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# *Message from the Chief Patron*

It gives me immense pleasure to announce the publication of Mirpur Papers, Volume 31, Issue 36, May 2025, the peer-reviewed journal of the Defence Services Command and Staff College (DSCSC), Bangladesh. This edition reflects the academic skills and research commitment of our course participants, faculty members, and other contributing scholars.

This issue encapsulates a wide range of academic domains, i.e. Geostrategy, International Relations and Professional Military Education, which is noteworthy. Another salient characteristic of this volume is the arduous intellectual effort reflected in the research-based articles from the authors, providing conceptual grounds for potential researchers to embark on their own quest.

I firmly believe that the essence of the articles presented will offer significant insights to curious readers, diligent researchers, and scholars.

Finally, I avail this opportunity to extend my appreciation to the Editorial Board, all contributing authors, conscientious reviewers, and every individual whose dedicated efforts have been instrumental in bringing this publication to light.

**Major General Chowdhury Mohammad Azizul Haque Hazary, OSP (BAR), SGP, ndc, psc, M Phil**
Commandant
Defence Services Command and Staff College

# Editor's Note

As we step into another edition of Mirpur Papers, let us begin with extending our thanks and felicitations to our community of readers, writers, editors and well-wishers. Your continued support has nourished this publication to grow steadily from its humble beginning into a trusted space for reflection and intellectual proliferation.

The story of Mirpur Papers is one of perseverance and vision. Born from the conviction that intellectual exchange can strengthen both individual character and collective spirit, the publication has served as a mirror of Mirpur's academic and intellectual works. What started as a modest initiative has now become a proud tradition: a forum where scholars, professionals, and course participants contribute meaningfully.

This 'May 2025' issue brings together a variety of articles that reflect the intellectual depth and diverse concerns of the Mirpur academic community. The articles examine themes ranging from economic reforms to cultural and social development. Several pieces highlight the importance of resilience in the face of modern-day challenges, while others look at the role of research and dialogue in shaping constructive solutions for societal problems. Together, they present a thoughtful balance between scholarly depth and accessible reflection.

This collection demonstrates the publication's continuing role as a platform for fresh insights, critical thinking, and community-oriented discussion, underscoring its value as a voice for Mirpur and beyond. What stands out is how the issues connect local experiences with broader global discourse. Indeed, writers drew the essence from personal, national, and international contexts, offering perspectives that are both rigorous and practical.

We owe immense debt of gratitude to all the contributors — the authors who shaped their arguments with care, the editors who refined every line, and the well-wishers who encouraged the effort at every step. Without this collective commitment, the pages you now hold would remain blank. To our readers, too, we extend appreciation: it is your engagement that infuses life into these words.

May this issue serve as another testimony to carry forward the spirit of Mirpur Papers: to remain open to learning, to be courageous in expression, and to nurture the culture of intellectual pursuit.

Volume Number 31, Issue Number 36, May 2025

# Contents

# Necessity of Assigning Officers as Infantry Platoon Commanders: A Way to Enhance Operational Effectiveness of the Bangladesh Army

*Major Md Sadequzzaman, psc, Infantry*

**Abstract**

This research addresses the current limitations of Junior Commissioned Officers (JCOs) serving as Infantry Platoon Commanders (IPCs) in the Bangladesh Army (BA). The study highlights how JCOs, despite their experience, fall short in key areas such as physical fitness, decision-making ability, and technical proficiency. These limitations become particularly evident when considering the demands of modern and future battlefield environments, where agility, tactical knowledge, and the ability to adap to technological advancements are critical. The research finds that the traditional role of JCOs as IPCs, a legacy from colonial times, may no longer be sufficient to meet the operational challenges the BA is facing. In contrast, Junior Officers (JOs) are found to be more effective as IPCs due to their physical readiness, leadership skills, and capacity to adapt to rapidly evolving military technologies and tactics. The study demonstrates that JOs, who undergo rigorous training early in their careers, are better equipped to handle mission command tasks and lead infantry platoons in high-stress and dynamic operational environments. Their superior performance in decision-making, tactical knowledge, and physical and mental courage suggests that JOs are better suited to meet the operational requirements of the BA, ensuring enhanced leadership at the platoon level. The research hypothesis, which asserts that assigning officers as IPCs will enhance the operational effectiveness of the BA, was validated through both subjective and objective analyses. Surveys, interviews, focused group discussions (FGDs), and the Analytical Hierarchical Process (AHP) all support the conclusion that JOs significantly outperform JCOs in critical areas of leadership. The findings provide strong evidence that transitioning to officer-led platoons will improve the operational readiness and effectiveness of the BA in future combat scenarios.

## Introduction

In contemporary and future battlefields, the success of military operations hinges on the effectiveness of small-unit leadership. Most of the wars of the 21st century have been fought with small groups in the form of unconventional ones – the war against terror,

for example, wars in Afghanistan and Iraq, the Israel-Hezbollah conflict, and more (Shawon, 2018). Moreover, in the low-intensity counterinsurgency wars of the last decades, most engagements have been performed at the lowest tactical levels. Future warfare, therefore, is expected to be dominated by small-group operations requiring highly capable and adaptable leaders (Hossain L. C., 2017). In the Bangladesh Army (BA), Junior Commissioned Officers (JCOs) and Non-commissioned Officers (NCOs) constitute the lowest tier of leadership in the military chain of command and perform as the leadership interface layer between the leaders and the led. In the context of the BA, infantry platoons are the basic fighting elements within an infantry battalion framework, which are led by the JCOs.

Within the country, deployment in the Chittagong Hill Tracts (CHTs) offers valuable leadership opportunities for JCOs and NCOs. However, officer-led patrols and missions remain prevalent, with JCOs and NCOs typically leading routine patrols and operating under direct officer supervision during operations (Rahman M. M., 2013). Although a JCO platoon commander is the leader of more than 30 men, an A-Type (consisting of 30 persons) patrol is always led by an officer.

An infantry platoon in any type of operation is expected to undergo various kinds of physical hardship and tactical movements in varied types of terrain. On the other hand, by the time a soldier becomes a JCO, typically around forty years of age, the body's metabolism begins to decline, making them more susceptible to various diseases. Taking this into consideration, JCOs remain far away from the physical standard expected out of a platoon commander (Hossain L. C., 2017).

The continued use of JCOs in the role of IPCs is rooted in colonial military traditions. Since then, JCOs were intended to serve as intermediaries, relieving British officers from directly managing native troops. This colonial tradition, which persists despite significant changes in military doctrine and operational demands, obstructs the basic rapport between officers and troops (Kunju, 1991). Ironically, Bangladesh Military Academy (BMA) continues with an inherited training system to prepare an officer as IPC, but an Officer never commands a platoon as colonial rule has left the JCOs at that tier (Rahman M. M., 2013). This disconnect represents a critical inefficiency: highly trained officers are underutilised, while platoons are commanded by leaders not fully equipped to meet present and future challenges.

