. These are effective and innovative employment, assigning higher roles that reflect the individual's skills and strengths, involvement in the planning process etc are few out of many more.

Figure 8: Strategies Should be Implemented to Best Leverage the Changes



Existing response to positive effects is sporadically or occasionally done. However, in the cases of ‘employing subordinates with a greater responsibility for their skills and strengths’ and ‘the commendable traits of soldiers acknowledged and esteemed by their leaders’, the existing practice was found encouraging and positive.

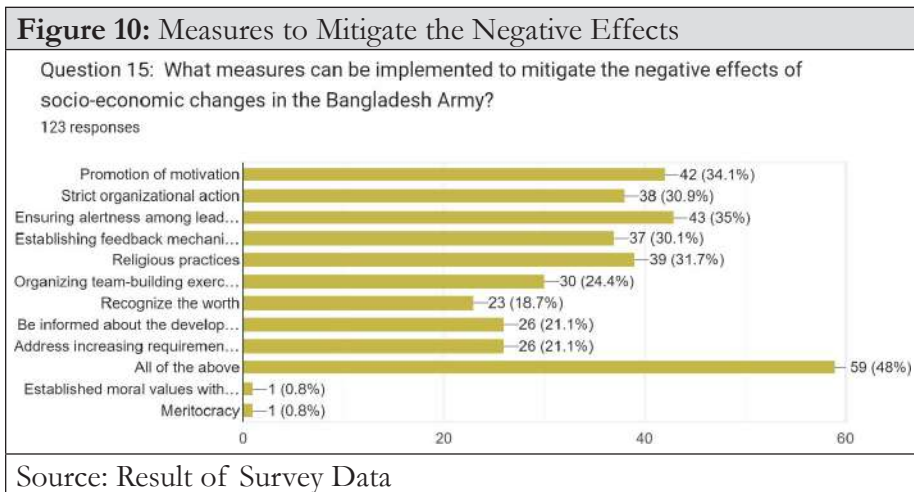
Figure 9: Existing Responses to the Previously Mentioned Strategies



Response to the Negative Effects

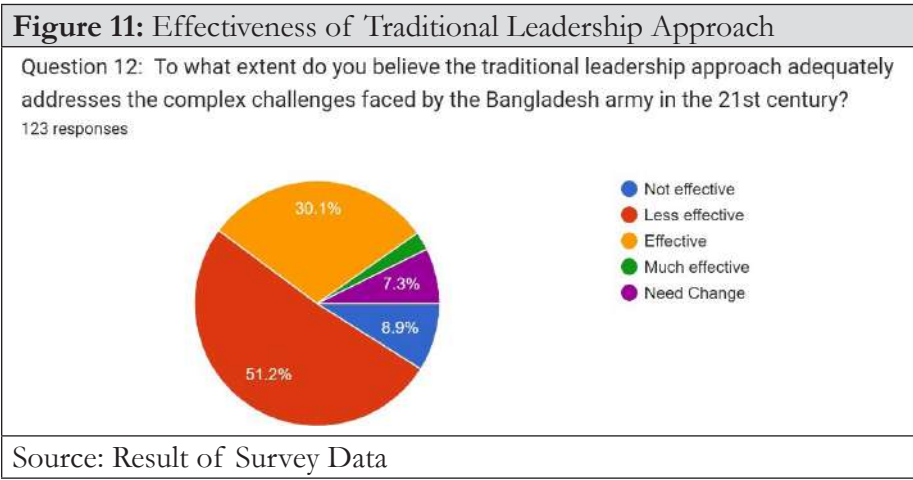
Negative effects of socio-economic changes are mainly driven by the cognitive domain of the soldiers and it's a perception that developed over time. The traditional soldierly attitude encompasses qualities such as esprit de corps, the ability to work in a team, and compassion.

From the survey (Figure 10) it is found that some measures can be implemented to mitigate the negative effects of socio-economic changes in the Bangladesh Army. A few of those are the promotion of motivation, strict organizational action, ensuring alertness among leaders, establishing feedback mechanisms, religious practices, organizing team-building exercises, and recognizing their worth.



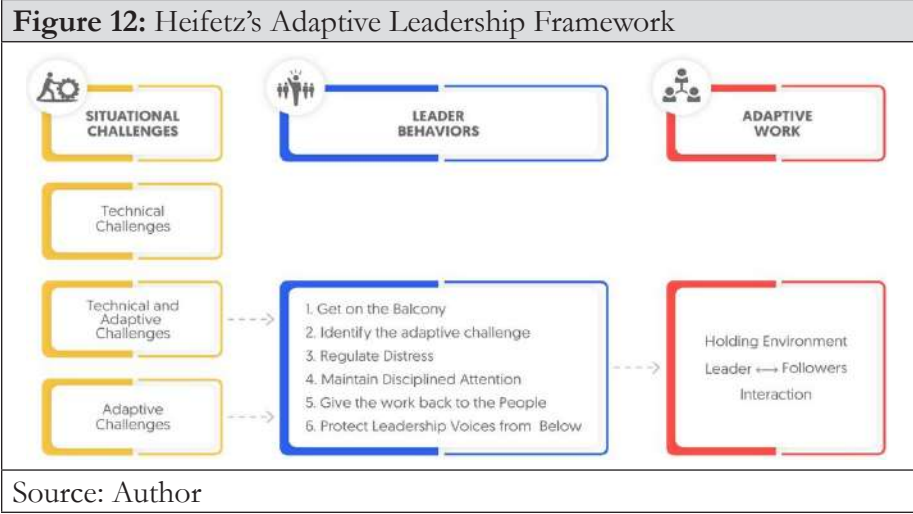
Concept of Adaptive Leadership and Leadership Qualities Necessary to Address the Effects

The traditional leadership approach cannot adequately address the complex challenges of the 21st century faced by the mid-level officers of the Bangladesh Army. An alternative leadership approach is deemed necessary to take on the challenges. Here comes the concept of Adaptive Leadership.



Concept of Adaptive Leadership

The concept of Adaptive Leadership approach by Ronald Heifetz suggests that it is basically understands that the problems are usually complex and uncertain; thus, they call for group efforts to be identified and answered. Leaders of an adapted organization encourage dispersed leadership, meaning empowering people at every level of the organization to offer their active viewpoints and ideas.



Adaptive leadership is a versatile approach that aims to navigate teams or organizations through intricate and volatile situations. The primary objective is to promote positive changes by overcoming problems and exploiting opportunities in dynamic settings (Mehta, 2024). Adaptive leadership fosters resilience by addressing difficulties with concise replies and ideas, rather than engaging in lengthy searches for solutions.

Foundational Elements of Adaptive Leadership

Understanding the Dynamics. It is distinctly different from technical problems which are very complex and critical but has an established know-how solution. But in the case of adaptive challenges, it has to be addressed through changes in people's faith, belief, habit and priorities (Ronald A. Heifetz, 2009).

Scrutinizing Conventional Beliefs. It is an important element that involves changing and scrutinizing established cultures, beliefs, and traditions. Here, adaptive leaders understand that traditional approaches may not work well in dealing with problems or making the most of new opportunities. By challenging established practices and promoting ideas, leaders can discover prejudices from old-fashioned techniques and find possible ways to get better (Rezaul, 2024).

Fostering Reliability and Teamwork. Building reliability and teamwork helps in building confidence and promotes teamwork. It is the responsibility of leaders to generate a safe, comprehensive working environment that will allow varying ideas to materialize. By consistently demonstrating reliability and fostering a collaborative culture, adaptive leaders enable their teams to work cohesively, tackle challenges effectively, and achieve collective goals (Uhl-Bien, 2007).

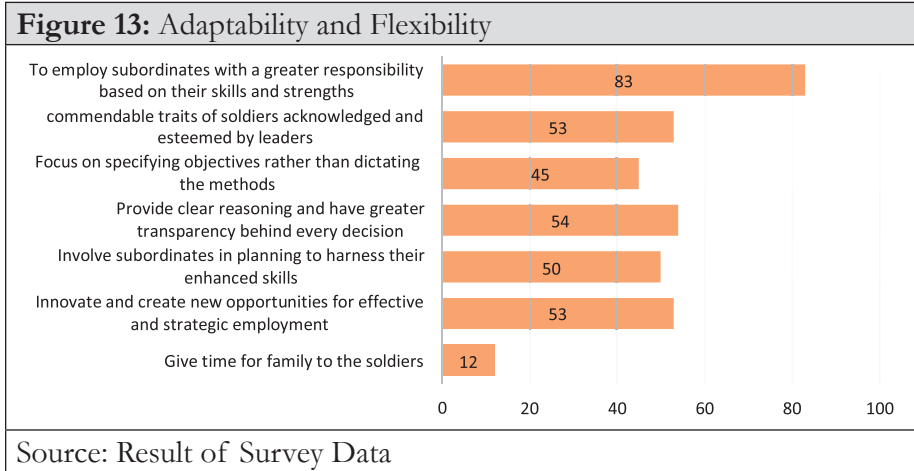
Forecasting and Directing Transformation. The essence of adaptive leadership is in its role of forecasting and directing transformation: the ability to notice emerging trends and proactively guide the organization. Adaptive leaders can pick patterns, challenges, and potential opportunities

within a socio-economic environment. They use these thoughts to chart strategic plans and programs coordinating future intent.

Developing Adaptability in Learning. A key aspect of this is cultivating learning agility, which involves the capacity to learn, adapt and evolve rapidly. Adaptive leaders embrace a growth mindset when it comes to individuals and organizations. They are inclined towards learning, evolution and creativity. This proactive stance empowers them to overcome socio-economic changes effectively while leading the way.

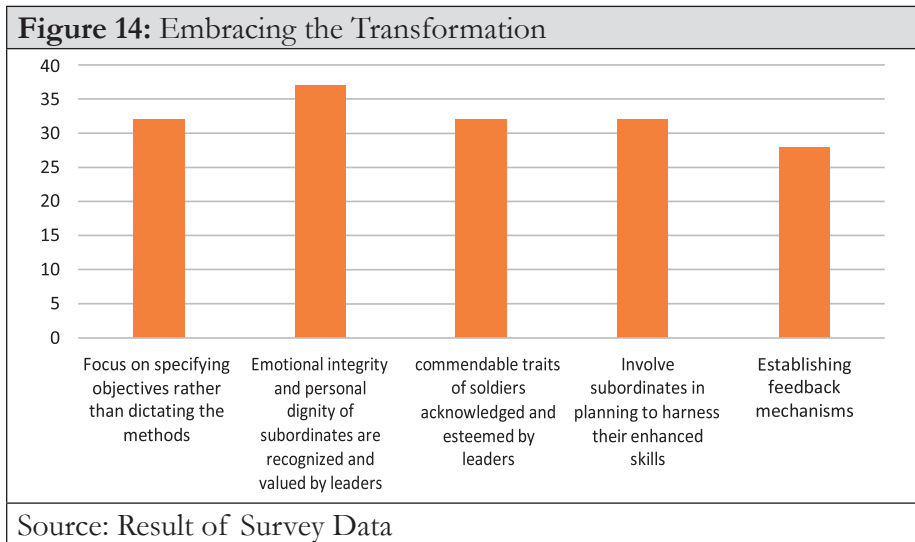
Leadership Qualities to Address the Socio-Economic Effects

Adaptability and Flexibility. It enables leaders to guide and respond effectively to the changing socio-economic landscape. It involves a readiness to embrace ideas and approaches that innovation and socio-economic changes offer (Saidul, 2024).

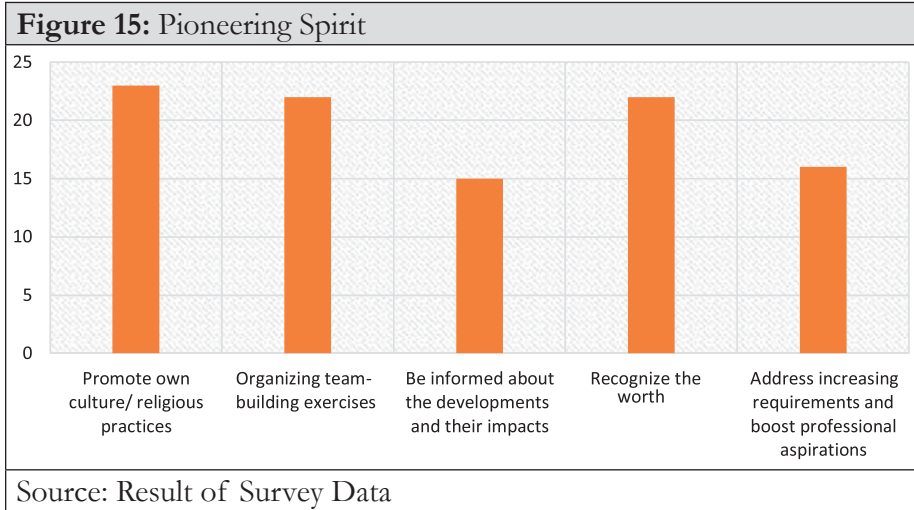


Innovation. A leader who embraces innovation actively looks for new ideas to enhance how things are done efficiently and effectively. This mindset promotes learning and improvement promoting a culture where innovative solutions is encouraged and valued (Saidul, 2024). By instilling a spirit of innovation in team members a mid-level leader helps the unit to become more adaptable and responsive to socio-economic changes.

Embracing the Transformation. Leaders who have personally faced the change, tend to be more open to new ideas and willing to challenge traditional approaches to ensure their under-commands remain relevant and active. By adopting a culture of adaptability and continuous development mid-level leaders motivate their team members to be resilient and creative, thereby enhancing their unit’s ability to navigate through socio-economic challenges.



Pioneering Spirit. Here leaders question the status quo and take calculated risks thereby paving the way for fresh ideas to spread within the subordinates. Initiative with an adventurous mindset is crucial for adapting to the fast-changing socio-economic dynamics. Initiative among leaders can significantly minimize the negative effects of socio-economic changes.



Measures to Minimize the Negative Impacts. Mid-level leaders have to undertake measures such as enforcing strict organizational action, ensuring vigilance among leaders, giving time for family to the soldiers, organizing team- building exercises, establishing feedback mechanisms, addressing increasing requirements, boosting professional aspirations to address the negative effects of socio-economic changes in the Bangladesh Army.

The essential leadership attributes to address the negative effects of socio-economic changes are proactive, empathetic, vigilance, supportive, initiative, role modeling, firmness, discipline, adaptability, flexibility, uprightness and compassion etc.

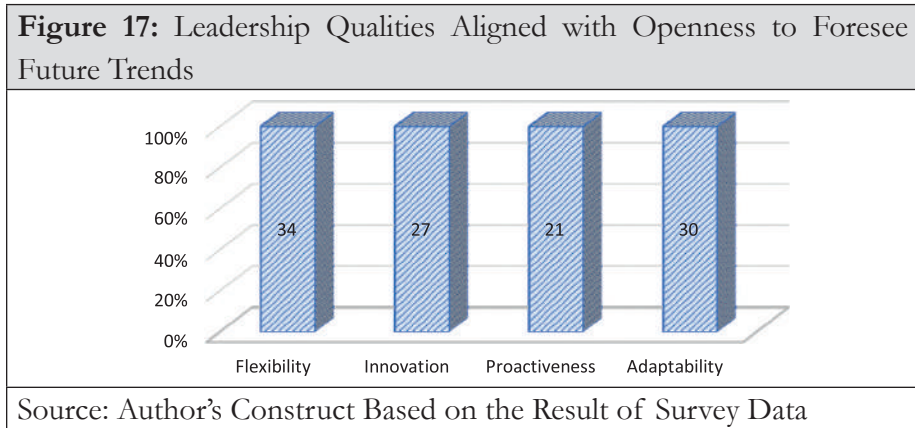
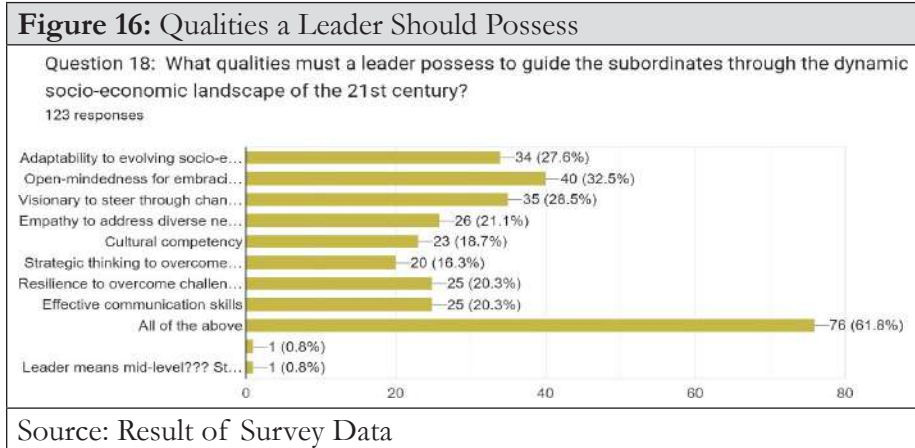
Adaptive Leadership Approach to Address the Effects of Socio-Economic Changes

Adaptive Leadership Approach Addressing the Socio-economic Effects

Openness to Foresee Future Trend

Having an openness of mind to be prepared to foresee future trends is a significant quality of Adaptive Leadership. It empowers leaders to mitigate the constantly changing socio-economic environment of the 21st century.

This visionary mindset of mid-level leaders fortifies an organization’s ability to encourage innovation and flexibility to effectively lead the subordinates.

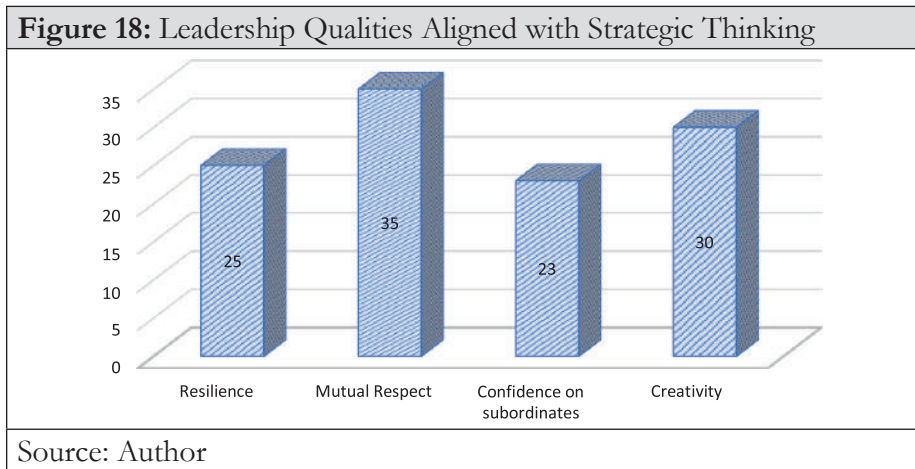


Adaptability to Evolving Conditions and Understanding of the Organization. Mid-level leaders need to understand their organization’s structure, culture, strengths and weaknesses to build trust and confidence in their subordinates. This understanding fosters an environment that encourages flexibility, confidence in subordinates, and creativity.

Visionary to Steer Through Changes. Visionary leaders can predict developments and adapt effectively to changes. This trait involves establishing a vision for the organization, motivating and uniting the subordinates toward common objectives.

Empathy to Address Diverse Needs. This attribute not only boosts morale and participation but also allows the subordinates to adjust and excel in an ever-evolving socio-economic environment.

Strategic Thinking to Overcome Complex Dynamics. Having a strategic thinking mind to overcome complex dynamics is a significant quality of Adaptive Leadership. It empowers leaders to mitigate the constantly changing socio-economic environment. Through strategic thinking, leaders can guide their organizations through ambiguity and transformation towards resilience and achievement.



Resilience to Overcome Challenges. This quality reflects leaders’ ability to stay strong and composed when faced with setbacks and difficulties. Resilient leaders instill perseverance and a culture of growth and flexibility with renewed energy and determination.

Effective Communication Skills. Having communication abilities is crucial, particularly for adaptive leadership in today’s changing socio-economic landscape. Good communication helps leaders to communicate vision, resolve misunderstandings, handle conflicts and foster trust among subordinates.

Recommendations

Mid-level officers may adopt and exercise an adaptive leadership strategy to establish and develop an adaptive, flexible, participatory, creative, and confident process in the organization.

Adaptive leadership strategy may be adopted to promote a leadership approach that involves maintaining awareness to forecast and respond to changes effectively, leveraging positive changes for overall benefit, and adapting to social changes.

Some junior or mid-level courses may offer adaptive leadership training, and various formations may hold periodic sessions on adaptive leadership strategy.

Conclusion

This century is characterized by the ongoing development of globalization, leading to significant societal changes. These changes are also evident in Bangladesh. The challenges posed by the changes in individuals' lifestyles in the contemporary world are influenced by various factors such as the environment, natural disasters, migration to new areas, cultural exchanges, improved communication, education, and societal shifts. Due to societal changes, leaders today are encountering multifarious challenges. Characterizing the environment as 'VUCA' presents a significant challenge, particularly for mid-level leaders of BA. While these changes have brought about many positive outlooks, they have also introduced challenges. However, for mid-level officers to uphold their professionalism and commitment effectively, they need to find a way to balance leveraging advancements while mitigating the impacts.

Appropriate leadership is an individual attribute and a style. It is also an art that a leader nurtures over time. The concept of the Adaptive Leadership approach by Ronald Heifetz suggests that there is a recognized factor in failing to deal effectively with the challenges of the modern world. Adaptive leadership is beyond the thinking that an individual heroic leader

has answers to all questions. Despite the positive effects of socioeconomic changes, deliberate strategies are not used to leverage these changes best. However, it is encouraging that mid-level leaders are aware of the changes and have modified their responses to the leadership approach.

The concept of adaptive leadership extends beyond the leader's behavioral skills and instead emphasizes the mobilization and encouragement of individuals to tackle challenging problems and thrive in complex situations. For optimal results in the face of socio-economic changes, mid-level leaders must possess key leadership qualities. These include adaptability and flexibility, innovation, trust in subordinates, embracing transformation, and fostering a sense of shared dignity. Adaptive leadership is highly applicable to the ever-changing socio-economic landscape and the diverse needs of today's workforce. It not only tackles the challenges that come from diversity but also turns them into opportunities for development and achievement.

Socio-economic change and adaptive leadership approaches are found to be relevant in dealing with the challenges that arise as a result of socioeconomic change. Understanding the organization, anticipating the future, strategic thinking, fostering organizational capacity, empathy to address diverse needs, and other adaptive leadership components all significantly impact essential leadership qualities for dealing with socioeconomic challenges. Flexibility, innovation, pro-activeness, willingness to adapt, confidence in subordinates, clarity and creativity, resilience, mutual respect, participation, uprightness, and adaptability are essential leadership qualities that can address the effects of socioeconomic changes in the twenty-first century.

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AN EVALUATION OF THE CURRENT GEOSPATIAL INTELLIGENCE (GEOINT) CAPABILITY OF BANGLADESH ARMY: A QUEST FOR ENHANCING OPERATIONAL EFFICIENCY

Lieutenant Colonel Abdullah-Al Mamun
afwc, psc, Engineers

Introduction

Geospatial Intelligence (GEOINT) is a terminology widely used in defence and security agencies since 2003. However, the concept of GEOINT is an age-old, proven idea that utilises spatial information to support decision-making. Historically, geographical information was one of the most vital tools for commanders or leaders' decision-making. The practice of using geospatial information can be found in Alexander the Great (356-323 BC) or San Tzu (500 BC). This evidently proves that the term GEOINT may be new, but the concept has been practiced throughout the history of human civilization. GEOINT Basic Doctrine of the USA defines GEOINT as: "The exploitation and analysis of imagery and geospatial information to describe, assess, and visually depict physical features and geographically referenced activities on the Earth. GEOINT consists of imagery, imagery intelligence, and geospatial information" (GEOINT Basic Doctrine 2006, p. 5).

Since its inception in the USA in 2003, GEOINT has been used mainly for military operations and national intelligence. Successful use of GEOINT was observed in the post-9/11 scenario in Operation Iraqi Freedom and contemporary military and security forces operations. GEOINT has gradually become popular in a wide range of organisations, including military and defence agencies, intelligence agencies, law enforcement, disaster response teams, environmental monitoring agencies, and businesses. Countries like India and Pakistan have integrated GEOINT for military surveillance, situational awareness, and strategic planning. (Sankar, 2023).

In Bangladesh, GIS technology has been used since 1991 for surveying, mapping, land management, and weather forecasting (Hossain, 2008). However, its application remains basic, focused on map production rather than advanced GEOINT capabilities. The Bangladesh Armed Forces have begun integrating GIS into their operations, acquiring GIS-enabled systems like radars and UAVs under the Forces Goal-2030 modernization plan. The establishment of a small GIS cell within the Army in 2015 and the use of computer-assisted wargame technology at the Army Wargame Centre (AWGC) are positive steps, but much more is needed to realize the full potential of GEOINT (Sarah, 2022). The recent inclusion of Bayraktar TB2 drones has enhanced their huge capability in terms of ISR and aerial imagery. By integrating all the facilities, geospatial data can be gathered and produce GEOINT output, which can be effectively utilised for military operations or peacetime tasks. However, this capability development has not yet reached its full potential and has not received due attention from our organization. At this backdrop, a study is required to evaluate the state of current GEOINT capabilities of BD Army and suggest measures to enhance / integrate GEOINT for enhanced operational efficiency.

Research Methodology

Research Design

Research Type. The study was planned to be a non-experimental exploratory type. Qualitative methods was utilised for data collection considering the subject is new and very limited military officers have the required knowledge in this field. However, it was planned to be a mixed-method study to have a redundancy in the method.

Study Area and Target Population. Bangladesh Army.

Sources of Data

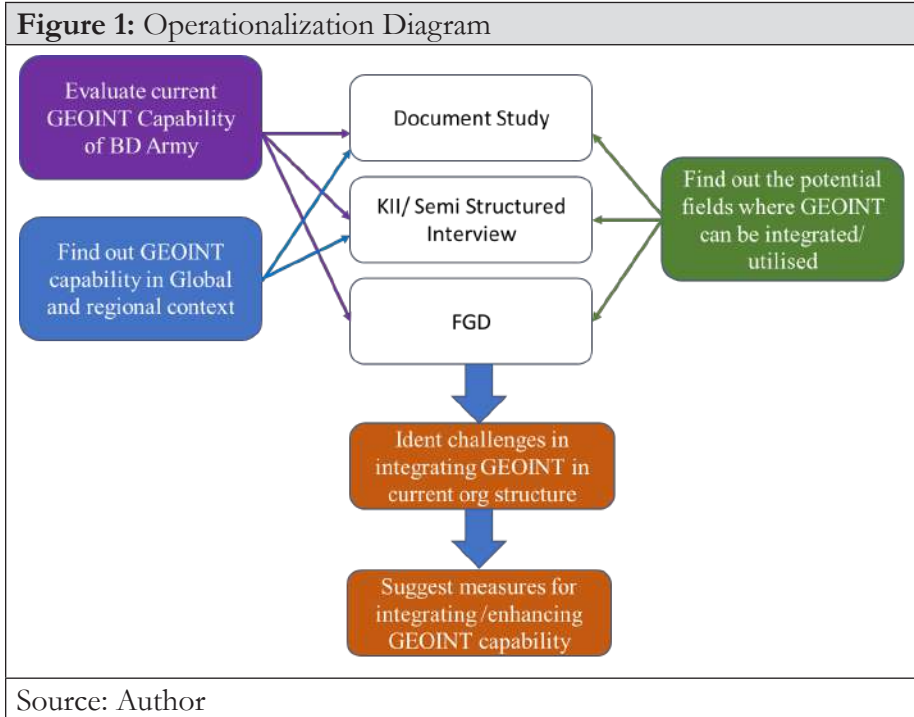
Primary Data. Semi-structured Interviews and Focus Group Discussions (FGD) was the means of collecting primary data. There were as many as 21 interviews and 2 FGDs were conducted.

FGD. Two FGDs were planned to obtain qualitative data. FGD was conducted among the officers who have good knowledge of GIS technology; besides, it was conducted among the officers working in various intelligence organisations and headquarters. FGD also conducted among the officers of fighting and supporting arms who have staff experience and would influence the decision-making level. Some civilian experts also included to provide their input for GEOINT integration requirements and integration plan.

Semi-Structured Interview/ KII. Interviews were considered the major source of primary data, as a survey was not performed for the study. Both KII and semi-structured interviews were conducted. The KII was conducted by selecting senior officers of Bangladesh (BD) Army at the decision-making level; besides, interviews were taken from directors associated with Army HQs, intelligence organisations, and others suitable for the study. Semi-structured interviews were conducted with subject matter experts from BD Army, the Survey of BD, and other related organizations.

Secondary Data. Data for analysis was collected from Services Headquarters and Formation Headquarters through personal interaction. In addition, other armies' doctrinal publications, various books, articles, journals, newspapers, periodicals, and open sources were consulted.

Operationalization Diagram. Both primary and secondary sources was used for operationalizing the research. The operationalization diagram is as follows:



Research Parameters

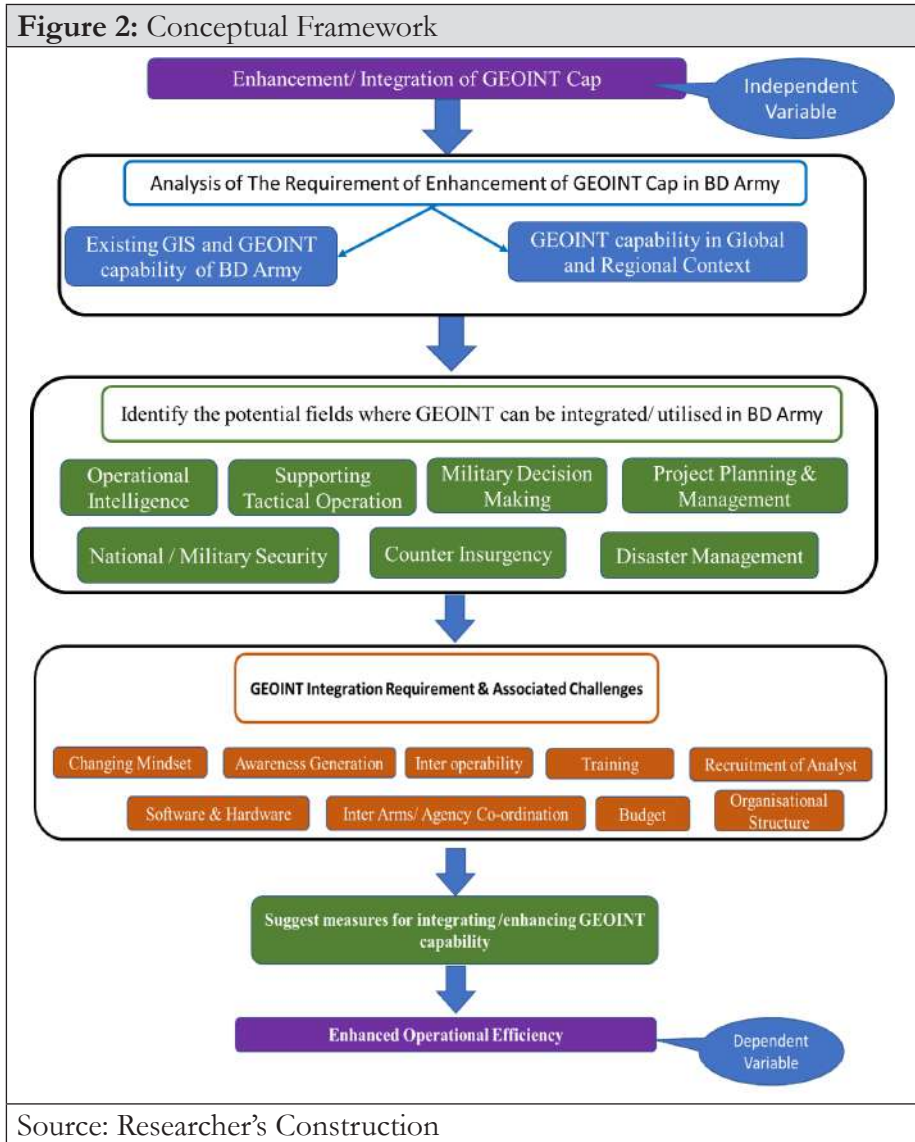
Case. Bangladesh Army.

Independent Variable. Enhancement of GEOINT Capability.

Dependent Variable. Enhancement of operational efficiency.

Conceptual Framework

The study aims to identify the current GEOINT capability of Bangladesh Army by analysing the existing practice of using GIS technology and GEOINT. Thereafter, available options for using GEOINT will be identified, along with the implementation requirements. In the process, the implementation challenges will be identified with plausible solutions. The conceptual framework is as follows:



Results and Discussion

Evaluating Current GEOINT Capability in BD Army in A Global and Regional Context

Understanding GEOINT

Geospatial Intelligence (GEOINT) integrates imagery, imagery intelligence (IMINT), and geospatial data to support military and security operations. According to the U.S. National Geospatial-Intelligence Agency (NGA), GEOINT involves the exploitation and analysis of imagery and geospatial information to describe and visually depict physical features and activities on Earth (NGA, 2006). GEOINT data comes from various sources, including satellite imagery, aerial platforms, and unmanned systems. These systems provide different types of imagery, such as panchromatic, infrared, and hyperspectral, which are essential for constructing geospatial databases.

GEOINT's core elements include imagery, IMINT, and geospatial information. Its analytic process is similar to the Intelligence Preparation of the Battlefield (IPB) process, involving steps like defining the environment, describing its influence, and evaluating threats. GEOINT products range from basic maps to advanced sensor-based outputs, which are critical for decision-making in both military and civilian contexts. Additionally, GEOINT requires robust support systems for data collection, processing, dissemination, and archiving, including advanced sensors on satellites and UAVs (NGA, 2006).

GEOINT in the Global Context

Since its inception in 2003, GEOINT has gained global recognition, with the USA leading its development. The National System for Geospatial Intelligence (NSG) in the U.S. manages GEOINT activities, supported by the National Geospatial-Intelligence Agency (NGA). GEOINT capabilities include the use of advanced sensors, multi-intelligence collaboration, and

tools like the Mobile Integrated Geospatial-Intelligence System (MIGS) (NGA, 2006). The UK follows with the National Centre for Geospatial Intelligence (NCGI), offering GEOINT and Open Source Intelligence (OSINT) to defense and government agencies (UK Gov, 2024). The UK Defence Geographic Centre (DGC) also provides global geographic data. NATO, with its NATO Intelligence Fusion Centre (NIFC), coordinates GEOINT activities among member nations, with a strong focus on military, defense, and peacekeeping missions (USGIF, 2020). The U.S., UK, and NATO exemplify the global expansion and application of GEOINT across military and civilian domains.

GEOINT in the Regional Context

In the regional context, countries like Indonesia, Malaysia, Thailand, India, Pakistan, and Sri Lanka utilize geospatial technology and GIS for national purposes such as disaster management and environmental monitoring. However, GEOINT integration into military operations remains limited. India leads the region with organizations like ISRO and the Defence Research and Development Organization (DRDO) using GIS and military applications like INDIGIS. Pakistan employs geospatial tools through SUPARCO for both civilian and military purposes, though GEOINT capabilities remain underdeveloped in its military.

GEOINT in Bangladesh

Bangladesh lacks a dedicated GEOINT organization like the US or UK but utilizes GIS technology since 1991 for planning and development in the field of development projects, academia and various government and private organizations. The Survey of Bangladesh (SOB) maintains a national geodatabase and is working on improving digital elevation models (DEM) and GNSS stations, which can support GEOINT. SPARRSO focuses on space and remote sensing data across various disciplines, while the National Spatial Data Infrastructure (NSDI) manages geospatial data.