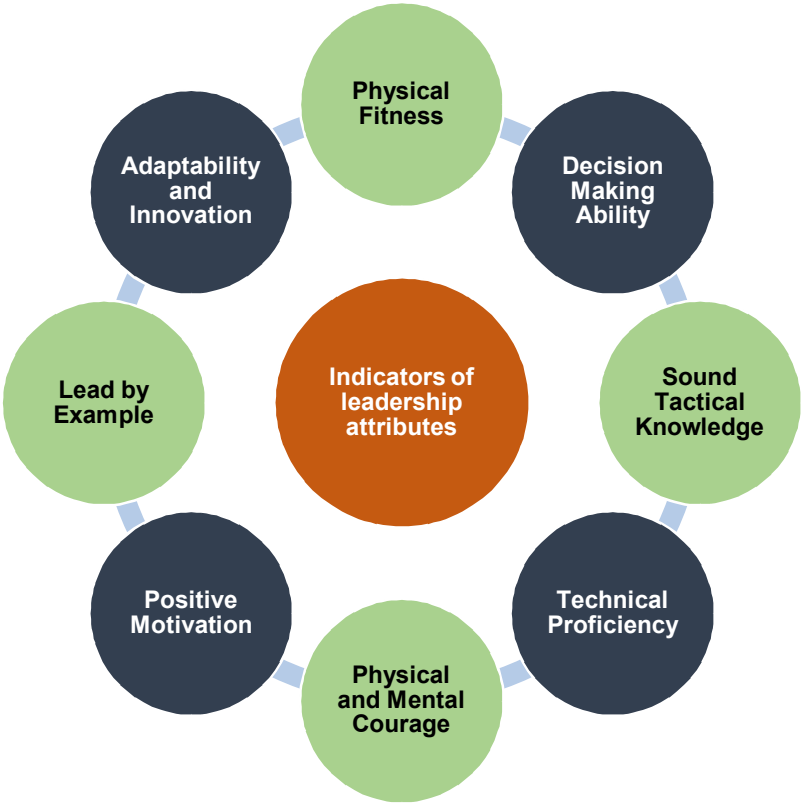
Based on the preceding discussions, it is evident that the JCOs are falling short of leading an infantry platoon effectively in an operational environment in the face of current and future battlefield dynamics. Therefore, this paper addresses the research problem of the lack of operational effectiveness of infantry platoons stemming from inadequate leadership attributes of JCOs amid contemporary and future warfare

challenges. It is important to note that the study focuses solely on Infantry Rifle Platoons within a Standard Infantry Battalion of the BA.

**Indicators of Operational Effectiveness of an Infantry Sub-unit Focusing on Leadership Attributes**

After a thorough content analysis and interviews of the KIIs, the researcher has formulated eight indicators of operational effectiveness of an infantry sub-unit, focusing on leadership attributes pertinent to BA, which are shown in the figure below.

**Figure-1: Indicators of Operational Effectiveness of an Infantry Sub-unit Focusing on Leadership Attributes**




Source: Author's self-construct based on Content Analysis

**Current Standard of JCOs as IPCs Considering the Present and Future Operational Requirements**

a. **Physical Fitness**: A soldier can only rise to be a JCO at about the age of 40 years, and during this time, the metabolism of the human body is not as efficient as before, hence making the soldiers vulnerable to various diseases (Malek,

2021). Since JCOs are much older than most of the platoon members, it is a challenging task for them to lead the platoons in the battlefield from the front.

b. **Decision-Making Ability to Perform Mission Command Tasks**: In this context, the JCOs of the BA possess a reasonable capacity to make decisions independently. The "Play Safe Syndrome" mentality among JCOs leads them to stick to the safe and conventional course of action rather than the bold and effective one, which is necessary in a dynamic battlefield condition (Mallick L. C., 2024). This cautious approach is largely rooted in their career progression system, where promotions and recognition are often based on seniority and clean service records rather than initiative or operational performance. Historically, their roles were administrative and non-decisive under colonial command structures, which offered limited opportunities for tactical autonomy or leadership development in the operational environment (Rahman M. M., 2013). Although JCOs officially command a platoon of 32 members, in practice, they rarely lead any 'Special Operations' in CHT, even when the patrol size is smaller than a platoon, highlighting the Army's implicit preference for officer-led missions in critical scenarios.

**Table-1: Statistics of the CHT Operations of KAPTAI Zone of 305 Infantry Brigade (January-June 2024)**

| Serial | Zone | Number of Special Operations | Led by JCOs/NCOs | Led by Officers |
|---|---|---|---|---|
| 1. | Short Range Patrol (Day) | 318 | 251 | 67 |
| 2. | Short Range Patrol (Night) | 135 | 109 | 26 |
| 3. | Long Range Patrol | 49 | 18 | 31 |
| 4. | Special Operations | 12 | 2 | 10 |

Source: Brigade Headquarters, 305 Infantry Brigade, Rangamati

c. **Sound Tactical Knowledge on Future Warfare**: JCOs usually lack sound tactical knowledge due to systemic differences in foundational academic education and limited exposure to specialised training in modern warfare tactics compared to commissioned officers. In the contemporary operational environment, it is vital to have a deep understanding of network-centric operations, cyber warfare, and the integration of sophisticated weapon systems

(Klug, 2016). JCOs, mostly risen through the ranks from enlisted men, do not have the same level of education or cognitive domain akin to the commissioned officers, hindering their ability to understand or apply advanced tactical concepts effectively.

d. **Technical Proficiency to Adapt to Technology-Based Warfare**: Modern warfare mostly involves the use of technologies such as unmanned aerial vehicles, cyberspace, smart bombs, and complex information networks, which require high levels of technical skills (Mallick P. , 2020). However, the JCOs of BA generally possess low technical proficiency, stemming from their inherent background, rising through the ranks without formal academic grounding in technology and limited access to structured training in modern military systems.

e. **Physical and Mental Courage**: Physical and mental courage are prerequisites for military leadership to manage the stresses and fear inherent in war (Olsthoorn, 2007). The risk-aversion attitude coupled with the desire to protect their career and personal well-being may result in conservative and cautious leadership, undermining mission goals and safety.

f. **Positive Motivation**: Positive motivation is crucial for ensuring that people are encouraged, committed and have high morale within a platoon. Nonetheless, JCOs tend to demonstrate lower positive motivation than expected. Their way of career progression in the military makes them complacent and less motivated to perform their duty and achieve high standards, due to the long duration of service they spend before getting promoted to JCO rank (Imani, 2024).

g. **Lead by Example**: Leading by example is a decisive element for gaining subordinates' confidence and admiration. However, these favourable consequences are sometimes not enough to motivate JCOs to actively perform their duties and set a good example for the troops (Mallick L. C., 2024). When a leader does not live up to and practice the same standards that they expect their subordinates to meet, it automatically causes a decline in morale and affects esprit de corps within the unit.

h. **Adaptability and Innovation**: Adaptability means to cope with changes and make it possible for leaders to find adversity and shift focus onto the opportunities that exist within the heart of the operation (Bennis, 2003). JCOs are resistant to innovation, preferring to focus on following the rules and standing operating procedures rather than utilising critical thinking and insightful problem-solving.