The National Telecommunication Monitoring Center (NTMC) provides limited GIS products alongside SIGINT and OSINT. Besides, Bangladesh Water Development Board, Roads & Highway Division, BIWTA, LGED, SPARRSO uses GIS but none of the organizations is designed to produce GEOINT products.

GEOINT Practice in Several BD Army Organizations

GEOINT in BD Army remains underdeveloped, though several organizations use GIS technology. The Army GIS Centre (AGISC) is the hub for GIS activities, providing maps and digital data but has yet to focus on GEOINT integration (Sarah, 2022). The Mission Command Centre employs GIS-based ISR software but lacks GIS analysis capabilities. Artillery and Army Aviation units use UAVs and imagery for reconnaissance, which can contribute to GEOINT data. The Army Security Unit focuses on HUMINT, OSINT and SIGINT types, and Army SATCOM aims to utilize satellite imagery from Bangabandhu-2 which can be used for potential GEOINT applications. Other services, like DGFI and the Bangladesh Navy and Air Force, use IMINT and mapping tools but have not fully adopted GEOINT practices. However, these foundations suggest that the Army is well-positioned to integrate GEOINT, which is crucial for enhancing operational capabilities in line with global and regional trends.

Examining Potential Fields for GEOINT Integration in BD Army

GIS-based Fields in BD Army

The Bangladesh Army employs a wide range of GPS and GIS-based platforms, but GIS capabilities are used in isolation across various units (Moin, 2024). Several GIS-based fields have been identified for operational and peacetime tasks.

For operational tasks, GIS technology is integrated into Terrain Analysis (TERAN), which assesses terrain characteristics for military purposes.

Currently handled manually by the Corps of Engineers, AGISC has started applying GIS for the MO Directorate, but further digitization is necessary. GIS can also enhance the Preparation of Combined Obstacle Overlay (COMBOS), which is part of intelligence preparation of the battlefield (IPB). Although currently done manually, GIS technology offers more efficient, layered digital outputs (US Army, 2017). Situational/Operational Maps can be generated using multiple GIS layers to depict various operational details. AGISC is central to this capability, although its analytical function is still underdeveloped.

For C4ISR, the Bangladesh Army uses GIS to collect geospatial data, though analysis is limited. Enhancing this capability with GEOINT could further improve command and control. GIS also supports Surveillance and Target Acquisition (SATA) by processing UAV imagery, although integration with Air Defence systems is still lacking.

In Weather Analysis, GIS can integrate meteorological data from the Bangladesh Air Force (BAF) to improve decision-making during operations (Interview, Dir Met, BAF).

In peacetime tasks, GIS helps with disaster management, producing real-time maps from UAV imagery. It also facilitates digital surveys of military-owned land and updates maps for cantonments (Sarah, 2022). Additionally, GIS is employed for training and war-gaming by generating specialized maps and conducting computer-assisted exercises (FGD-2).

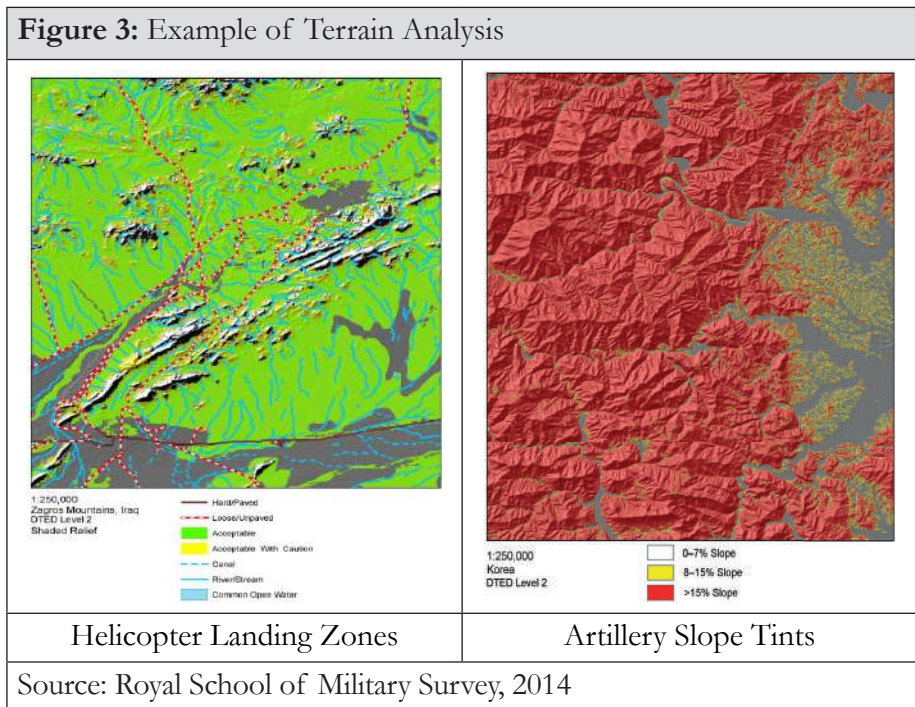
Potential Fields for GEOINT Integration in BD Army

The GIS-based practice and involvement by various units and organisations of BD Army suggests that GEOINT integration is possible in various fields of Army operation. Considering the global and regional GEOINT context few fields can be identified for GEOINT integration.

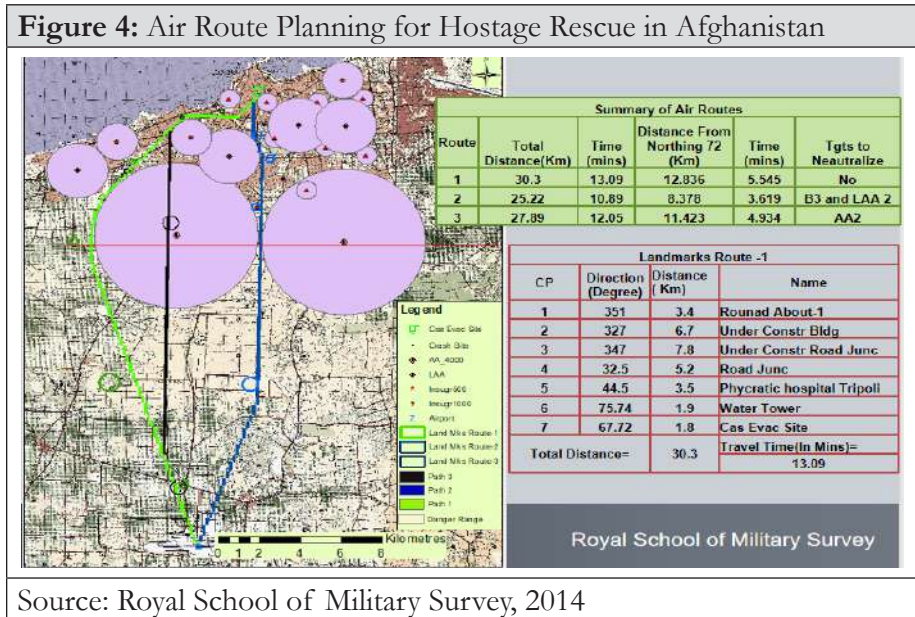
Operational Intelligence. Geospatial Intelligence (GEOINT) provides sophisticated and updated operational intelligence by integrating geospatial

information with other intelligence sources such as HUMINT and OSINT. This hybrid GEOINT approach often gives a strategic advantage in military operations (Alderton, 2014). GEOINT supports operational environment analysis, terrain analysis, and mission planning.

- **Operation Environment Analysis.** GEOINT offers a comprehensive understanding of the operational environment, encompassing physical geography, infrastructure, and human activity patterns. Detailed maps and satellite imagery provide insights into terrain and key locations essential for operations.
- **Terrain Analysis.** Understanding the terrain is vital for manoeuvring and combat engagement. GEOINT enhances Terrain Analysis (TERAN) by utilizing geospatial data to depict critical features such as slope, aspect ratio, and vegetation. This information helps identify suitable landing sites and artillery positioning by analyzing obstacles and land use as shown in figure 3 (US Army, 2017).



- Mission Planning and Analysis.** GEOINT is crucial in the mission planning phase, enabling the development of effective strategies. It assists in identifying optimal routes for troop movements and supply lines, helping determine the best asset deployment locations. Figure 4 illustrates GEOINT’s contribution to mission planning.



Source: Royal School of Military Survey, 2014

Supporting Tactical Operations. GEOINT provides time-sensitive intelligence critical for tactical operations, helping to create a Common Operational Picture (COP), assess targeting precision, and evaluate battle damage.

- Creating Common Operational Picture (COP).** By integrating precise location and terrain data, GEOINT enables the creation of a COP, facilitating joint operation planning and coordination.
- Targeting and Battle Damage Assessment.** GEOINT products are essential for assessing targeting accuracy and battle damage. They include standard imagery and mission-specific datasets. For instance, GEOINT was instrumental in identifying Taliban positions in Afghanistan and assessing damage post-strike. Figure 5 shows an example of targeting and battle damage assessment in Libya.

Figure 5: GEOINT Product for Terrorist Targeting and Battle Damage Assessment

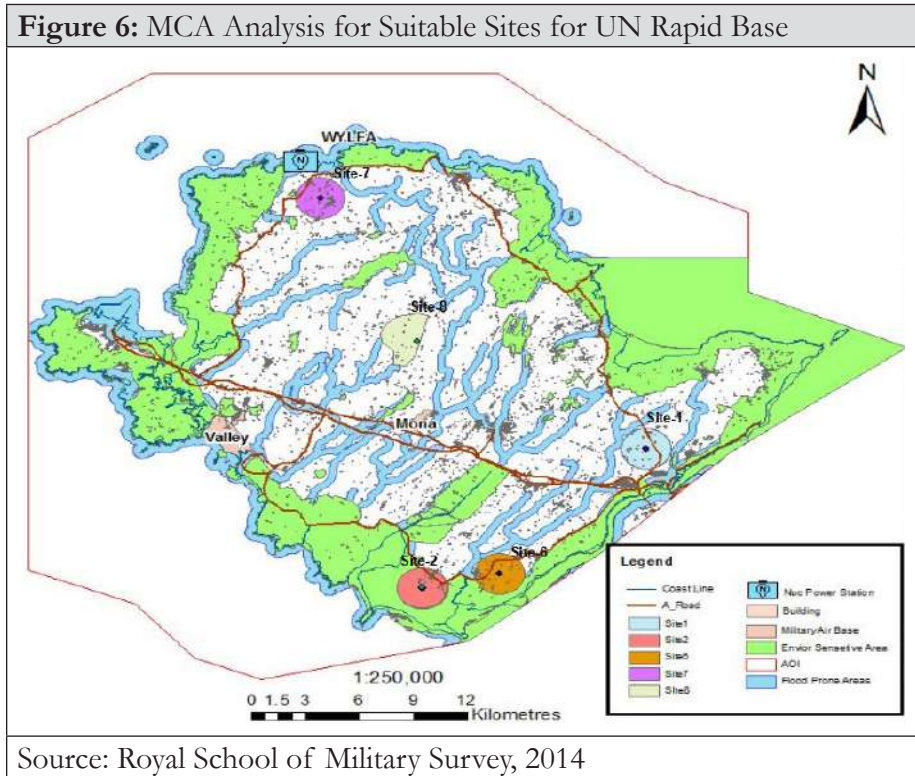


Source: Royal School of Military Survey, 2014

Tactical Movement Guidance and Threat Analysis. GEOINT aids in analyzing threats during operations. Techniques such as network analysis and least-cost path analysis enable better planning of tactical movements.

Supporting Military Decision Making

GEOINT enhances military decision-making by providing timely, accurate information that improves situational awareness. Live feeds from satellites and drones help track troop movements and enemy positions, aiding in operational planning. The use of 3D models and detailed maps allows for a clearer understanding of the operational area. Using all these tools military planners can make better and quick decisions for successful operation planning. Figure 6 shows an example of selecting a base camp through multi-criteria decision analysis (MCA).



Supporting Counter Insurgency

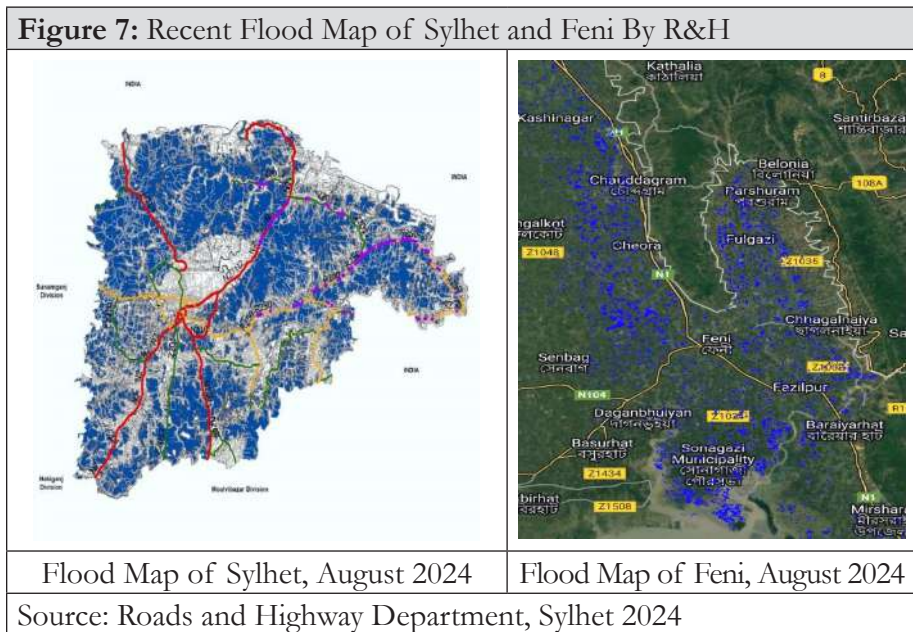
In counter-insurgency operations, GEOINT is utilized to track movements, identify hideouts, and plan operations. UAVs can help detect insurgent camps, enabling security forces to enhance their patrols in suspected areas. It can also predict future planned activities of insurgent groups analysing their previous activity record through geospatial data analysis and suggest security force's proactive action against insurgency.

Providing Intelligence for National Security

GEOINT is vital for national security operations, providing precise geospatial data that enhances situational awareness and facilitates effective decision-making.

Disaster Management

GEOINT supports disaster management by providing risk assessments and planning tools. It identifies disaster-prone areas, conducts infrastructure analysis, and aids in real-time monitoring during events. In August 2024, Bangladesh experienced flash floods, prompting the Roads and Highway Department to use GEOINT products for mapping affected areas as shown in figure 7.



Project Planning and Management

The BD Army is involved in various national development projects, utilizing GEOINT for identifying suitable project locations and planning. This technology is especially valuable for projects in remote areas like CHT. GEOINT can provide road layout, identification of suitable areas for construction work through MCA, least cost path analysis, network analysis, hazard mapping and other analysis tools.

Identification of the Requirements and Associated Challenges of Integrating GEOINT

Requirement of GEOINT Integration

GEOINT within the Army necessitates a comprehensive approach that includes hardware, software, organizational structures, and trained personnel to ensure efficient data collection, analysis, and dissemination. Specific requirements are appended below:

Hardware Requirements. Data collection begins with various hardware tools, such as remote sensing platforms, including satellites, aerial platforms, and UAVs. These satellites should be equipped with sensors for high-resolution imagery, while manned and unmanned aircraft must integrate sensors for aerial photography and LiDAR mapping. Additionally, ground stations and differential GPS systems are essential for receiving geo-referenced data. Secure communication systems are needed for data transmission. High-performance servers, cloud storage, and computers are required for data management and analysis, along with a secured network for disseminating GEOINT products.

Software Requirements. GEOINT systems demand diverse software solutions at different stages of development. Geospatial analysis software like ArcGIS and QGIS is crucial for mapping and spatial analysis. Remote sensing software such as ERDAS IMAGINE and ENVI processes satellite and aerial imagery. Data management systems like PostgreSQL/PostGIS are vital for storing geospatial data, and visualization tools like CesiumJS are necessary for creating 3D models. Integration tools like APIs and middleware ensure seamless data flow across systems.

Need for Trained Manpower. Trained analysts are essential for effective GEOINT operations. Comprehensive training in geospatial technologies and data management is necessary, alongside ongoing training to keep up with technological advancements.

Differential GPS Field Station. Since the BD Army lacks satellite imagery capabilities, UAVs must be used for acquiring images. A differential GPS field station is required to convert UAV imagery into geo-referenced data, necessitating its procurement for integration.

Separate or Central Data Centre. A dedicated geo-data center is essential for storing the growing volume of GEOINT data. Initially, the Army data center can be used, but a separate server and data center will be required as integration expands (Sanjeev, 2024).

Integration of Multiple Data Sources. Data collection is critical, requiring integration from various stakeholders such as Army aviation and national agencies like NTMC and SPARSO for comprehensive geospatial data collection.

Need for a Separate GEOINT Fusion Centre. A dedicated organizational structure is necessary for effective GEOINT integration within the BD Army. The current AGISC lacks the capability to support a comprehensive GEOINT system. Establishing a separate GEOINT fusion center would facilitate coordinated planning and execution of GEOINT activities (Habib, 2024).

Challenges in Integrating GEOINT in BD Army

GEOINT is a field of intelligence that is largely unfamiliar to most of our military personnel. Consequently, it has not been integrated, despite its significant benefits. The FG-2030 modernization plan also excludes the integration of GEOINT. As a result, there will be numerous challenges in incorporating GEOINT into the current organizational structure. Some of these challenges are outlined in the following paragraphs.

Awareness Generation Regarding the Utility of GEOINT. A key challenge is the lack of awareness regarding GEOINT's potential. To integrate it, its utility needs to be understood at all levels, including policymakers, decision-makers, and field troops. Without this awareness, it will be difficult to move forward with integration.