**Comparative Study on the Platoon Level Leadership Profile of Contemporary Armies**

**Table-2: Comparative Study on the Platoon Level Leadership Profile of Contemporary Armies**

| Serial | Name of the Army | Rank of the Platoon Commander | Employment of JCOs in an Infantry Company |
|---|---|---|---|
| 1. | Indian Army | Lieutenant/ Captain | JCOs still perform as Platoon Commander where there is a shortage of officers |
| 2. | Pakistan Army | Second Lieutenant/ Lieutenant | JCOs are given with admin appointments |
| 3. | Nepal Army | Lieutenant/ Captain | JCOs are given with admin appointments |
| 4. | Sri Lankan Army | Lieutenant/ Captain | There is no JCO class |
| 5. | Indonesian Army | Second Lieutenant/ First Lieutenant | There is no JCO class |
| 6. | Chinese Army | Second Lieutenant/ Lieutenant | There is no JCO class |
| 7. | Nigerian Army | Second Lieutenant/ First Lieutenant | There is no JCO class |
| 8. | Tanzanian Army | Lieutenant | There is no JCO class |
| 9. | UK Army | Lieutenant | There is no JCO class |
| 10. | US Army | First/ Second Lieutenant | There is no JCO class |

Source: Author's self-construct based on Interviews and Content Analysis

**Evaluating the Effectiveness of Assigning JO as IPCs Considering the Present and Future Operational Requirements**

a. **Physical Fitness**: The JOs are subjected to intense physical conditioning as part of their basic military training. This considerable degree of physical conditioning is vital for the strenuous responsibility that is incumbent upon an infantry platoon leader, necessitating directing under command in tough situations (Imani, 2024).

b. **Decision-Making Ability to Perform Mission Command Tasks**: The JOs are best suited to perform mission command tasks at platoon level due to their intrinsic character of fostering trust and cohesion, ability to make swift decisions and maintaining agility and initiative (Chowdhury, 2024). Table 3.2 shows that in the CHT, the only operational area of the Bangladesh Army, nearly 70% of

special operations are conducted by officers ranked Captain and below due to their suitability to perform mission command tasks.

**Table-3: Statistics of the Commanders of Special Operations of 305 Infantry Brigade (January-June 2024)**

| Serial | Type of Operations | Total Number of Operations | Led by JCOs/NCOs | Led by Captain and Below | Led by Major and Above |
|---|---|---|---|---|---|
| 1. | Rangamati | 7 | 1 | 4 | 2 |
| 2. | Kaptai | 12 | 2 | 8 | 2 |
| 3. | Jurachari | 17 | 2 | 12 | 3 |
| 4. | Naniarchar | 13 | 1 | 10 | 2 |
| 5. | Bilaichari | 9 | - | 8 | 1 |
| 6. | Jiptoli | 11 | 2 | 7 | 2 |
| Total | | 77 | 8 (11%) | 55 (70%) | 14 (19%) |

Source: Brigade Headquarters, 305 Infantry Brigade, Rangamati

c. **Sound Tactical Knowledge on Future Warfare**: JOs find themselves in a privileged position where they can exploit technological advances in areas like cyber and electronic warfare, which they can combine with conventional infantry skills to make their troops ready for multi-domain operations. By keeping up with the future trends of warfare and encouraging lifelong learning, JOs will guarantee that their platoons remain flexible and capable of fighting in various difficult combat environments, thereby retaining a tactical advantage over current conflicts (Imani, 2024).

d. **Technical Proficiency to Adapt to Technology-Based Warfare**: JOs' technical competence will enable them to integrate technology in the process of tactical planning and execution. In the same spirit, JOs can also employ their abilities to tap into real-time intelligence streams such as satellite imagery and UAVs.

e. **Physical and Mental Courage**: JOs possess the physical courage of their convictions, leading from the front line and putting up with the same dangers as their troops (Mallick L. C., 2024). Their physical boldness can function as a propelling force during combat scenarios where they can make instant judgments under fire, operate in dangerous terrains, and engage in operations in CHT. While operating in CHT, the heroic action of late Lieutenant G. M. Mushfiqur Rahman,

Bir Uttom (1966–1989) serves as the best example of physical and mental courage.

f. **Positive Motivation**: JOs can effectively contribute to maintaining a high standard of operational efficiency at the platoon level, stemming from a high level of motivation that results from good standards at academy training (Islam, 2024). Their positive motivation will work as a great tool to inspire and motivate the subordinates to achieve the organisational goal.

g. **Lead by Example**: By manifesting dedication, professionalism, and a robust work ethic, JOs can establish an elevated standard for their platoons. JOs, with their superior physical fitness and strong motivational skills, often lead unit training and sports teams, earning accolades for their units through personal example (Ahmed, 2024).

h. **Adaptability and Innovation**: Adaptability is one of the key strengths of junior officers, which allows them to respond to unexpected challenges, including taking their sub-unit through difficult terrain or optimising the limited resources (Sauer, 2021). On the other hand, innovation complements adaptability by allowing JOs to think out of the box, thereby finding creative solutions to complex problems like integrating new technologies and tactics into their operations (Connelly, 2012).

**Identifying the Challenges for Replacing JCOs with Officers as IPC**

a. **Shortage of Officers**: The BA, at present, is running with a 37% shortage of officers. The rank-wise statistics of the shortage of officers up to the rank of Lieutenant Colonel are given below.

**Table-4: Rank-wise Statistics of Officers Held in BA (Up to the Rank of Lieutenant Colonel)**

| Serial | Rank | Authorised | Held | Deficiency | Deficiency (%) |
|---|---|---|---|---|---|
| 1. | Lieutenant Colonel | 323 | 399 | - | - |
| 2. | Major | 1092 | 992 | 100 | 9.16% |
| 3. | Captain | 1086 | 557 | 529 | 48.71% |
| 4. | Lieutenant | 839 | 440 | 399 | 47.55% |

Source: Military Secretariat Branch, BA as on 20 June 2024

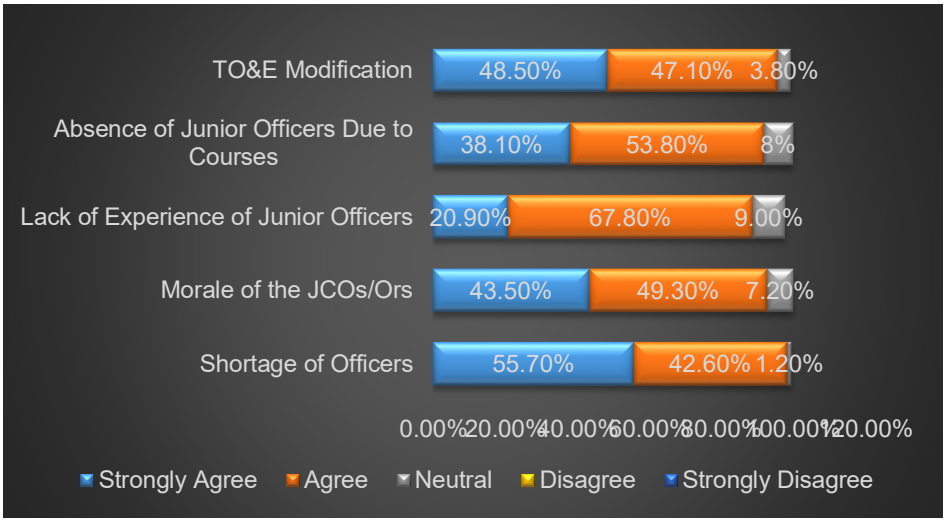
b. **Impact on the Morale of JCOs and ORs**: JCOs, who traditionally hold these leadership roles, may feel demotivated or undervalued by the shift, potentially leading to decreased morale and performance (Hasan, 2024). On the other hand, due to decreased JCO vacancy, ORs may lose aspirations to pursue higher ranks as before, affecting overall unit cohesion and effectiveness.