Changing Mindset. The BD Army currently lacks sufficient knowledge about GEOINT applications. Modernization will require a shift in mindset to incorporate both basic GIS infrastructure and advanced GIS applications to generate GEOINT.

Interoperability Issues. Many GPS-enabled platforms in the BD Army (e.g., UAVs, radars, and gun systems) are not yet interoperable. Integration requires these systems to work together on a unified digital platform for GEOINT production and utilisation.

Inter-Agency Coordination. Effective GEOINT integration also depends on close collaboration with other national agencies like SOB, LGED, RHD, and BMD for data collection and management. Coordinating with internal Army units like the SATCOM unit and Army Aviation is crucial.

Lack of Data Collection Capability. Collecting diverse geospatial data is essential for GEOINT production. Integrating national and military organizations for comprehensive data collection will be critical for success.

Shortage of Skilled Personnel. The AGISC structure is inadequate to meet the Army's GEOINT needs. Continuous on-the-job training and posting of GIS-qualified personnel under one unified structure are required. Recruiting civilian analysts and overseas training are suggested solutions.

Absence of Local Experts and Training. Bangladesh has not yet developed local GEOINT expertise or training facilities. Assistance from friendly foreign countries and the creation of a geospatial fusion center may help address this gap.

Command and Control Issues. A clear C2 relationship must be established for the GEOINT organization to function efficiently. Without this, dissemination of GEOINT will face bureaucratic delays.

Forces Goal Structure. GEOINT organisations are absent from the Forces Goal 2030 modernization plan, creating bureaucratic challenges in raising new units and procuring necessary resources for integration.

Suggested Measures for GEOINT Integration and Integration Plan

Suggested Measures for GEOINT Integration

GEOINT integration in BD army needs to overcome different challenges identified by the research. Taking expert opinion through interviews and FGD, the researcher identified mitigation measures for the challenges of GEOINT integration and fulfill the requirements, which are appended in the following paragraphs.

Generating Awareness of GEOINT Potential. To overcome the lack of GEOINT awareness, it is essential to launch comprehensive awareness campaigns at all levels. Policymakers, decision-makers, and troops need to understand the benefits and utility of GEOINT for successful integration.

Changing Mindset of Senior Leadership. GEOINT integration needs approval from senior leadership. As such, shaping the mindset of senior leadership would be a prime requirement of GEOINT integration.

Increased Budget Allocation. GEOINT integration requires additional financial resources. A dedicated budget for establishing GEOINT infrastructure, procuring equipment, and training personnel is necessary to support the integration effort.

Acquisition of Required Software and Hardware. GEOINT integration will require a good number of hardware and software. This software and hardware are required to attain the basic GEOINT capability, ie, data collection, data storage and management, data analysis, product generation and dissemination.

Capacity Building and Human Resource Management. To effectively integrate GEOINT, AGISC must be enhanced as a central hub through investments in training, management, and equipment. Human resource development should focus on training operators, analysts, and users. Increasing participation in GIS-based courses abroad and exploring GIS platforms in UN missions for operator training are also crucial steps.

Collaboration with Friendly Countries. BD Army may seek assistance from friendly countries like USA, UK, Germany, Japan, China, India, Pakistan etc. to start with the initial GEOINT structure. Moreover, instructors may be hired from friendly countries to train officers and GIS operators to make them expert analysts. Software and hardware support may also be taken to purchase these technologies at a low cost through G2G contract or bilateral agreement.

Develop Military GEOINT Infrastructure. Initially, GEOINT production can start at AGISC after achieving full GIS potential by AGISC. The AGISC needs to be beefed up with additional manpower, resources, and infrastructure to begin with GEOINT production (Ahsan, 2024). A separate Army Geospatial Fusion Centre (AGFC) is to be formed beside the AGISC where the AGISC would work as GIS data provider, and AGFC would carry out all GEOINT activity.

Revisiting Forces Goal. GEOINT organisation is not included in the FG-2030, and similarly, GEOINT technology is not included in the modernization plan. The AGISC and Army GEOINT fusion center, both can be kept in the next FG planning, and current GEOINT operations can be done through AGISC. The MO and Engr directorate may need to study the options available for GEOINT integration and plan accordingly (D Engr, 2024).

Formulation of GEOINT Doctrine and Geospatial Data Policy. The formulation of a comprehensive GEOINT doctrine and geospatial data policy is crucial for the successful integration of GEOINT capabilities within the Bangladesh Army. These frameworks will ensure strategic alignment, operational effectiveness, interoperability, resource optimization, and robust data governance.

GEOINT Integration Plan. The GEOINT integration in BD Army should be a gradual process that may involve short-term and long-term planning as below:

Short-Term Plan (2-3 years). The short-term plan may involve attaining the full GIS potential of AGISC and beginning with basic GEOINT production. Focus on changing the mindset of decision-makers and policymakers to integrate GEOINT within the Army and include it in the Forces' Goal.

Long-Term Plan (5-10 years). The long-term plan may involve raising the Army Geospatial Fusion Center (AGFC) and obtaining major GEOINT capabilities and skilled technicians and analysts. A small geospatial cell may be formed at the formation level as a part of the long term plan. Besides, it may include establishing a separate data center and web-based dissemination system, integrating the capability of Bangabandhu (BB) Sattelite-2 and other sophisticated data sources and finalising GEOINT doctrine and policy.

Conclusion

The study provides excellent insight into the GEOINT integration in BD Army. It provided an understanding of the newly evolving technology of GEOINT. It emphasizes that, despite its relatively recent formalization in 2003, GEOINT builds on historical uses of geographic information in military strategy, proving its utility in modern defence. Globally, GEOINT has evolved from military applications to a wide array of sectors, but the Bangladesh Army is still at an early stage of its integration.

The study highlights the absence of a national GEOINT structure, with limited GIS usage in various government projects, including mapping and decision-making. While the Army uses GPS and GIS in several units, GEOINT remains largely unexplored. The establishment of AGISC, the Army Data Center, and other technical units provides an opportunity for initiating GEOINT integration.

The study identifies several areas within the Army where GEOINT could significantly enhance operational efficiency, such as terrain analysis, mission planning, targeting, disaster management, and military decision-making. However, challenges like hardware and software shortages, lack of skilled manpower, and limited training facilities must be addressed.

Key requirements for GEOINT integration include the development of a separate GEOINT structure, skilled personnel, specialized hardware and software, and enhanced inter-agency coordination. Identified challenges include generating awareness, overcoming bureaucratic inertia, ensuring system interoperability, and establishing a comprehensive GEOINT doctrine and geospatial data policy.

To overcome these barriers, the study proposes a phased induction plan which is a gradual process involving short-term and long-term planning. The short-term plan may involve attaining the full GIS potential of AGISC and beginning with basic GEOINT production. The long-term plan may involve raising the Army Geospatial Fusion Center (AGFC) and obtaining major GEOINT capabilities and skilled technicians and analysts. A small geospatial cell may be formed at the formation level as a part of the long term plan. Besides, it may include the inclusion of AGFC in Forces Goal, integrating the capability of Bangabandhu (BB) Satellite-2 and other sophisticated data sources, establishing a separate data center and web-based dissemination system, and finalizing GEOINT doctrine and policy.

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Lieutenant Colonel Mamun is a graduate of Defence Services Command and Staff College, Mirpur, and National Defence College, Mirpur. He holds a Master of Science degree in Military Studies from Bangladesh University of Professionals. He is a graduate in Civil Engineering from Military Institute of Science and Technology, Mirpur. He also obtained a Master of Science degree in Geospatial Intelligence from Cranfield University, UK. The officer has attended number of professional courses at home and abroad including Bomb Disposal course. He has also participated in number of workshops, seminars and has carried out several individual and group research works. He has visited number of countries in Europe and Africa. Lieutenant Colonel Mamun is married and blessed with one son and a daughter. He loves traveling, gardening and playing games & sports.

ENDURING PROTRACTED WAR BY INFERIOR FORCES IN RECENT CONFLICTS: LESSONS FOR BANGLADESH ARMY TO ENHANCE WARFIGHTING CAPABILITY

Lieutenant Colonel Md Abdul Moman, afwc, psc, G, Artillery

“You may not be interested in war, but war is interested in you.”

- Leon Trotsky

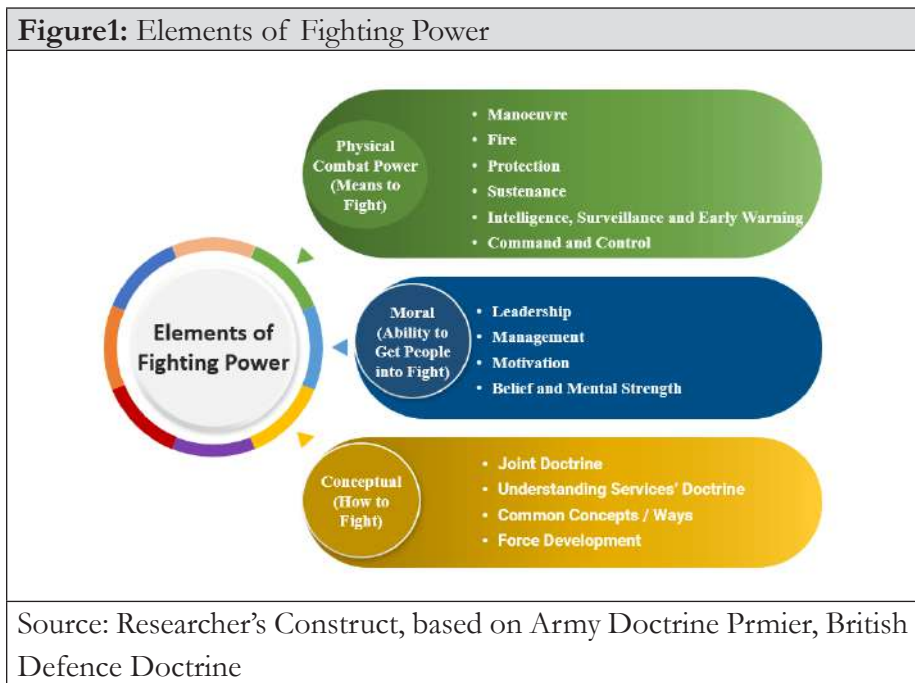
Introduction

Warfare has evolved significantly, marked by a shift towards non-traditional conflicts, an imbalance of power, longer duration, and increasingly common asymmetric warfare. In recent days, comparatively inferior forces have demonstrated resilience against stronger forces. The Russia-Ukraine war, Gaza war, Vietnam war, and Afghanistan war bear testimony of it (White et al., 2023). Inferior forces typically adopted indirect strategies, maximizing their effectiveness and minimizing vulnerabilities, which led to protracted wars making war costly for the stronger forces (Lanchester, 1916). The strategy of enduring protracted wars by the inferior forces and ultimately making it costly for the stronger forces has been adopted in recent conflicts. It is evident from historical instances that the inferior forces adopted indirect strategies with desperate desires to win (Toft, 2005).

The warfighting capability of any force comprises of physical component, moral component, and conceptual component (Army Doctrine Primer, 2011). This varies on the situation, opposing forces, and geopolitical stances. In the face of geopolitical challenges, small states, in shaping their states' survival strategies and offset their inherent vulnerabilities, often prioritize diplomacy, economic resilience, leadership roles, and institutional capacity (Ang, 2022). In this context, being outnumbered, Bangladesh (BD) Army may have to fight superior adversaries. BD is a peace-loving country and

she will not trigger the issues of conflict. However, the possibility of BD becoming a party to the geopolitical power game in the future cannot be overlooked.

BD Army has derived its warfighting doctrine considering its approach to organization, equipment, training, tactics, threat perception, and tasks (GSTP 0032, 2006) which advocates us to prepare for a short-duration war (Haque, 2024). All our preparations including training and logistics revolve around this guideline. On the other hand, BD may have to resort to total people’s war after its conventional power diminishes (GSTP 0032, 2006). Transition to total people’s war will be challenging considering the command, control, and coordination issues. However, to endure a war for a prolonged period in a conventional or a blended environment, the elements of the fighting power for any force will vary depending on the ability to get people into the fight and the availability of the means to fight. Thus, the elements of fighting power of BD Army will revolve around the physical, moral, and conceptual components as follows (not limited to):

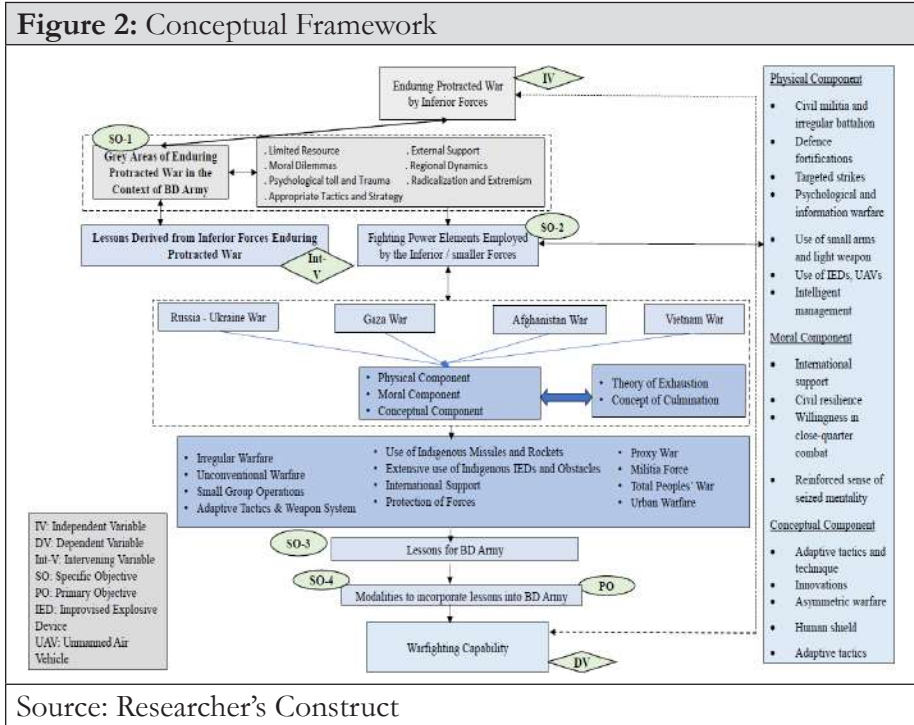


However, any inferior force will need specific directives, methodical resource management, adoption of indigenous techniques and tactics, morale, and a psychological mindset to endure wars for a longer duration.

Research Methodology

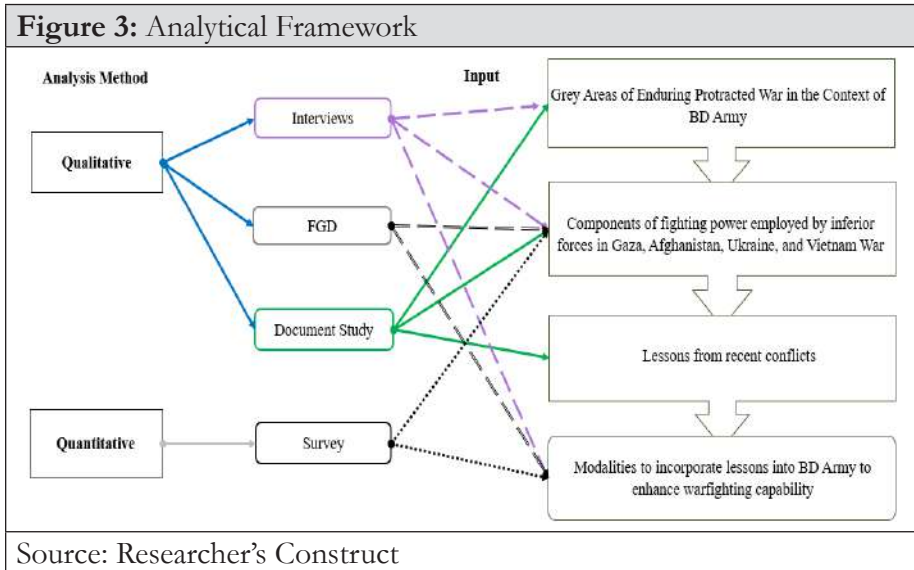
This mixed-method descriptive research is carried out based on primary and secondary sources of information. Enduring protracted war by inferior forces in the recent conflicts: Lessons for Bangladesh Army to enhance warfighting capability- is an important research topic that needs to be explored. This exploratory research would involve gathering and analyzing data, content analysis, as well as conducting interviews with senior military leadership and think tanks. In the process, inductive approach was followed with a mixed method design while quantitative and qualitative analysis was employed. In-depth analysis through Focus Group Discussions (FGDs), surveys, Key Informant Interview (KII), and In-Depth Interview (IDI) was carried out as part of qualitative analysis, and cross-sectional survey as part of quantitative analysis. The broad objective of the research is to identify the ways for enduring protracted war against superior forces to enhance the warfighting capability of BD Army. The Independent and dependent variable are “Enduring protracted war by inferior forces” and “Warfighting capability of BD Army” respectively. The intervening variable is “Lessons derived from inferior forces enduring recent conflicts”. The research hypothesis is “If the war endurance is enhanced, then it will increase the warfighting capability because warfighting capability is boosted by the elements of fighting power”.

Figure 2: Conceptual Framework



Source: Researcher's Construct

Figure 3: Analytical Framework



Source: Researcher's Construct

Grey Areas of Enduring Protracted Wars in the Context of the Bangladesh Army

“The future of warfare will see weaker forces enduring through innovative strategies, adaptability, and the will to sustain prolonged conflict.”

- General James Mattis

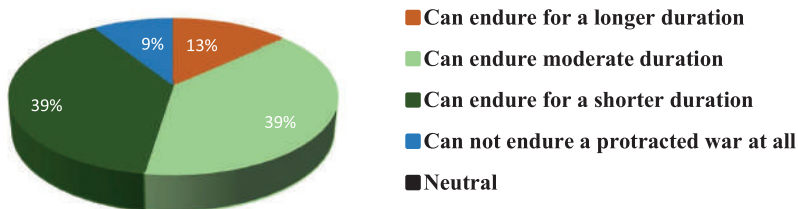
Understanding the Protracted War

Protracted wars often extend over long periods without bringing decisive outcomes. Sustaining such a protracted war for a long period requires efficient resource management, including logistics and manpower. Warring forces need to adapt to evolving conflict dynamics and maintain morale over time, which at times seems challenging. In most cases, the prolonged conflicts often draw international attention to manage external influences and support. Understanding the gamut of such conflicts is crucial for BD Army, considering its regional security environment and potential adversaries.

Figure 4: Perception of Enduring a Protracted War against a Stronger Force

Question: What is your perception of enduring a protracted war against a stronger force with the present state of warfighting capability of BD Army?

Sample Size (n): 143



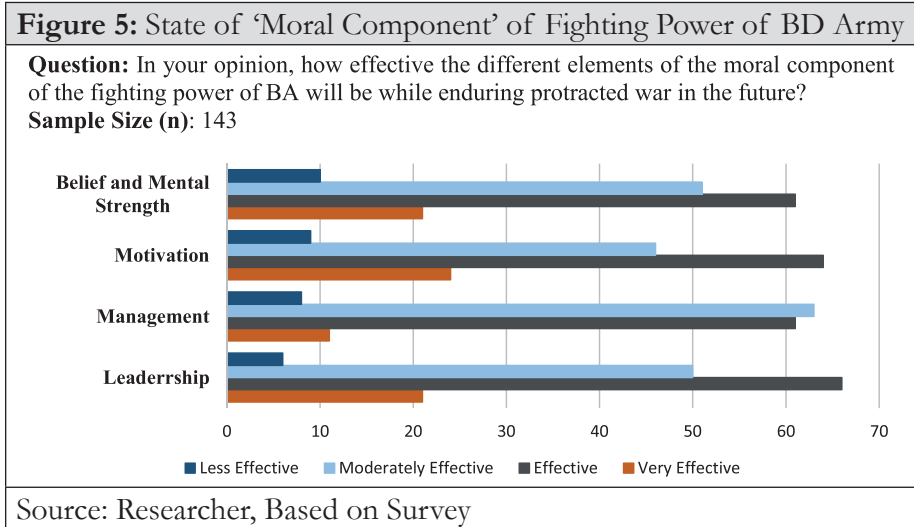
Source: Researcher, Based on Survey

Evaluation of Existing Physical Components of Fighting Power of Bangladesh Army

BD Army needs to develop and attain more capability on the elements of the physical component of fighting power especially manoeuvrability and protection through air defense measures (Habib, 2024). Our reach has extended with the induction of long-range MLRS and drones (Azad, 2024). We are largely dependent on imports of few critical supplies. Moreover, we need to gain enhanced Intelligence, Surveillance, and Reconnaissance (ISR) capability (Waker- Uz- Zaman, 2024). With the introduction of the Army Command Centre, significant advancement has been made regarding Command Control (C2) aspects of BD Army. Yet, there are many challenges to overcome regarding communication amongst inter-services and para-military forces.

Evaluation of Moral Components of Fighting Power of BD Army

Elements of moral component like leadership, management, and motivation will play significant roles in uniting and forming the national will to fight a prolonged war (Habib, 2024). Spontaneity, aggressiveness, and lack of adherence to tactical teaching are the areas identified during various exercises where emphasis needs to be given to improvement. Capitalizing the experience of peacekeeping operations and participation in counter-insurgency operations in Chottogram Hill Tracts, the members of BD Army are assumed to remain motivated during peace and conflict.



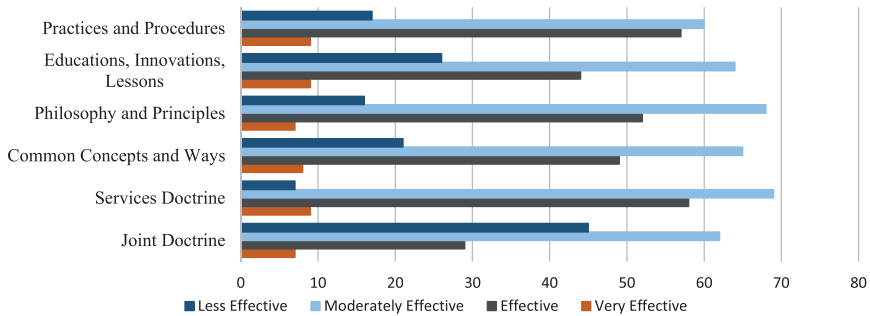
Evaluation of Conceptual Components of Fighting Power of BD Army

The Joint Warfare Doctrine (JWD)-2006 is currently in draft form, aiming to unify tri-services operational preparedness, while the joint logistics doctrine is also under process to integrate tri-services logistics and civil resources (Hossein, 2024). Common concepts and ways of enduring protracted war involve adopting asymmetric techniques to counter superior forces including guerrilla tactics, and adopting indirect approaches. For BD Army, understanding irregular approaches, unconventional warfare and transition to total people’s war are equally important considerations for preparing for prolonged engagements (Waker-Uz-Zaman, 2024).

Figure 6: Anticipated Effectiveness of ‘Conceptual Component’ of the Fighting Power of BD Army in Future

Question: In your opinion, how effective the different elements of the conceptual component of the fighting power of BA will be while enduring protracted war in the future?

Sample Size (n): 143



Source: Researcher, Based on Survey

Elements of Fighting Power Employed by the Inferior Forces in the Recent Conflicts

“In today’s conflicts, inferior forces capitalize on protracted engagement and attrition, aiming to exhaust the resources and political will of stronger opponents.”

- General Stanley McChrystal

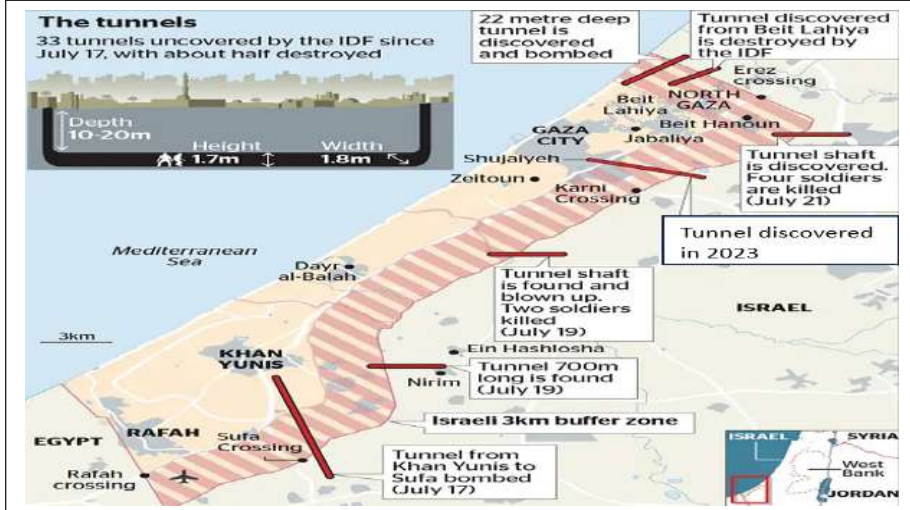
Gaza War

Physical Components of Fighting Power

Hamas poses a serious threat to Israel through its deployment of both short-range rockets, such as Qassam and Grad, and longer-range missiles like Fajr-5, capable of targeting major population centers including Tel Aviv and Jerusalem. This strategy aims to instill fear and undermine public trust in Israeli security measures, creating a persistent sense of insecurity. To enhance its operational capabilities, Hamas relies on guerrilla tactics and a sophisticated network of tunnels for covert movement, surprise

attacks, and logistical support. Additionally, these tunnels serve as C2 centers, storage for weaponry and hard shelters. Overall, these tactics reflect Hamas' adaptability in the asymmetric conflict with Israel.

Figure 7: Use of Underground Infrastructure, Tunnel Warfare, and Infiltration Techniques by HAMAS



Source: Fact Sheet: Israel- Palestine Conflict (<https://armyrecognition.com/focus-analysis-conflicts/army/conflicts-in-the-world/hamas---israel-war-2023/israeli-army-unveils-the-secrets-of-tunnel-warfare-built-by-hamas>)

Moral Components of Fighting Power

Disarming Hamas is an illusion. Hamas is an ideology and cannot be destroyed. Hamas's ideological blend of Palestinian nationalism and Islamic fundamentalism fuels its resilience, motivating fighters through beliefs in martyrdom and religious salvation. Additionally, Hamas actively pursues international advocacy and diplomatic efforts to bolster its legitimacy and undermine Israeli standing globally, forming alliances with regional stakeholders. Established during the First Intifada, Hamas continues to strive for the establishment of an Islamic state in historic Palestine, while its violent tactics remain a defining aspect of its resistance against Israel.

Conceptual Components of Fighting Power

Hamas, founded in 1987 during the First Intifada, is rooted in Islamic fundamentalism and seeks to establish an Islamic state in historic Palestine. Its 1988 charter calls for Israel's destruction and emphasizes jihad as both a defensive and offensive measure against perceived occupation. Despite occasional indications of negotiation, Hamas maintains a steadfast ideological commitment to resistance. Hamas also engages in psychological and information warfare, utilizing media outlets to rally, support, frame its narrative as a liberation struggle, and instill fear in Israeli society. Its asymmetric warfare strategy encompasses guerrilla tactics, and rocket attacks, demonstrating its commitment to unconventional military engagement against Israel, notably exemplified by recent coordinated assaults.

Russia-Ukraine War

Physical Components of Fighting Power

The maneuverability of Ukrainian forces has been enhanced through the integration of advanced Western weaponry, such as Javelin missiles and Bayraktar drones. Ukraine's transition from Soviet-era equipment to modern armaments has evolved rapidly, with the acquisition of anti-tank guided missiles and upgraded artillery proving critical in countering Russian advantages. Ukraine has prioritized cyber defense, to counter misinformation and enhance critical infrastructure protection. Information warfare has also been crucial, utilizing social media to mobilize support and combat Russian propaganda. Logistical support has been reinforced through a network of distribution points, while strategic infrastructure, including fortified positions and anti-tank obstacles, has strengthened the protection measures.

Moral Components of Fighting Power

Ukraine's response to the conflict with Russia has been significantly shaped by strong leadership and a unified national spirit. Ukrainian leaders have effectively navigated international diplomacy, securing vital military and humanitarian aid, which has reinforced the country's geopolitical position. International support has been crucial, with NATO and European Union member states providing extensive military assistance, including advanced weaponry and air defense systems. Ukraine has effectively utilized international forums to gain diplomatic backing and raise awareness about the conflict's implications for global security and human rights. Together, these elements demonstrate a powerful coalition of leadership and international solidarity in the face of aggression, significantly boosting Ukraine's efforts in the ongoing war.

Conceptual Components of Fighting Power

Ukrainian defence forces have demonstrated notable adaptability and innovation in response to the ongoing conflict with Russia. The military's shift from conventional operations to mobile warfare tactics has allowed for greater flexibility and resilience against a superior force. As the conflict evolved, Ukraine adopted a combination of conventional and unconventional strategies, including mobilization of volunteer battalions and civilian militias. This approach not only fortified defensive positions but also facilitated offensive operations to reclaim territory and disrupt supply lines. Additionally, Ukrainian forces have engaged in hybrid warfare, employing guerrilla tactics, strong cyber defense measures to target Russian communication systems, and social media platforms to mobilize international support and influence public opinion for taking legal and economic measures against Russia.

Afghanistan War

Physical Components of Fighting Power

Coalition forces employed advanced technology, including drones and precision-guided munitions, to navigate diverse environments, while the Taliban relied on improvised explosive devices (IEDs) and guerrilla tactics. Taliban depended on local support and external support. The Afghan National Army also underwent significant training to enhance local military capabilities. Meanwhile, Taliban fighters, motivated by religious beliefs and traditional combat knowledge, utilized basic guerrilla tactics. Psychological warfare played an important role, with both sides attempting to sway public opinion. Coalition forces promoted positive narratives about governance and reconstruction, while Taliban propaganda often capitalized on civilian casualties and foreign presence, demonstrating the challenges faced in securing the Afghan population's trust and support.

Moral Components of Fighting Power

The moral components of the Afghanistan war reflect complex issues surrounding justification, cohesion, and ethical considerations. Initially, the war aimed to dismantle al-Qaeda and remove the Taliban. However, the prolonged conflict and evolving mission goals have led to debates about the ongoing moral justification of military intervention. The Taliban's actions are often framed as a religious duty and a struggle for Islamic governance. This ideological underpinning provides a strong moral rationale for their resistance against foreign intervention and the Afghan government. The Taliban's ability to adapt their tactics and maintain resolve in adversity reflects a moral commitment to their objectives, portraying perseverance as a virtue in their fight.

Conceptual Components of Fighting Power

Taliban employed guerrilla tactics and exploited terrain to counter technologically superior coalition forces. The Taliban's theory of exhaustion played a crucial role, utilizing irregular warfare to gradually

deplete the coalition's resources. Psychological warfare, including propaganda and high-profile attacks, aimed to demoralize opponents. This strategy proved effective, evidenced by significant coalition casualties from improvised explosive devices (IEDs) and the eventual US and NATO withdrawal in 2021, exacerbated by the economic strain of prolonged military engagement. The United States spent more than \$145 billion on reconstruction efforts according to a report by SIGAR, the Special Inspector General for Afghanistan Reconstruction. The protracted economic strain fueled calls for withdrawal. More than 20,000 American service personnel were injured in battle and over 2,400 American service members died up to 2021 (SIGAR Report, 2021).

Vietnam War

Physical Components of Fighting Power

North Vietnamese forces (NVA) and Viet Cong (VC) effectively employed asymmetrical tactics despite lacking heavy artillery and air support. They utilized mortars, Rocket-Propelled Grenades (RPGs), and small arms to inflict casualties on American troops. Alongside, they also utilized low-tech methods like booby traps and mines, which created a persistent sense of insecurity. In later stages, the NVA demonstrated their ability to contest firepower of opponents with conventional artillery during key battles. Protection measures included an extensive network of tunnels, such as the Cu Chi Tunnels, which provided cover from airstrikes, storage for supplies, and safe shelter for troops. Additionally, Vietnamese forces excelled in intelligence gathering through a robust network of local informants.

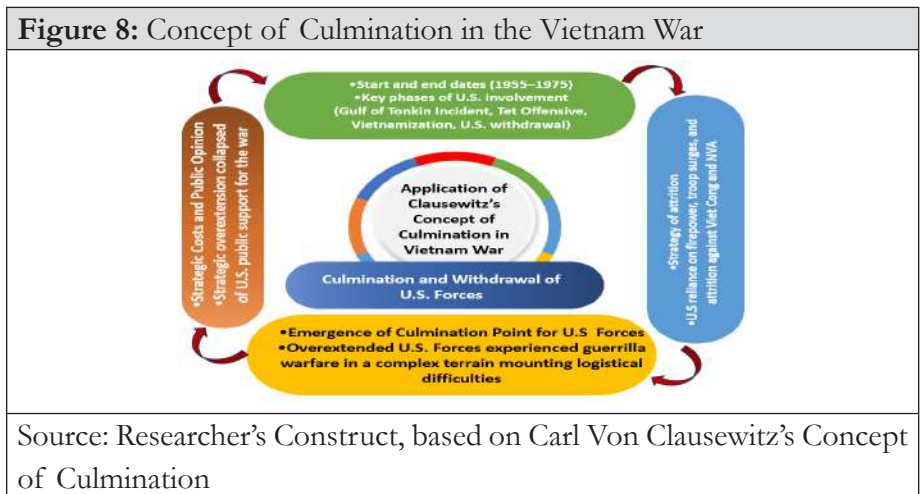
Moral Components of Fighting Power

The motivation of Vietnamese forces was driven by a profound sense of nationalism and a commitment to Communist ideology, which provided a framework for collective struggle against foreign domination. This ideological conviction fueled their resilience in enduring hardships and

prolonged combat. Charismatic leadership, particularly from figures like Ho Chi Minh and General Vo Nguyen Giap, inspired loyalty and unity among combatants, effectively translating national objectives into military strategy and motivating troops during critical engagements.

Conceptual Components of Fighting Power

The North Vietnamese forces and Viet Cong were unified by a single command structure. They adopted a protracted war strategy, conceptualized by Ho Chi Minh and General Vo Nguyen Giap, aimed at gradually weakening American forces rather than seeking immediate victories. To counter the technological superiority of US forces and South Vietnamese troops, they employed asymmetric warfare techniques, including hit-and-run tactics and ambushes. Guerrilla warfare was central to their strategy, utilizing surprise attacks and extensive tunnel networks for protection and mobility. The concept of culmination, articulated by Carl von Clausewitz was manifested in the Vietnam War as U.S. forces became mired in a complex conflict with diminishing returns. This strategic overextension ultimately contributed to the withdrawal of U.S. troops in the early 1970s, emphasizing the need for military leaders to recognize operational limits and align tactics with achievable political objectives.