c. **Lack of Experience of JOs**: Newly commissioned officers may lack the practical, on-the-ground experience that JCOs possess, which may impact decision-making and leadership in complex operational scenarios.

d. **Absence of JOs from the Unit Due to Professional Courses**: The JOs undergo three mandatory courses – Officers' Basic Course, Officers' Weapon Course and Basic Commando Course within the first 2-3 years of their service life. Thus, their absence from the unit due to various mandatory and utility courses may impact the overall training and administration of under commands.

e. **Need for TO&E Modifications of an Infantry Battalion**: Transitioning command roles from JCOs to officers in the role of IPC will require a re-evaluation of the current organisational structure. The change of TO&E of an infantry battalion will necessitate the involvement of multi-ministries coordination and budgetary issues.

**Figure-2: Response Showing the Challenges of Replacing JCOs with JOs in the Role of IPC**




Source: Author's self-construct based on the Results of Survey Questionnaire

**Mitigating Measures to Address the Challenges of Assigning Officers in the Role of Platoon Commanders**

a. **Increased Officers Intake and Phased Implementation Plan**: The current training capacity of BMA needs to be enhanced, potentially raising the 2nd battalion to mitigate the shortage of officers. Moreover, the phased implementation plan facilitates a gradual transition, minimising disruptions and allowing time for adjustments (Salehin, 2024). Currently, about 40% of officers are assigned to the Infantry from each course, but increasing this to 50% may effectively address the challenges of assigning Junior Officers as Infantry Platoon Commanders. A perspective plan for the next 10 years to mitigate the shortage of officers is shown below.

**Table-5: State of Infantry Officers (Up to Captain) in the Year 2035**

| Serial | Rank | Authorised | Held | Wastage | Inclusion | Balance | Remark |
|---|---|---|---|---|---|---|---|
| 1. | Captain | 1086+300* = 1386 | 557 | 2087 | 2900 | 1370 | -16 |
| 2. | Lieutenant | 839+600*= 1439 | 440 | 2900 | 3828 | 1368 | -71 |

**Note:**

*4xCaptain per Infantry battalion is added due to assigning Jos as IPCs.

**8xLieutenant per Infantry battion is added due to assigning Jos as IPCs.

Source: Author's self-construct based on Perspective Plan of Military Secretariat Branch and BMA

b. **Interchangeability of the Appointments between Officers and JCOs**:

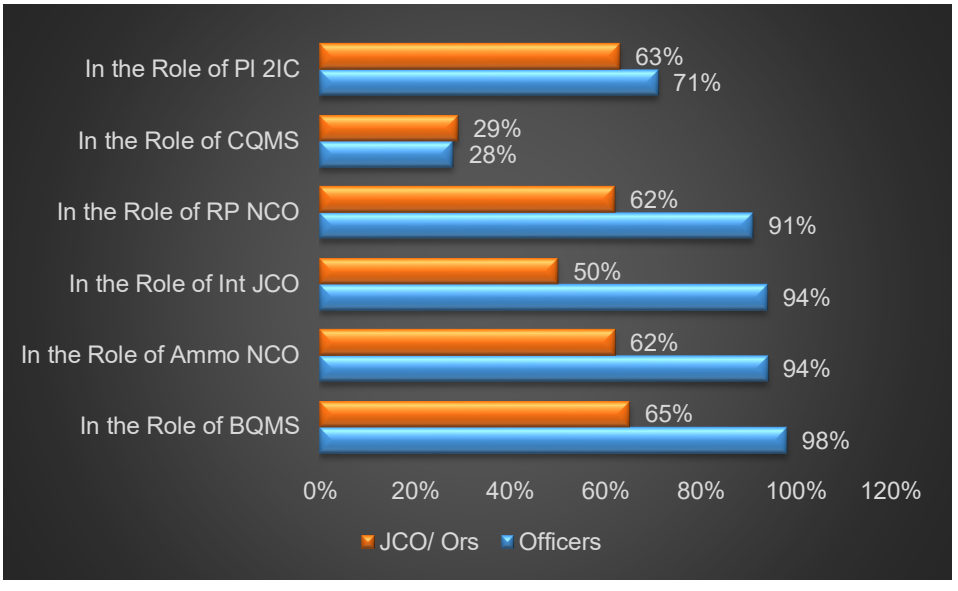
(1) **Support Platoon Commander**: The Support Platoon of the rifle company is never employed in isolation; rather, the support weapons are always distributed in the rifle platoons where they are employed under the direct supervision of the Company Commander.

(2) **Company 2IC**: In many armies of the world, the role of Company 2IC is performed by JCOs or JCOs' equivalent ranks, as the Coy 2IC mostly

perform the administrative jobs. In that case, the senior-most Platoon Commander of the Company may act as the alternative Company Commander.

c. **Adjusting the JCOs in Admin Appointments to Decrease the JCOs' Vacancy:** By transitioning JCOs to administrative roles, the army can leverage their extensive field experience and knowledge in essential support functions. This reassignment will not only preserve their career progression but also provide continuity and stability within the unit.

**Figure-3: Response Showing the Possible Administrative Appointments for the JCOs**




Source: Author's self-construct based on the Results of Survey Questionnaire

d. **Mentorship and On-the-Job Training**: Mentorship programs pair JOs with the seasoned JCOs and senior officers who can provide guidance, share insights from their extensive field experience, and offer practical advice on leadership and decision-making. On-the-job training (OJT) further complements this by placing JOs in real-world scenarios under the supervision of experienced mentors (Jalil, 2024).

e. **Reevaluating Institutional Training for Officers**: BMA continues with the inherited training system to prepare an officer as an IPC, which is narrated in the second objective of BMA. Therefore, no additional training or modification of BMA training is required if newly commissioned officers are to take over infantry

platoons right after the commission (Imani, 2008). Moreover, BA may follow the UK system, where the newly commissioned officers are sent for the Basic course right after the commission. Upon completion of the basic course, officers will join the unit, which will address the challenge of the long-term absence of JOs in the unit.

f. **Modification in TO&E**

**Option 1*:*** All twelve Platoon Commanders of the rifle platoon will be Lieutenants/Captains. The four Support Platoon Commanders will be replaced by JCOs. The four Company 2ICs will be replaced by JCOs. In the following appointments, the rank will be upgraded from Sergeant to JCO:

(1) Junior Quarter Master (Arms, Equipment and Store) - will replace Battalion Quarter Master Sergeant.

(2) Intelligence JCO - will replace Intelligence NCO.

(3) Regimental Provost JCO – will replace Regimental Provost NCO.

(4) Junior Quarter Master (Ammunition)-will replace Ammunition NCO.

**Table-6: Summary of Salient Aspects of Suggested TO&E of the Standard Infantry Battalion**

| Type of TO&E | Total Manpower | Number of Officers | Number of JCOs | Number of Sergeants | Number of Corporals |
|---|---|---|---|---|---|
| **Existing TO&E** | 740 | 21 | 25 | 50 | 66 |
| **Suggested TO&E** | 740 | 25 (+4) | 25 | 46 (-4) | 66 |

Source: Author's self-construct based on suggested TO&E

**Option 2**: All twelve Platoon Commanders of the rifle platoon will be Lieutenants/Captains. The twelve Platoon Sergeants in the rifle platoons will be replaced by 12 Platoon Second-in-Commands (2IC) at the rank of JCO (Warrant Officer).

**Table-7: Summary of Salient Aspects of Suggested TO&E of the Standard Infantry Battalion**

| Type of TO&E | Total Manpower | Number of Officers | Number of JCOs | Number of Sergeants | Number of Corporals |
|---|---|---|---|---|---|
| **Existing TO&E** | 740 | 21 | 25 | 50 | 66 |
| **Suggested TO&E** | 740 | 33 (+12) | 25 | 44 (-6) | 60 (-6) |

Source: Author's self-construct based on suggested TO&E

**Option 3**: As part of the modernisation process of the BA, the Infantry Directorate of the BA has taken the initiative to modify the existing TO&E of the infantry battalions since 2017. Apart from the modernisation programme, the directorate also feels the necessity to replace the JCOs with JOs as IPC to keep pace with modern warfare. However, the revised TO&E is still in the planning process.

**Table-8: Summary of Salient Aspects of Suggested TO&E of the Standard Infantry Battalion**

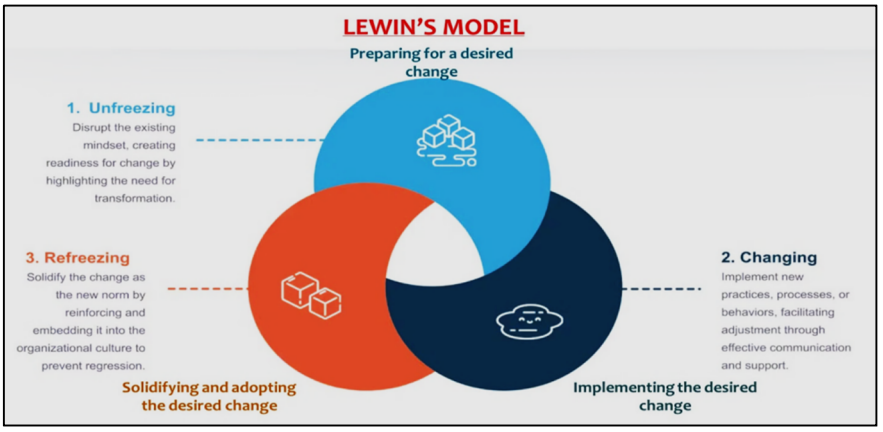
| Type of TO&E | Total Manpower | Number of Officers | Number of JCOs | Number of Sergeants | Number of Corporals |
|---|---|---|---|---|---|
| **Existing TO&E** | 740 | 21 | 25 | 50 | 66 |
| **Suggested TO&E** | 720 (-20) | 34 (+13) | 25 | 48 (-2) | 63 (-3) |

Source: Author's self-construct based on suggested TO&E

## Implementation Plan

a. **Lewin's 3-Step Model of Change Theory**: One of the most influential theories for understanding organisational change is Kurt Lewin's 3-step change model, which balances the driving and restraining forces to manage organisational change in three core phases: unfreezing, changing, and refreezing.

**Figure-4: Lewin's 3-Step Model of Change Theory**




Source: Whatfix Blog

b. **Application of Lewin's 3-Step Change Model – Replacing JCOs with Officers as IPCs**: Figure 4.4 shows the application of each phase of Lewin's 3-Step Change Model with its corresponding restraining forces and driving forces.

**Figure-5: Application of Lewin's 3 Steps Model of Change Theory – Replacing JCOs with Officers as IPCs**

| Phase | Restraining Forces | Driving Forces |
|---|---|---|
| Unfreezing | 1. Bureaucratic inertia rooted in colonial legacy.<br>2. Resistance from both senior and junior leadership unfamiliar with revised structures.<br>3. JCOs' fear of role loss. | 1. Research-backed evidence on operational inefficiency under JCO leadership.<br>2. Strategic direction from AHQ and Infantry Directorate.<br>3. Communication of long-term benefits. |
| Changing | 1. Officer shortage creating temporary command gaps.<br>2. BMA training capacity constraints.<br>3. JCO morale concerns and uncertainty about future roles. | 1. Phased implementation with priority postings.<br>2. Increase in BMA officer intake and infrastructure.<br>3. Reallocation of JCOs to admin roles and mentorship plans. |
| Refreezing | 1. Reluctance to sustain the change without oversight.<br>2. Possible reversion to informal legacy norms due to habit or lack of accountability. | 1. Formalized TO&E modifications.<br>2. Policy reinforcement through AHQ directives.<br>3. Monitoring and evaluation mechanisms. |

Source: Author's self-construct based on Interviews and FGDs

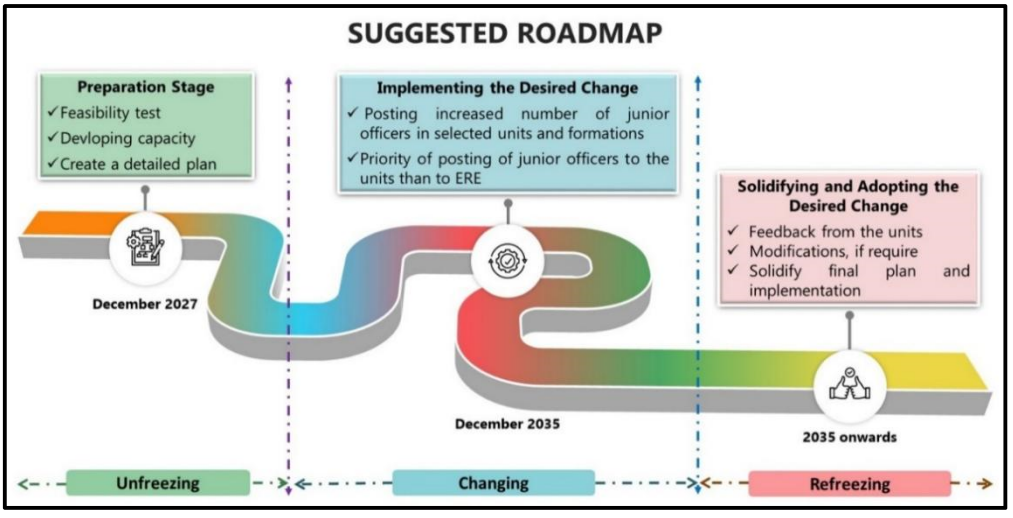
c. **Suggested Roadmap for Implementation**: Based on document analysis and interviews with the KIIs, the suggested roadmap for the implementation process following Lewin's model is given below. Table 4.6 shows the implementation plan, and Figure 4.4 shows the roadmap, including a timeline based on suggested option 3.