Ascertaining Lessons from Recent Conflicts and Modalities to Incorporate into BD Army

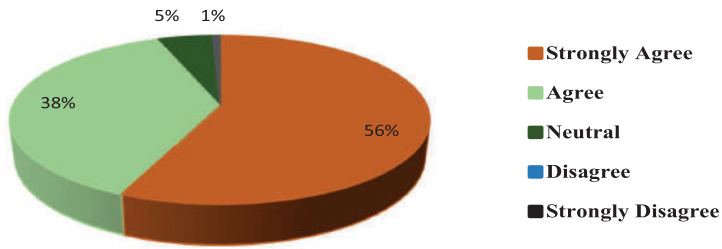
Ascertaining Elements of Physical Components of Fighting Power for BD Army

In both the Ukraine and Gaza conflicts, maneuverability has been crucial for military effectiveness. Ukraine's use of drones and mobile warfare tactics has facilitated successful counterattacks against Russian forces. Similarly, Hamas relies on tunnel networks for undetected movement and surprise rocket attacks, targeting major Israeli cities to disrupt daily life. Additionally, both forces employ operational fire. Ukraine uses artillery against Russian troops, while Hamas conducts rocket strikes against Israel. Developing robust maneuverability and operational fire capabilities for BD Army is essential to achieve operational objectives and respond effectively to stronger adversaries in a protracted war scenario (Habib and Azad, 2024). Ukraine's effective use of intelligence, surveillance, and reconnaissance (ISR) tools has significantly disrupted Russian command and control capabilities. For the BD Army, developing credible intelligence and cyber capabilities is crucial for protection and deterrence. On the other hand, logistics remain vital for sustaining a protracted war. BD's dependence on imports for specific commodities highlights the need for efficient supply chains (Patowary and Rahman, 2024). Infrastructure fortifications, including hardening shelters is necessary to enhance protection. Additionally, enhancing ground-based air defense (GBAD) systems is essential for safeguarding military assets against air attacks.

Figure 9: Requirement of Enhancement of Protection through AD System

Question: "Considering our limited geographical depth and potential adversary with huge air power, we need quick expansion of Air Defence system". What is your opinion in this regard?

Sample Size (n): 143



Source: Researcher, Based on Survey

Ascertaining Elements of Moral Components of Fighting Power for BD Army

The BD Army can enhance its warfighting capabilities by leveraging leadership and inspirational guidance, drawing on historical examples like the 1971 Liberation War. Effective leaders are essential for fostering resilience and morale among troops. Additionally, instilling national unity will boost the armed forces' morale and support for protracted conflicts, especially in a total people's war scenario (Waker-Uz-Zaman, 2024). Lastly, international support, crucial in recent conflicts, will bolster the BD Army's capabilities and strategic posture.

Ascertaining Elements of Conceptual Components of Fighting Power for BD Army

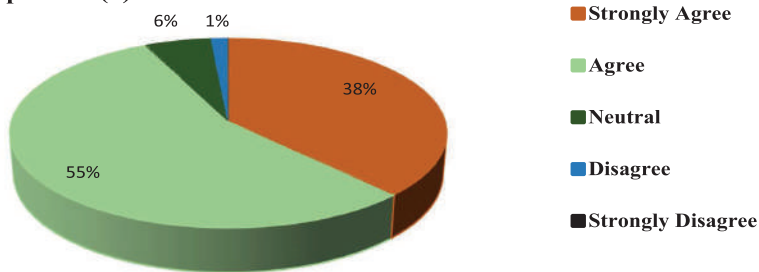
Recent conflicts highlight the need for the BD Army to adopt innovative techniques and tactics, such as locally made weapons and explosives, similar to Ukraine and Hamas. Psychological warfare has been effective in maintaining morale and unity among forces, and BD Army should prepare for potential adversarial psychological tactics. Doctrinal adaptations,

including hybrid warfare and asymmetric strategies, are essential for responding to superior forces. Implementing these approaches will enhance BD Army's combat readiness and effectiveness in protracted conflicts.

Figure 10: Requirement of Indigenous Missile and Rocket Systems to Enhance Warfighting Capability

Question: In recent conflicts, innovation in indigenous arsenals, adoption of asymmetric warfare, use of tunnel and hard shelters, proper use of media for psychological warfare brought significant dividends for the inferior forces. Do you think that, following the above-mentioned tactics and techniques will also benefit BD Army in enhancing warfighting capability?

Sample Size (n): 143



Source: Researcher, Based on Survey

Ways to Attain Enhanced Warfighting Capability

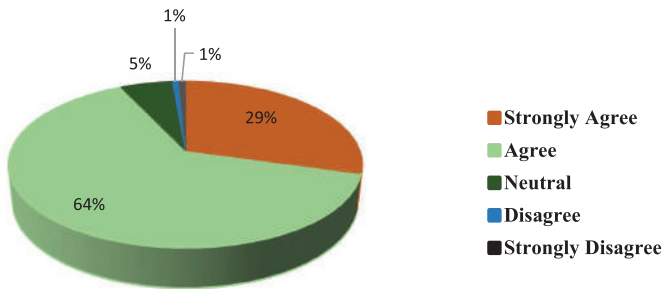
To enhance its warfighting capability, BD Army should focus on Information Warfare (IW) by investing in cyber and electronic operations. Regular training and alliances with other nations can improve offensive cyber capabilities. Additionally, strengthening international support through joint military exercises, diplomatic ties, and technology transfers will bolster the Army's capabilities. Engaging in UN peacekeeping missions can also elevate the BD Army's global standing, fostering collaboration and support during crises.

To degrade the morale of superior adversaries, BD Army can prepare for psychological operations. BD Army can adopt asymmetric warfare strategies to target and neutralize high-value military assets of potential adversaries, making prolonged conflict costly. Utilizing and exploiting

difficult terrain will further strain the sustainability of adversaries. BD Army can adopt an asymmetric warfare strategy, employing “Thousand-Cut Tactics” to disrupt enemy operations. This approach will make the war costly for adversaries. Additionally, blending conventional and unconventional warfare enhances operational flexibility, targeting enemy logistics and supply chains. Acquiring AD platforms and drones will elevate engagement costs for adversaries. Finally, producing indigenous rockets and missiles can further strengthen BD’s capabilities.

Figure 11: Requirement of Adopting Asymmetric Warfare Technique to Make War Costly

Question: It is important to make the war expensive for the stronger forces. Do you think that Adopting indirect approaches will serve the purpose to some extent?
Sample Size (n): 143

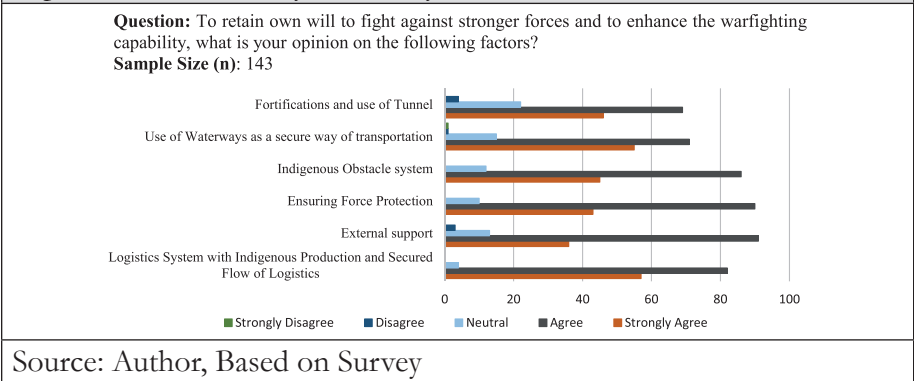


Source: Researcher, Based on Survey

Retaining Own will to Fight against Stroger Forces by Instilling a Sense of Force Protection

To maintain the will to fight against stronger forces, the BD Army needs to focus on enhancing morale through comprehensive training, clear communication, and national pride. Asymmetric warfare strategies, such as utilizing local geography and advanced cyber defense, will further strengthen capabilities. Logistics self-sufficiency via waterways can enhance force protection and operational flexibility. External support from strategic partnerships will improve technological access and training. Lastly, integrating the mass population into war efforts can ensure readiness for conscription and bolster overall resilience.

Figure 12: Important Factors for Fighting a Protracted War against Superior Adversaries by BD Army



Integration of ‘Theory of Culmination, Exhaustion, Protraction, and Other Related Concepts’ to Attain Enhanced Warfighting Capability

BD Army should identify the enemy’s culmination point, where their offensive capacity wanes, by implementing sustained defensive operations. By extending its own logistical and operational efforts, BD can undermine the enemy’s resources, morale, and willpower. Strategies like guerrilla tactics and indirect approaches will facilitate protracted engagements that minimize decisive battles, ultimately draining the enemy’s endurance both logistically and financially. This approach aims to ensure long-term effectiveness in warfare.

Figure 13: Application of Theory of Exhaustion and Concept of Culmination in Enduring Protracted War



Source: Author, based on Carl Von Clausewitz, Sun Tzu, and T.E Lawrence’s perception of ‘Exhaustion and Culmination’

BD Army needs to develop irregular warfare capabilities drawing lessons from Vietnam and Afghanistan war. Effective protection measures for own critical assets will degrade the capabilities of potential adversaries. Integrating mass population into total people's war can create an advantageous war scenario. Mastery of fighting in urban areas will act as a force multiplier in future days. Integrating operational fire, manoeuvre, and logistics will further exhaust adversaries, enhancing resilience and endurance. The concept of proxy wars needs to be examined focusing on how regional powers might influence Bangladesh's security environment. The Ukraine conflict provides insights as to how external support and influence could be pivotal in shaping outcomes. Bangladesh also needs to remain prepared to counter proxy efforts depending on the geopolitical situation. Building regional alliances and understanding the dynamics of proxy conflicts is essential for maintaining regional balance.

Key Factors Influencing War Endurance

The war endurance of the BD Army hinges on several key factors, including the economy, foreign policy, geopolitics, political system, education, and employment. A robust economy ensures the steady flow of resources required for sustaining military operations, while economic fragility can undermine efforts during prolonged conflict. The democratic political system promotes public participation in war efforts, but political instability could threaten national unity and resource mobilization. Additionally, an educated and employed populace enhances both intellectual and material resources for conflict, while high unemployment and low education levels can hinder support for military engagement. These interconnected elements shape Bangladesh's capacity to endure conflict scenarios. BD's geopolitical positioning demands to secure military aid and diplomatic support.

Recommendations

- BD Army may alternatively develop a separate doctrine for fighting irregular warfare focusing on asymmetric warfare, UCW, and guerilla warfare.
- BD may focus on strengthening its diplomatic ties with China, Turkey, Russia, Pakistan, and Middle East countries to gain support during crises. To remain self-sufficient for a considerable period to endure a protracted war, the BD Army may increase the operational holdings of critical supplies.
- BD Army may engage more actively and effectively with the civilian counterparts to facilitate the process of conscription and voluntary participation in war-waging efforts in times of need.

Conclusion

The dynamics of warfare where weaker forces overcome traditional concepts of victory against stronger adversaries include innovation, adopting indirect approaches, guerrilla warfare, and other asymmetric means. The success of weaker forces often hinges on a combination of tangible resources like weaponry and intangible assets such as morale, leadership, etc. Instances like the Russia-Ukraine, Gaza, Afghanistan, and Vietnam war illustrate how inferior forces have resiliently endured against superior ones using innovative tactics and strategies to prolong the conflict, thereby increasing the cost for the stronger adversary. Adopted tactics include indirect strategies that maximize effectiveness while minimizing vulnerability, often avoiding confrontations to exploit gaps and keep the stronger forces off-balance.

Understanding the dynamics of protracted wars is crucial for the BD Army, especially in its regional context. The BD Army needs to adapt modern warfare strategies to enhance its fighting power against more technologically advanced adversaries. This includes enhancing its physical components

of fighting power like maneuverability, operational fire capabilities, EW, and logistics sustainability for prolonged engagement. Adopting indirect approaches will add dividends in achieving our objectives. The integration of physical, moral, and conceptual components is advocated to build a resilient and capable military force that can effectively confront future challenges.

BD Army aims to enhance its warfighting capability by exhausting the adversaries through a methodical process and thereby bringing her to the point of culmination. This involves adopting different techniques and tactics including irregular warfare techniques. BD Army also needs to enrich its operational fire platforms, and protection through AD, and cyber capabilities as the priority areas for development. Indigenization of producing short and medium-range rockets and drones domestically may be focused. Acquisition of effective AD systems and preparation of hardening shelters will ensure better protection of our assets.

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NEED FOR MULTIPLE MARITIME HUBS IN BANGLADESH FOR NATIONAL SECURITY

Captain Mirza Rokaiya Noor Popy, (E), afwc, psc, BN

Introduction

Bangladesh, located at the apex of the Bay of Bengal, is strategically positioned in the Indo-Pacific region, offering immense maritime opportunities. With a 700 km-long coastline and access to 57 transboundary rivers, the country heavily relies on its maritime resources for economic activities such as trade, fishing, and tourism. The Chattogram port currently handles 90% of Bangladesh's import-export activities, making it the cornerstone of the nation's maritime trade. However, this over-reliance on a single port presents significant risks to the country's economic stability, as any disruption whether natural or man-made could severely impact the economy. To address this vulnerability, the development of Multiple Maritime Hubs (MMH) has been proposed as a solution to diversify maritime activities and strengthen national security.

The concept of maritime hub (MH)s goes beyond traditional port operations. This paper defines MH as 'The concentration of various maritime activities and services such as port/harbour, merchant fleet, fishing fleet, shipbuilding/ ship repair, ship breaking/ recycling, coastal shipping, maritime education and training and coastal tourism in the same geographical area which are interlinked with each other for a common vision of growth and innovation.'. Chattogram port already functions as a MH to a certain extent, but it is insufficient to meet the growing demands of Bangladesh's economy. Developing additional hubs in Mongla, Payra, and Matarbari can reduce the load on Chattogram and create a more balanced and resilient maritime infrastructure.

The potential for growth in Bangladesh's maritime sector is significant. Marine fishing and coastal tourism contribute to both domestic food supply

and export revenue. The establishment of MMH aligns with the national plans, offering a pathway to economic diversification, poverty reduction, and enhanced regional connectivity. Additionally, these hubs would play a critical role in national security by providing strategic assets that could be defended during times of conflict or geopolitical tension.

This research aims to explore the feasibility of transforming Mongla, Payra, and Matarbari into fully functional maritime hubs and the impact such development would have on Bangladesh's economic growth and national security. The study examines the current capabilities of these ports, the challenges they face, and the potential for future growth. Furthermore, it draws lessons from successful MHs around the world, such as Singapore, Malaysia, and Dubai, to provide strategic recommendations for Bangladesh.

The development of MMH is not only vital for economic diversification but also crucial for reducing the country's vulnerability to maritime disruptions. By spreading maritime activities across MHs, Bangladesh can create a more resilient economy, improve regional trade networks, and enhance its national security framework. The establishment of MMH will require coordinated efforts from the government, private sector, and international partners to ensure the successful transformation of Bangladesh into a leading maritime nation in the Bay of Bengal region.

At this backdrop, the objective of this research is to evaluate the significance of establishing MMH in enhancing the national security of Bangladesh. Furthermore, it validated the hypothesis that establishing MMH will enhance national security of Bangladesh.

Methodology

This research employed a mixed-methods approach, combining both qualitative and quantitative data to evaluate the feasibility of establishing MMH in Bangladesh. Primary data was collected through structured interviews, focus group discussions (FGDs), and perception surveys targeting maritime experts, government officials, military personnel, and

stakeholders from the private sector. The survey included 165 respondents selected through purposive sampling to ensure that participants had relevant expertise in maritime activities and national security. The focus of the survey was on eight key maritime elements: ports, merchant fleets, fishing fleets, shipbuilding, shipbreaking, maritime education, coastal shipping, and coastal tourism. The interviews and FGDs provided in-depth insights into the challenges and opportunities of developing Mongla, Payra, and Matarbari as additional maritime hubs. Quantitative data from the perception surveys were analyzed using SPSS to validate hypotheses and assess stakeholder opinions.

Importance of Maritime Hubs in Relation to National Security

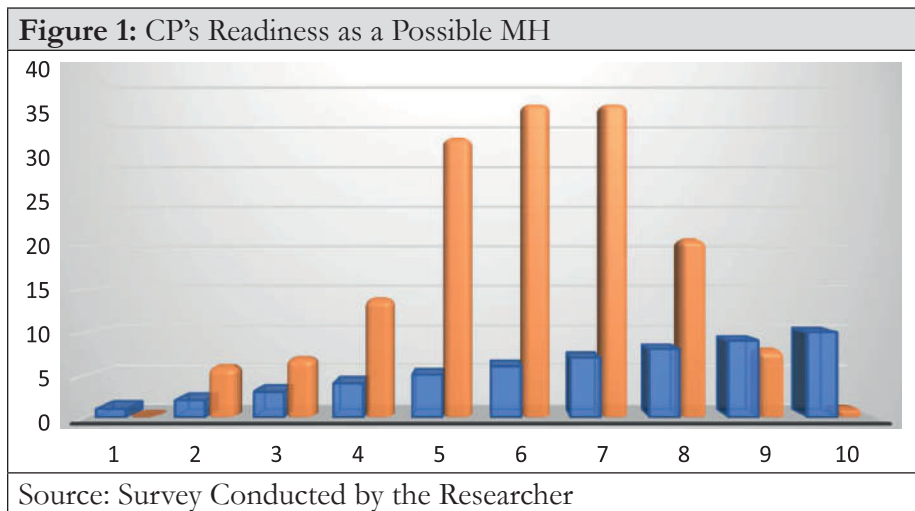
MHs are equally important for economic growth and national security of Bangladesh. They enhance regional connectivity, trade, and infrastructure while contributing to defense strategies by ensuring that key assets and economic activities are spread across different geographical locations. Over-reliance on a single hub like Chattogram can create vulnerabilities, as any disruption could severely impact Bangladesh's economy. The development of MMH would increase resilience by distributing maritime activities across multiple locations, thereby reducing risks. Survey results showed that 92.7% of respondents believe that diversifying MHs will enhance both economic stability and national security.