**Table-9: Suggested Implementation Plan for Assigning JOs as IPCs**

| Preparation Stage (Unfreezing Stage) | Implementing the Desired Change (Changing Stage) | Solidifying and Adopting the Desired Change (Refreezing Stage) |
|---|---|---|
| • Carry out feasibility test<br>• Create a detailed plan, including tasks, timelines, and cost-benefit analysis<br>• Increase the intake of officers<br>• Develop capacity of BMA | • Posting increased number of junior officers as per following priority:<br>✓ 24 Infantry Division<br>✓ 10 Infantry Division<br>✓ One selected unit of all the divisions<br>• Setting the priority in case of ERE posting up to the rank of Captain as following:<br>✓ Important G3 appointments/ ADC within Army<br>✓ SSF/ PGR<br>✓ BGB/ RAB (discouraged)<br>✓ Others (discouraged) | • Feedback from the units<br>• Modifications, if require<br>• Posting junior officers to all the standard infantry units as per following priority:<br>✓ 24 Infantry Division<br>✓ 10 Infantry Division<br>✓ Rest other units of all the divisions |

Source: Author's self-construct based on Interviews and FGDs

**Figure-6: Suggested Roadmap for Assigning JO as IPC, including Timeline**




Source: Author's self-construct based on Suggested Option 3

## Conclusion

This research examines the necessity of replacing Junior Commissioned Officers (JCOs) with commissioned officers as Infantry Platoon Commanders (IPCs) in the Bangladesh Army (BA). The study concludes that commissioned officers are better suited to lead infantry platoons due to the complex demands of modern warfare. Officers possess advantages in physical fitness, decision-making, technical proficiency, and adaptability, which are essential for addressing the challenges posed by irregular, asymmetric, and technologically sophisticated threats.

JCOs, typically older and more conservative in their decision-making, often lack the physical stamina, mental agility, and technical knowledge needed to lead effectively in modern combat. In contrast, Junior Officers (JOs) are younger, more physically fit, and better trained in mission command tasks and advanced technologies. Their motivation and willingness to innovate make them more suitable leaders in dynamic battlefield environments.

The research highlights challenges in transitioning from JCO-led to officer-led platoons, including officer shortages and potential morale issues among JCOs. To address these, the Army must increase officer recruitment, offer mentorship programs for new officers, and reassign JCOs to meaningful roles. Above all, assigning officers as IPCs will significantly enhance the operational effectiveness and strategic readiness

of the BA, aligning it with international standards and improving its capability in future conflicts and peacekeeping missions.

## Recommendations

a. The Infantry Directorate and Military Training Directorate of the GS branch of AHQ may work collaboratively to conduct research or an Army Project Study to find out the feasibility of assigning JOs as IPC within the framework of BA.

b. The AHQ**,** Military Secretariat Branch, may work out a perspective plan for mitigating the shortage of officers to address the challenges of assigning JOs as IPCs.

c. The Inter-Service Selection Board (ISSB) may develop the capacity and infrastructure to attract a large number of candidates and conduct a wider range of Inter-Service Selection Boards to select suitable candidates for training at BMA.

d. The BMA may endeavour to raise the 2nd Bangladesh Battalion immediately to develop its existing capacity to train a greater number of Officer Cadets each year.

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## Biography

**Major Md Sadequzzaman, psc, Infantry** was born on 14 October 1992 in Chuadanga district. He was commissioned from the Bangladesh Military Academy (BMA) on 21 December 2011 with 65 BMA Long Course in the Corps of Infantry. He has diverse experiences serving in regimental, instructional, and staff appointments. Besides the regimental appointments, he served as Aide-De-Camp (ADC) to the Chief of Army Staff. As an instructor, he served as a Platoon Commander and Term Commander at BMA. He also served in the Chattogram Hill Tracts as Company Commander under Operation UTTARAN. Under the blue helmet, he has served in the United Nations Peacekeeping Mission as a Contingent Member in South Sudan. Apart from the mandatory courses of his professional career, he has attended the Officers' Anti-tank Weapon Course from the School of Infantry and Tactics and the Potential Platoon Commanders' Course from BMA. He is a graduate of the Defence Services Command and Staff College, Mirpur. He also obtained Masters degree in Master of Social Science in Security Studies from Bangladesh University of Professionals.

# Prospects and Challenges of Implementing Artificial Intelligence-Based Predictive Maintenance

*Wing Commander Rashed-ul-karim, psc, Engg*


## Abstract

As technological advancements reshape military aviation, the Bangladesh Air Force (BAF) is facing increasing challenges in maintaining aircraft readiness and reducing unplanned downtimes. The current reactive maintenance practices have proven inadequate in meeting the operational demands of modern air forces, which demand exploration of the feasibility of implementing Artificial Intelligence (AI) driven Predictive Maintenance (PdM) within BAF. This will, in turn, provide a roadmap to enhance BAF's maintenance efficiency and operational readiness. The study assesses BAF's existing maintenance practices, identifies gaps, and examines how PdM can provide solutions by predicting and preventing failures before they occur. A mixed-methods approach was employed, combining surveys and interviews with key BAF, Bangladesh Army (BA), and non-military aviation sector personnel to gather insights into current challenges and the potential benefits of PdM. Findings reveal that AI-driven PdM could significantly reduce aircraft downtimes, optimise maintenance schedules, and improve overall aircraft availability. However, the successful implementation of PdM requires addressing challenges such as upgrading information technology (IT) infrastructure, comprehensive training for personnel, careful budgetary planning, appropriate sensor requirements for real-time data, and overcoming organisational resistance. The study concludes with recommendations for a phased PdM implementation strategy, aimed at modernising BAF's maintenance systems and ensuring sustainable operational readiness.


## Introduction

Operational readiness is the cornerstone of any air force's capability to meet mission demands. For BAF, minimising aircraft downtime and ensuring fleet availability are crucial elements in maintaining high operational readiness. Artificial Intelligence (AI) driven Predictive Maintenance (PdM) is designed to address these requirements by predicting potential equipment failures before they occur. This enables maintenance teams to schedule repairs at optimal times, thereby reducing unplanned downtime and ensuring that aircraft are available for missions when needed (Breaking Defense, 2020).

Additionally, PdM optimises the utilisation of resources by analysing real-time data from aircraft sensors. This approach enables maintenance teams to schedule repairs and part replacements during periods of lower operational demand. As a result, spare parts and maintenance personnel are allocated more efficiently, leading to shorter maintenance periods and improved fleet readiness (Verhoeff, 2015). A survey conducted among BAF personnel shows overwhelming support for PdM, with nearly 80% of respondents agreeing that the new system would enhance aircraft availability and improve operational readiness (Arefin, 2023).