Current Capabilities and Limitations of Existing Ports

Chattogram Port

Chattogram is the largest and most developed port in Bangladesh, with a wide range of facilities, including container and bulk cargo terminals. It is strategically located near key shipping routes in the Bay of Bengal, making it vital for global trade. The port has extensive hinterland connectivity through road, rail, and river networks, ensuring the efficient movement of

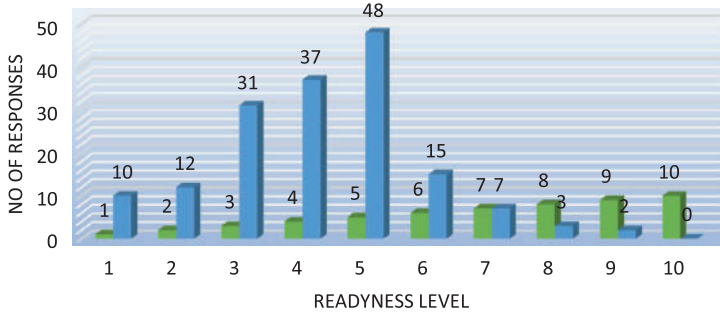
goods. Despite these advantages, Chattogram faces limitations, including draft restrictions that prevent the handling of larger vessels. Additionally, its infrastructure needs modernization to accommodate growing trade volumes. The port also faces environmental and logistical challenges due to its proximity to industrial and urban areas. Survey result indicates sizeable segment (41%) of the respondent thinks that CP is equipped to handle a variety of marine activities.



Mongla Port

Mongla, the second largest port in Bangladesh, plays a vital role in the southwestern region. It is well-connected to the hinterland and handles a variety of cargo, including bulk and containerized goods. Mongla's draft allows it to accommodate vessels up to 200 meters in length. However, the port faces significant limitations, including a shallow draft (up to 8.5 meters), which restricts larger vessels from docking. The port's long and narrow channel increases navigation time and fuel costs. Additionally, Mongla need better infrastructure and land to support large-scale shipbuilding or repair facilities, making it less capable of becoming a fully functional MH. Survey results indicate that the majority of respondents perceive Mongla as underprepared to function as an MMH.

Figure 2: MP's Readiness as a Possible MH

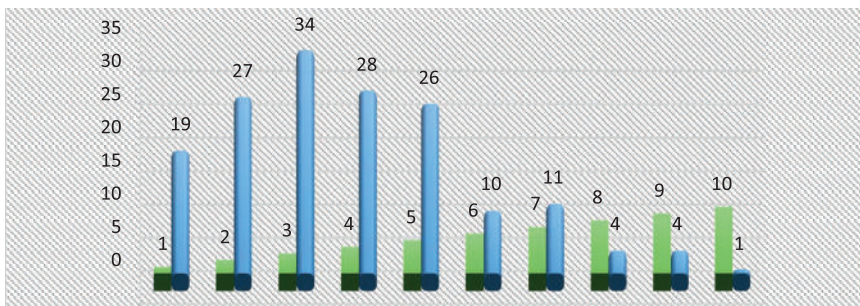


Source: Survey Conducted by the Researcher

Payra Port

Payra is the newest port in Bangladesh, located on the southwestern coast. Its strategic location near the Bay of Bengal's deeper waters gives it the potential to handle larger vessels with drafts up to 10.5 meters. The port is positioned to alleviate congestion at Chattogram and Mongla, serving as a key regional trade hub. However, Payra is yet to fully develop and faces challenges such as the need for year-round dredging and poor hinterland connectivity. Insufficient infrastructure hinder the port's ability to function as a maritime hub. While Payra shows potential, it will require significant investments in both physical infrastructure and logistics before it can become a fully operational hub. Survey results reveal that respondents rate Payra's readiness as poor, given its current limitations.

Figure 3: PP's Readiness as a Possible MH

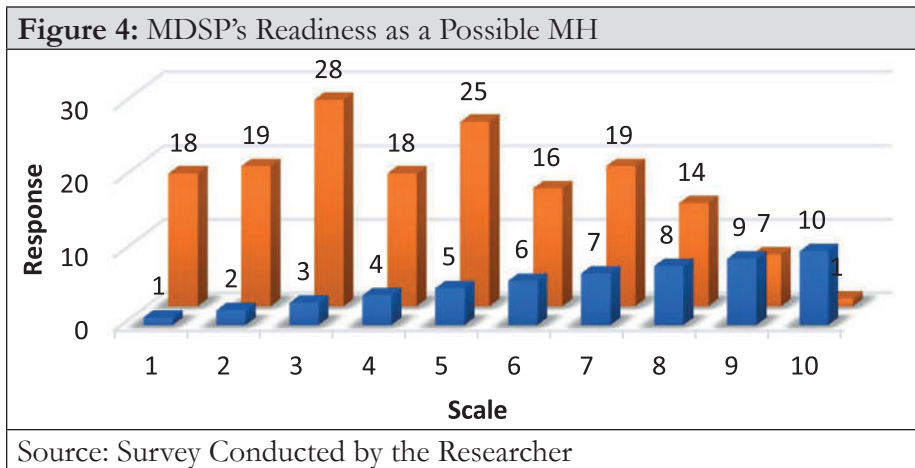


Source: Survey Conducted by the Researcher

Matarbari Deep Seaport

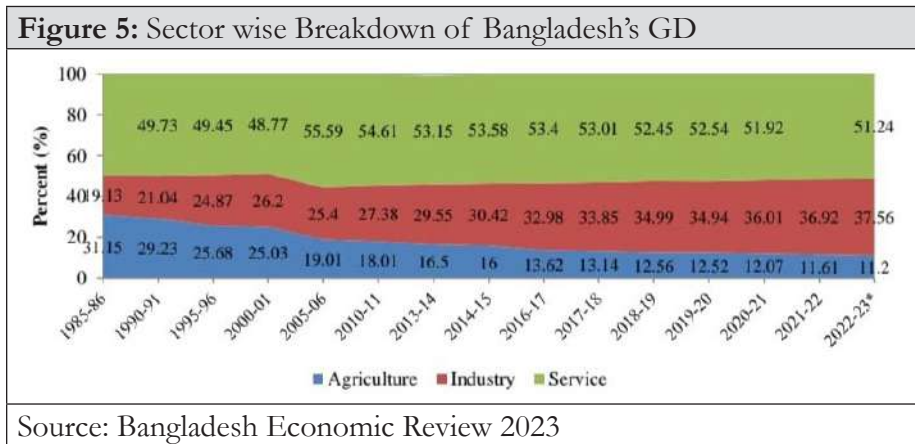
Matarbari is a deep seaport currently under construction, with the potential to revolutionize Bangladesh’s maritime sector. With a planned draft of 18.5 meters, Matarbari will be able to accommodate the world’s largest vessels, making it an ideal candidate for a MH. The port is strategically located near the Exclusive Economic Zones (EEZ) in Chattogram, which could help reduce dependency on feeder services from other regional ports such as Singapore and Colombo. Matarbari is also well-positioned to serve as a transshipment hub for neighbouring countries like India, Nepal, and Bhutan.

However, Matarbari’s full operational capacity is yet to be realized. The port requires substantial infrastructure development, including enhanced hinterland connectivity. Environmental challenges, such as siltation, will need to be addressed through ongoing dredging efforts. Additionally, Matarbari’s distance from key industrial areas such as Dhaka may increase logistics costs. Survey results suggest that respondents view Matarbari as moderately prepared but recognize the significant investments still required to make it a functional MMH.



Contribution of Existing Ports to National Economy

The ports of Bangladesh contribute significantly to the national economy by facilitating most of the country’s import and export activities. Chattogram, Mongla, and Payra collectively support industries such as textiles, pharmaceuticals, and agricultural exports, providing crucial infrastructure for the country’s trade routes. In the fiscal year 2021-2022, Chattogram port alone generated over US\$29.7 million in revenue, while Mongla earned approximately US\$3 million. These ports also create employment opportunities and attract foreign direct investment (FDI) in sectors such as logistics and warehousing. However, the over-reliance on Chattogram is a critical vulnerability, emphasizing the need for the development of MMH.



Case Studies of Successful Maritime Hubs

The experiences of leading maritime hubs like Singapore, Malaysia, and Dubai provided useful insights for conceptualizing the concept of MHs in Bangladesh.

Singapore

Singapore is one of the world's most successful maritime hubs, strategically located at the crossroads of major global shipping routes in Southeast Asia. Singapore's port handles a significant portion of the world's container transshipment traffic, supported by a well-developed maritime infrastructure that includes shipbuilding, ship repair, and logistics services. Singapore's success can be attributed to its integration of maritime services with sectors such as shipping finance, marine insurance, and maritime legal services, creating a holistic maritime cluster. Singapore's government played a critical role by fostering public-private partnerships and promoting innovation within the maritime sector. This integrated approach has enabled Singapore to remain competitive despite its small size and lack of natural resources.

Malaysia

Malaysia has emerged as a key player in the maritime industry, particularly through its development of Port Klang and the Port of Tanjung Pelepas. These ports have benefitted from Malaysia's strategic location along the Strait of Malacca, one of the busiest shipping lanes in the world. Malaysia's success can be attributed to strong government support, strategic investments in port infrastructure, and the use of public-private partnerships (PPP) to finance port development. Malaysia's National Transport Policy (2019-2030) emphasizes the importance of expanding its maritime industry, with a particular focus on increasing cargo throughput and container handling capacity. This approach has positioned Malaysia as a leading maritime nation in the Asia-Pacific region.

Dubai

Dubai's rise as a global maritime hub is centered on the Jebel Ali Port, one of the world's largest and busiest container ports. Dubai's strategic location at the intersection of Europe, Asia, and Africa has made it a critical gateway

for global trade. Dubai's maritime cluster is supported by a comprehensive ecosystem that includes shipyards, marine engineering firms, shipping companies, and maritime service providers. The government's proactive policies and investments in infrastructure have played a crucial role in the development of Dubai's maritime sector. Dubai also benefits from a business-friendly regulatory environment, which has attracted international companies and facilitated the growth of its maritime industry.

Key Takeaways of the Case Studies for Bangladesh

The global case studies of Singapore, Malaysia, and Dubai offer valuable lessons for Bangladesh as it seeks to develop its own MMH. These successful hubs demonstrate the importance of strategic location, strong government support, public-private partnerships, and a focus on infrastructure development. However, each of these countries has tailored its maritime strategies to its unique geographical and economic conditions. For Bangladesh, the key takeaway is the need to align its maritime development strategy with its national economic and security goals. Public-private partnerships and strategic investments in port infrastructure are essential, but Bangladesh must also address its unique challenges, such as environmental vulnerabilities and limited financial resources.

Prerequisites for Establishing Multiple Maritime Hubs in Bangladesh

Economic Growth and Stability

Economic stability is a crucial prerequisite for the development of MMH in Bangladesh. A stable economic environment encourages long-term investments in infrastructure and fosters confidence among domestic and international investors. During periods of economic instability, such as the global financial crisis or the COVID-19 pandemic, Bangladesh experienced setbacks in maritime projects. Therefore, maintaining consistent economic growth is essential to support the financial investments required for MMH development.

Political Stability

Political stability is equally important for maritime development. A stable political environment ensures the security of investments and the smooth operation of large-scale infrastructure projects. Historical instances of political unrest in Bangladesh, such as the violence between 2010 and 2013, had a negative impact on the economy and slowed progress in the maritime sector. The current era of political stability has allowed the government to initiate several mega projects, including the construction of Matarbari Deep Seaport. Sustained political stability is necessary to continue attracting investments and ensuring the successful development of MMH.

Capable Security Forces

Maritime security is a critical aspect of port operations, ensuring the safety of vessels, cargo, and port facilities. Bangladesh must have capable security forces to protect its maritime assets from piracy, smuggling, and other illegal activities. The Bangladesh Navy, Coast Guard, and other security agencies play a vital role in safeguarding the country's maritime interests. Additionally, cybersecurity is becoming increasingly important as maritime activities become more digitized. Protecting digital infrastructure from cyber threats is essential for the safe and efficient operation of modern maritime hubs.

Challenges in Establishing Multiple Maritime Hubs in Bangladesh

Sea Blindness

One of the significant challenges Bangladesh faces in developing MMH is “sea blindness,” which refers to a general lack of awareness about the strategic importance of maritime resources. This limitation of understanding extends to both the public and policymakers. Despite Bangladesh's vast

maritime resources, the sector has historically received less attention than other industries, resulting in underdeveloped infrastructure and insufficient investments. Raising awareness about the economic and security benefits of a robust maritime sector is crucial to garnering public and political support for MMH development. Results of Sea blindness are as follows:

- Limited investment in maritime industries
- Reduce economic growth and industry competitiveness
- Lack of government support
- Lack of skilled workers in maritime sectors

Limitation of Space and Depth

Bangladesh's coastal region faces challenges for large-scale maritime development due to land scarcity and shallow waters caused by siltation (Shirazi, 2024). Existing ports like Chattogram and Mongla are constrained by space and depth, limiting their ability to expand (Shirazi, 2024). Payra and Matarbari offer potential for careful expansion to overcome these limitations (Bhuiyan, 2024).

Lack of Skilled Manpower

Despite producing around 5,000 seafarers annually, Bangladesh faces a shortage of skilled professionals in key maritime sectors like shipbuilding and port management (M Ziauddin Alamgir, 2019; Tripura, 2024). FGDs suggested partnerships with international academies and improved education programs to address this gap.

Financial Constraints

Bangladesh faces financial challenges in funding large projects like maritime hubs (Wahiduddin, 2023). The cost of projects like the Matarbari Deep Seaport adds significant strain to national reserves (BSS, 2023). FGDs highlighted PPPs and foreign investments as possible solutions to alleviate this burden (FGD1, 2024).

Geographical Considerations

Bangladesh's deltaic geography and continuous siltation from major rivers make the coastline unstable and challenging for infrastructure development (Shirazi, 2024). Chattogram faces navigation hazards, while Mongla and Payra have shallow waters and long access channels (Alam, 2021).

Geopolitical Factors

Bangladesh's maritime ambitions are shaped by its strategic location, bordered by India and influenced by China. Geopolitical tensions with these countries complicate Bangladesh's maritime development and require careful balancing of regional interests (Islam, 2024).

Security Challenges

The Bay of Bengal faces both traditional (piracy, smuggling) and non-traditional security threats (illegal fishing, environmental hazards) (Hossain, 2024). Securing maritime assets and protecting digital systems from cyber threats are critical to MMH development, as emphasized by FGDs.

Findings of Survey

The survey results indicate that financial constraints are the most recognized challenge in establishing MMH in Bangladesh. This reflects widespread concern about the availability of necessary funding and resources. Geopolitical factors and geographical considerations are also seen as significant hurdles, emphasizing the complex interplay of regional dynamics and physical geography in developing new maritime hubs.

Ways Forward for Developing MMH

Maritime Domain Awareness and Political Will

To improve Maritime Domain Awareness (MDA) in Bangladesh, it's essential to build a strong understanding of the maritime domain's impact on security, economy, and environment (Noer, 2024). Increasing awareness

across all sectors, including media and policymakers, can foster public and private sector involvement and attract investments. Public campaigns and enhanced maritime education will further ensure sustained support for maritime hubs (Islam, 2024; FGD-2).

Enhance Diplomacy

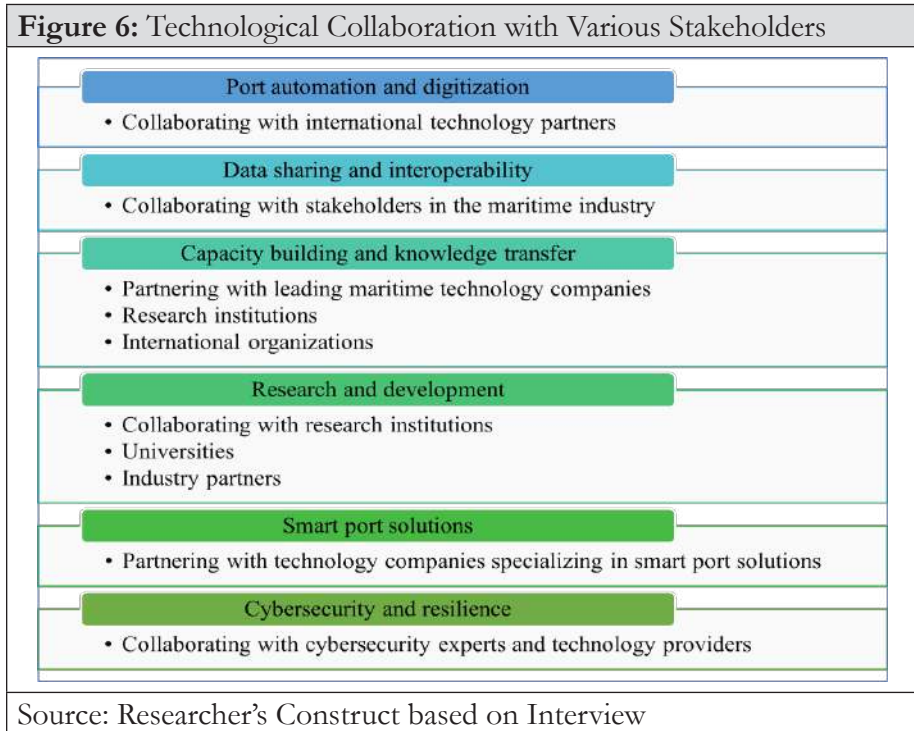
Bangladesh must strengthen diplomatic relations with neighboring countries to secure foreign investment and develop infrastructure for maritime hubs. Effective diplomacy will aid in resolving trade issues, like accessing the Siliguri Corridor, and encourage industrial growth in the region, enhancing trade potential (Alam, 2024). Collaboration with countries with larger coastlines can also help overcome space constraints (Bhuiyan, 2024).

Boost Public-Private Partnerships (PPP)

Strengthening PPPs is key to overcoming financial and infrastructural challenges for MMH. By encouraging collaboration between the government and private sector, PPPs can bring additional funding and expertise (Begum, 2018). Clear legal frameworks are necessary to ensure mutual benefits for all parties (FGD-1, 2024).

Enhance Technological Collaboration

Technological collaboration with local and international partners is crucial for developing MMH. These partnerships can provide access to advanced technologies and expertise (Hossain, 2024). The figure below illustrates potential technological collaborations with various stakeholders.



Human Resource Development

Human resource development is vital for MMH. This includes:

- **Training Programs.** Developing training programs for port workers and managers (FGD-1).
- **Knowledge Transfer.** Partnering with international institutions to enhance capacity (Islam, 2024).
- **Attracting Talent.** Offering competitive packages to retain talent (Imam, 2024).
- **Continuous Development.** Ongoing professional training and leadership programs (Hossain, 2024).

Enhance Connectivity

Improving physical and digital connectivity is essential for MMH. This includes building transportation networks to connect ports to inland areas,

and enhancing digital systems for better information sharing (Rahman, 2024). Strengthening regional connectivity will also unlock new trade opportunities (FGD-2).

Ensure Security of Trade

Ensuring trade security requires:

- **Port Security.** Enhancing security measures such as surveillance and inspection systems to prevent smuggling and theft (Hossain, 2024).
- **Maritime Surveillance.** Investing in coastal radar and vessel tracking systems (Shirazi, 2024).
- **Law Enforcement.** Strengthening the capacity of maritime law enforcement agencies (Hossain, 2024).
- **International Standards.** Adopting global standards like ISPS for smoother trade integration (Bhuiyan, 2024).
- **Technology.** Using technologies like blockchain to enhance supply chain security (Rahman, 2024).

Enhance Stakeholder Collaboration

Improved collaboration between government bodies, private sector, and research institutes is key to overcoming challenges. Shared resources and information exchange will ensure coordinated development of MMH (Begum, 2024).

Policy Development

Developing policies that encourage investment in the maritime sector, such as tax breaks and subsidies, is crucial for MMH development. A comprehensive ocean policy is also needed to support maritime growth (Islam, 2024).

Suggested Organizational Framework for MH

Cluster Concept and Core Role of Ports

Experts suggest that adopting a cluster concept linking various maritime activities around Chattogram, Mongla, and Payra can effectively establish MHs in Bangladesh. A well-integrated cluster of activities like shipping, fishing, tourism, shipbuilding, and repair will enhance efficiency and economic impact. Ports, as central facilitators, serve as the primary nodes connecting these activities and ensuring synchronized development (Begum, 2018).

Possible Approaches for Establishing MHs in Bangladesh

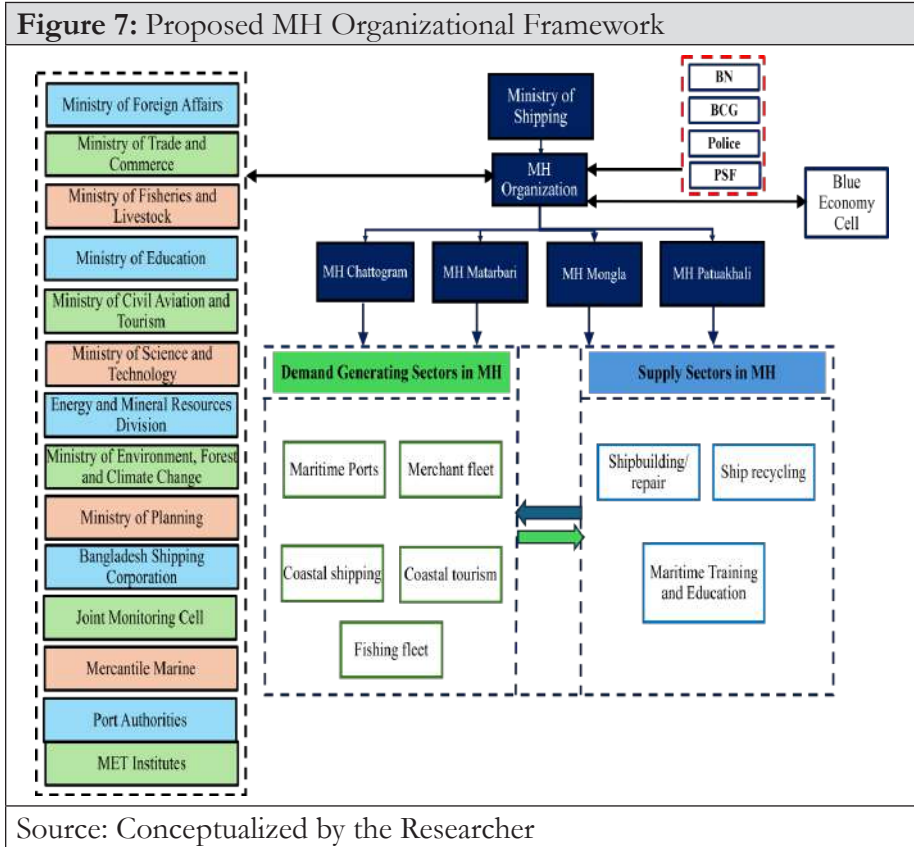
There are two approaches to establishing MHs in Bangladesh:

- **Top-down Approach.** Initiated by the government, this approach focuses on comprehensive growth across all maritime sectors through policies, legislation, and long-term planning. However, it may face challenges due to involvement of different ministries.
- **Bottom-up Approach.** Led by firms or associations, this approach is more flexible and market-driven but can face challenges in decision-making within cluster organizations.

Suggested Option for Bangladesh

Given that MH is a new concept in Bangladesh, the top-down approach is recommended, drawing from Dubai's example. MH organizations can work closely with the Blue Economy cell under the Ministry of Shipping to drive development (Hoque, 2024). The suggested organogram as shown in figure 7.

Figure 7: Proposed MH Organizational Framework



Source: Conceptualized by the Researcher

Suggested Security Framework for MH

A comprehensive security framework for safe functioning of all the elements of MH as shown in table 1.

Table 1: Proposed Security Framework for MH

| Elements of MH | Threat Scenario | Security Measures | Security Provider |
|--------------------------------------|--|--|---|
| Ports/ Harbours | a. Attack on vital port infrastructures and installations | <ul style="list-style-type: none"> Compliance of Port Facility Security Plan (PFSP) w.r.t access control, setting up restricted areas, handling of cargo and container and monitoring the effectiveness of security measures. | Port Security Force (PSF) |
| | b. Hijacking/ seizing vessels at anchorage/ berth | <ul style="list-style-type: none"> Compliance of PFSP w.r.t access control Patrolling by security department of port in the channel Patrolling by BCG in the anchorage area | PSF and BCG |
| | c. Sinking a ship/ craft in navigational Channel | <ul style="list-style-type: none"> Strict VTIMS monitoring of navigational channel and patrolling of the channel Imposing penalty for unauthorized entry into the nav channel | |
| | d. Placing mines/ explosives on the hull of ships to cause damage/ sinking if the ship | <ul style="list-style-type: none"> Patrolling by security department of port in the channel Patrolling by BCG in the anchorage area | |
| | e. Use small boats to destroy oil/ gas tankers/ terminals | | |
| | f. Sea Robbery and Human trafficking | <ul style="list-style-type: none"> Patrolling by BCG in the anchorage area | BCG |
| | g. Arms Proliferation, Smuggling and Illicit Drug Movement | <ul style="list-style-type: none"> Security watch at potential landing and shipment area Screening personnel and baggage at access control points as per PFSP | PSF |
| | h. Cargo Theft | <ul style="list-style-type: none"> Maintaining proper cargo inventory and documentation Use CCTV cameras at cargo store and handling area | Port Authority |
| | j. Cyber Threat | <ul style="list-style-type: none"> Cyber security management recommended by IMO to be established Cyber security drills to be conducted and back up facility to be in place | PSF |
| | Merchant Fleet | a. Hijacking/ seizing vessels at sea | <ul style="list-style-type: none"> Patrolling by BN and BCG ships at sea |
| b. Sea Robbery and Human trafficking | | | |
| c. Loss of personnel at sea | | <ul style="list-style-type: none"> Search and rescue operation by BN | BN |
| Coastal Shipping | a. Hijacking/ seizing vessels, Robbery and Human trafficking in coastal area | <ul style="list-style-type: none"> Patrolling by BCG ships at coastal area | BCG |
| | b. Salvage and Rescue | <ul style="list-style-type: none"> Deployment of Naval SAR unit | BN |
| Fishing Fleet | a. Illegal Fishing and Fishing in prohibited area | <ul style="list-style-type: none"> Patrolling by BN and BCG vessels | BN and BCG |
| | b. Overfishing and Bi-catch | | |
| | c. Armed Robbery at sea | | |
| | d. Personal Injury and death | <ul style="list-style-type: none"> Search and rescue operation by BN | BN |

Table 1: Proposed Security Framework for MH

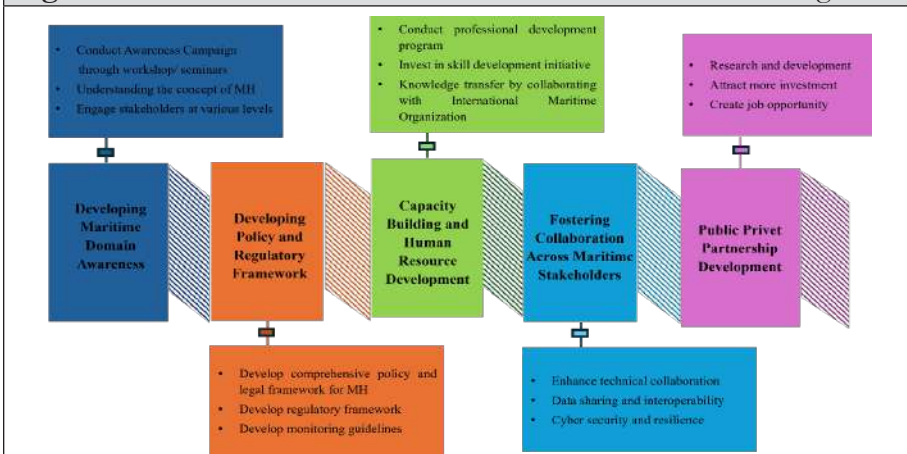
| | | | |
|---|--|---|--------------------------------------|
| Shipbuilding / Repair & Ship Breaking/ recycling | a. Attack on infrastructures and installations | <ul style="list-style-type: none"> Use access control system and CCTV cameras at the entrance and vital points Periodical patrolling the area by Police | Shipyards Authority and Police |
| | b. General Fire Damage | <ul style="list-style-type: none"> Use fire detection system and fire alarm in fire hazard areas Fire hydrants with continuous water pressure to be available Fire brigade with rescue and medical support | Shipyards Authority and Fire brigade |
| | c. Personnel injury and death | <ul style="list-style-type: none"> Safety management system for the shipyard operation to be established | Shipyards Authority |
| Coastal Tourism | a. Hijacking of vessels or tourists at sea | <ul style="list-style-type: none"> Patrolling by BN and BCG vessels | BN and BCG |
| | b. Personal injury due to unsafe landing sites | <ul style="list-style-type: none"> Develop safe landing sites for embarkation from ship | Bangladesh Parjaton Corporation |
| | c. Attack on tourists in touristic place | <ul style="list-style-type: none"> Patrolling the area by Tourist Police | Police |
| Maritime Training and Education | a. Attack on MET infrastructures and institution | <ul style="list-style-type: none"> Use access control system and CCTV cameras at the entrance and vital points Periodical patrolling the area by Police | Security guards and Police |
| | b. Political Violence | | |

Source: Researcher's Own Construct

Suggested Roadmap for Establishing MMH in Bangladesh

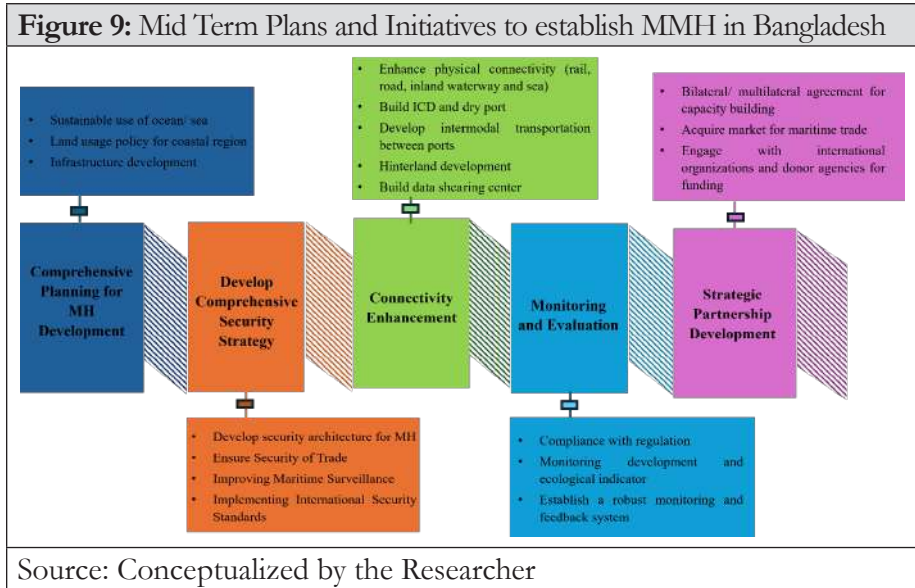
Short Term Plan and Initiative (2-4 Years). The short-term plans may be achieved by next two to four years as per the following initiatives:

Figure 8: Short Term Plans and Initiatives to establish MMH in Bangladesh

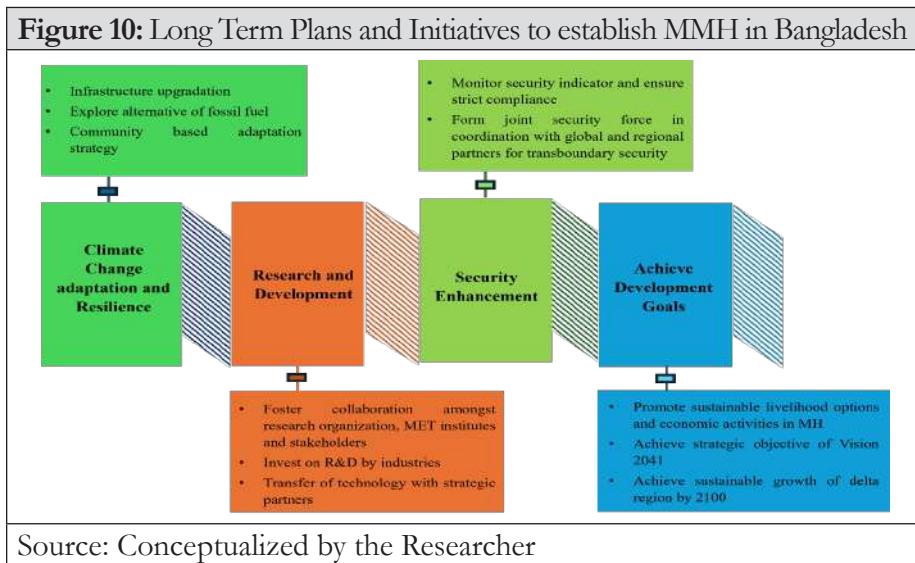


Source: Conceptualized by the Researcher

Mid Term Plan and Initiative (5-10 Years). The Mid-Term plans may be achieved by next five to ten years as per the following initiatives:



Long Term Plan and Initiative (10-20 Years). The Long-Term plans may be achieved by next ten to twenty years as per the following initiatives:



Correlation between the Short-term, Mid-term and Long-term Plan

Short-term plans should focus on developing human resources, enhancing Maritime Domain Awareness (MDA), and fostering collaboration among stakeholders through Public-Private Partnerships (PPP). In the mid-term (5-10 years), investment in infrastructure and connectivity will enable MHs to operate efficiently, supported by a comprehensive security strategy and strategic partnerships. Long-term plans should emphasize R&D in maritime sectors, building environmentally friendly infrastructure, and policies that ensure sustainable growth and strengthen national security through economic resilience.

Recommendations

Based on the analysis and findings, the following recommendations are proposed to guide the effective establishment and operation of MMH in Bangladesh:

- **Develop a National Maritime Strategy.** The Ministry of Shipping, in collaboration with stakeholders, should formulate a comprehensive strategy with clear goals for economic growth, security, and sustainability, outlining key priorities and timelines for MMH development.
- **Introduce Knowledge-Based Approach.** Bangladesh Maritime University should foster partnerships between universities, research institutions, and industries to create a knowledge hub, promoting joint research, scholarships, and industry-specific curriculum development.
- **Encourage Stakeholder Engagement.** Continuous engagement between the Ministry of Shipping, local bodies, and stakeholders is essential to ensure MMH development aligns with national interests and community needs, fostering collaboration and transparency.

- **Establish National Fusion Centre.** The Ministry of Defence, with other agencies, should set up a National Fusion Centre to integrate security operations across the EEZ, improving coordination, response to threats, and real-time information sharing.

Conclusion

The development of MMH in Bangladesh is critical to achieving the country's economic and security objectives. As the country seeks to transition to upper-middle-income status, the expansion of its maritime infrastructure is essential for facilitating trade, attracting investment, and generating employment. Bangladesh's reliance on Chattogram port has created vulnerabilities that threaten both economic stability and national security. Developing additional hubs at Mongla, Payra, and Matarbari can diversify maritime activities, reduce the risks of over-reliance on a single port, and create a more resilient maritime sector.

The study finds that while these ports have potential, significant challenges must be addressed to transform them into fully operational hubs. Mongla and Payra have limited infrastructure to accommodate larger vessels, and both ports face logistical constraints due to inadequate hinterland connectivity. Matarbari, although promising, is still under construction and requires substantial investment to realize its potential as a deep seaport. Additionally, environmental concerns, financial constraints, and the lack of skilled labor remain significant barriers to progress.

The development of MMH must be a coordinated effort that involves government agencies, the private sector, and international partners. PPP will be key in financing infrastructure projects, and collaboration with international maritime institutions will be essential for building a skilled workforce. Furthermore, environmental sustainability must be integrated into port operations to ensure long-term viability. By addressing these challenges through strategic planning and investment, Bangladesh can secure its maritime future and strengthen its national security.

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