While there are many research papers that explored the PdM's benefits and implementation pathways, adequate research was not found in the context of feasibility and detailed implementation guidelines for a developing air force like BAF with constrained resources. For that, this study aims to build that bridge with a scope to study the standard PdM aspects, link that to BAF's context by analysing the potential benefits and challenges, and propose a feasible and attainable roadmap.

**Types of Aircraft Maintenance**

In aviation maintenance, standard practices are selected to ensure aircraft safety, reliability, and operational efficiency. These practices are designed to address different levels of maintenance needs and technological advancements, ensuring comprehensive care for aircraft systems (Ucar et al., 2024). The main types are discussed below:

a. **Reactive/Corrective Maintenance**: This involves repairing aircraft only when a malfunction occurs. It is often unscheduled and performed in response to unexpected failures, resulting in potential delays and increased maintenance costs.

b. **Preventive Maintenance**: These are planned and scheduled maintenance tasks carried out in fixed time intervals to detect and correct faults before they cause significant issues.

c. **Predictive Maintenance**: This proactive approach uses cutting-edge sensors, data analytics, and other advanced technologies to forecast aircraft performance and potential reliability issues.

**Standard Aircraft Maintenance Tasks**

Based on the types of aircraft maintenance described above and after consulting a few International Maintenance Manuals like the U.S. Air Force Technical Order 00-20-1 (2018), Federal Aviation Administration (FAA) Advisory Circular 43-204 (2007), and international Air Transport Association (IATA) Aircraft Maintenance Manual (2013),

several major tasks of maintenance personnel have been identified by the researcher and depicted below:

**Figure-1: Aircraft Maintenance Tasks**


Source: Author's self-construct

## Current State of Aircraft Maintenance in BAF

### Present BAF Aircraft Maintenance Practices

BAF's current maintenance system is predominantly reactive, meaning repairs are conducted only after problems arise. To compare the maintenance tasks carried out by the BAF maintenance personnel in a broad brush to comply with the identified standard maintenance tasks above, the following table is constructed:

**Table-1: Compliance of Maintenance Tasks by BAF Maintenance Personnel**

| Task | Compliance of BAF Maintenance Personnel |
|---|---|
| Pre-Flight Inspection | ✅ Yes, performed |
| Thru-Flight Inspection | ✅ Yes, performed |
| Post-Flight Inspection | ✅ Yes, performed |
| Scheduled & Unscheduled Maintenance | ✅ Yes, performed |
| 1st Line Rectification & Overhaul | ⚠️ Limited rectification and overhauling |
| Monitoring & Testing | ⚠️ Performed with inadequate equipment |
| Inventory Management | ⚠️ Performed with paper-based and elementary digital methods |
| Forecasting of Spares | ⚠️ Inadequate, sometimes inaccurate |
| Safety & Compliance | ✅ Yes, performed |
| Documentation & reporting | ⚠️ Performed with paper-based and elementary digital methods |

Source: Author's self-construct

Based on Table-1, survey, and interviews conducted, it can be summarised that these BAF aircraft maintenance practices pose several challenges, such as:

a. **Unplanned Downtime**: Aircraft are grounded unexpectedly when issues arise, leading to operational disruptions and lower fleet availability.

b. **High Operational Costs**: Emergency repairs and expedited procurement of parts increase maintenance costs.

c. **Inefficient Resource Use**: Personnel and spare parts are often mismanaged due to the reactive nature of maintenance.

d. **Preventive Maintenance**: Though BAF has the practice of preventive maintenance, it is based on scheduled intervals rather than the actual condition of the aircraft. This can result in unnecessary maintenance or missed opportunities to address potential problems.

**Logistical Delays and Forecasting Challenges**

Another significant issue in BAF's current system is logistical inefficiency, especially in procuring spare parts. BAF, presently, is heavily dependent on the traditional

logistics management for procuring aircraft and ancillary equipment spares both from home and abroad. In this process, besides the supply chain management, accurately forecasting spare part needs remains challenging, leading to frequent delays. This prolongs aircraft downtime, further reducing fleet availability. Besides the traditional approach of procuring military equipment, a major role in this inefficiency is played by the ground-level, starting from the flight lines. The following points depict BAF's aircraft spare acquisition procedures:

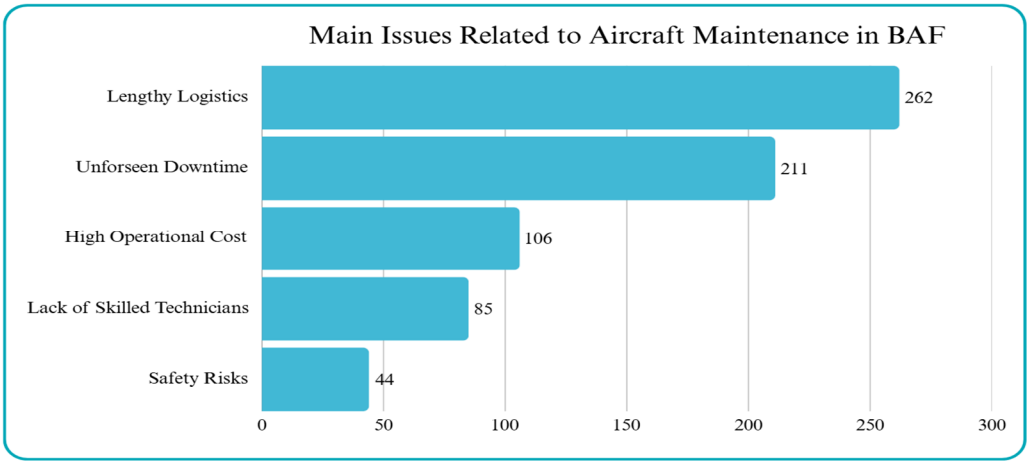
a. Aircraft-On-Ground (AOG), Anticipated-AOG, Immediate Operational Requirement (IOR), and Urgent Repair Requirement (URR) demands are raised by users on unforeseen and immediate requirements.

b. It takes around 90 days for a demanded item to be received if the item is procured domestically, and around 6-12 months for a demanded item to be received if the item is procured from abroad. In both cases, the item supply time normally surpasses the required deadline, thus diminishing the efficiency of supply management for spares.

c. If the unforeseen occurrences could be predicted from the maintenance side and demands placed well in time with the help of PdM, there would be minimal delay in receiving the spares, though the other reasons may also hamper the delivery time.

A survey among BAF personnel revealed that 87% of respondents identified logistical delays as one of the major obstacles in maintenance operations.

**Figure-2: Summary of Survey Responses regarding Main Issues Faced in BAF Aircraft Maintenance**




Source: Author's self-construct based on Survey

## PdM: A Proactive Solution for BAF

### The Role of AI-Driven PdM

AI-driven PdM represents a shift from reactive to proactive maintenance by predicting equipment failures before they occur. This approach uses data collected from sensors embedded in aircraft to anticipate when a component is likely to fail, allowing maintenance teams to schedule repairs in advance. Key benefits of PdM include:

a. **Increased Aircraft Availability**: PdM ensures aircraft remain operational for longer periods by scheduling maintenance before failures occur, improving overall fleet availability.

b. **Cost Efficiency**: By preventing major failures and optimising spare parts usage, PdM can reduce long-term maintenance costs.

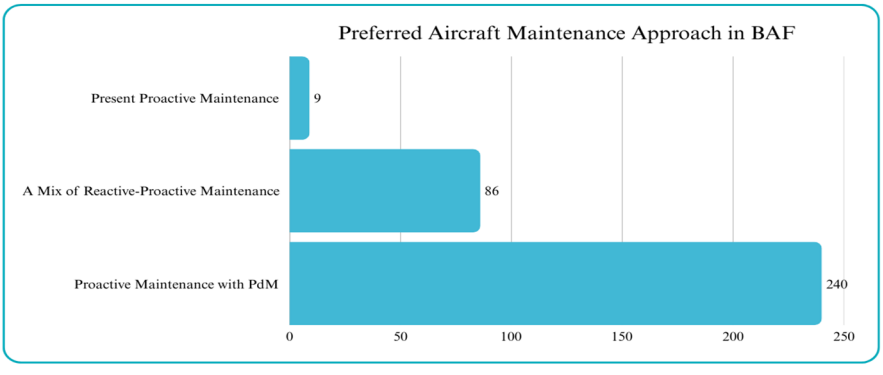
c. **Enhanced Safety and Reliability**: Continuous monitoring allows for early detection of wear and tear, reducing the risk of in-flight failures, and improving overall operational safety.

### Potential Benefits of PdM for BAF

### Enhancing Operational Readiness with PdM

PdM's ability to predict failures before they happen and the ability to forecast spare requirements accurately reduce unexpected downtime and ensure aircraft are available when needed. Additionally, PdM improves resource utilisation by enabling BAF to schedule maintenance during periods of lower operational demand. This ensures that personnel and spare parts are available when necessary, leading to shorter maintenance times, and increased aircraft availability. Survey results from BAF personnel indicated strong support for PdM, with nearly 80% of respondents agreeing that it would improve fleet availability and operational readiness.

**Figure-3: Summary of Survey Responses regarding Preferred Aircraft Maintenance Approach by BAF**




Source: Author's self-construct based on Survey

**Enhanced Maintenance Efficiency**

Implementing PdM will transform BAF's approach to maintenance by providing real-time data that allows maintenance teams to act proactively. PdM optimises maintenance scheduling, ensuring that repairs are performed only when necessary, based on actual equipment conditions. This reduces downtime, improves resource allocation, and enhances overall operational efficiency.

**Challenges to Implementing PdM in BAF**

**Data Infrastructure and Sensor Integration**

a. **IT Infrastructure**: One of the main challenges in implementing AI-driven PdM is BAF's current lack of adequate data infrastructure. For PdM to function effectively, continuous data collection from aircraft sensors is essential. Many aircraft are not equipped with the advanced sensors required to monitor key components in real-time.

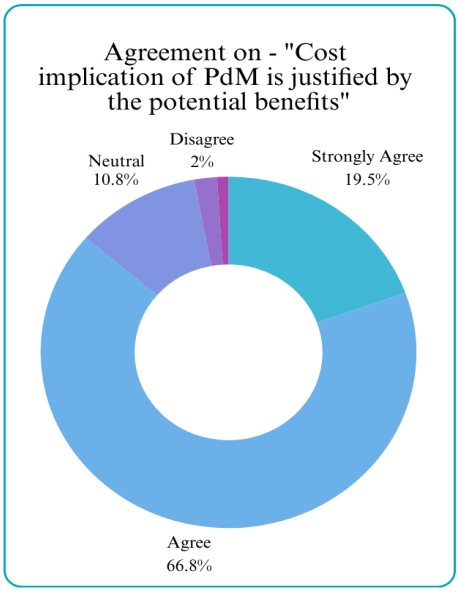
b. **Sensor Requirement**: Upgrading data systems and installing sensors are critical for successful PdM implementation. Without accurate, real-time data, predictive models cannot generate reliable maintenance insights.

c. **Integration with Existing Systems**: Integrating new AI-based PdM with existing maintenance and operational systems can be a daunting task. BAF operates relatively older equipment and legacy systems that may not be compatible with modern AI-based PdM solutions.

**Organisational Resistance**

Transitioning to PdM represents a cultural shift within BAF. Many personnel are accustomed to traditional maintenance methods and may resist adopting new technologies. This resistance especially comes from the ground-level technicians. Overcoming this resistance will require comprehensive training and clear communication on PdM's benefits, such as reduced downtime, improved safety, and long-term cost savings. The survey data showed that while some resistance is expected, 99% of respondents believed that PdM's long-term benefits justified the transition.

**Figure-4: Survey Responses regarding Long-Term Return on Investment (ROI) of PdM**




Source: Author's self-construct based on Survey

**Budgetary Constraints**

Implementing AI-driven PdM across BAF's fleet requires significant investment in data infrastructure, sensors, and personnel training. Although PdM offers long-term cost savings, securing the necessary budget for its initial implementation remains a challenge. A detailed cost-benefit analysis will be necessary to justify the financial investment required. Highlighting PdM's long-term benefits will help BAF secure the budget necessary for its implementation.

**Operational Challenges**

a. **Operational Disruption**: Implementing AI-based PdM can disrupt existing maintenance processes and operations of BAF as it requires placing new sensors, accumulating and processing sensor data, and analysing those for logistical and operational planning. Managing these disruptions while maintaining operational readiness is a significant challenge. BAF must carefully plan and execute the transition to AI-based predictive maintenance to minimise disruptions and ensure a smooth implementation process (M. O. Karim, 2024).

b. **Pilot Testing and Validation**: Before full-scale implementation, AI-based PdM of BAF needs to be thoroughly tested and validated. BAF may face

challenges in conducting extensive pilot tests due to limited resources and operational constraints.

**Mitigation and Attainable Roadmap for Implementing AI-Driven PdM in BAF**

To mitigate the challenges of implementing AI-driven PdM in BAF and to maximise the potential benefits of it, a potential roadmap for implementation is prepared herewith. The roadmap for implementing AI-driven PdM in BAF is divided into five phases, each designed to address specific challenges and ensure a smooth transition from reactive maintenance to a predictive model.

**Figure-5: Phase-wise Time Plan for the Proposed Roadmap**


Source: Author's self-construct based on survey

**Phase 1: Preparation and Planning (1-6 Months)**

This phase is critical for setting the foundation for the entire project. Leadership endorsement and financial commitment will drive the project forward. Establishing a core team ensures that every branch of BAF involved in PdM implementation is represented. The initial system assessment will help identify infrastructure gaps, especially related to sensors, data management, and IT systems. These preparatory steps will clarify the scope and scale of resources needed for the rest of the project. By the end of this phase, BAF will have a clearer picture of its readiness for PdM and the resources required to proceed. Also, a well-formed core group will streamline decision-making and execution. Moreover, leadership's active involvement will create organisational momentum and reduce resistance to change.

**Phase 2: Pilot Testing for General PdM (7-18 Months)**

The pilot phase is essential for testing the general PdM framework and understanding its practical implications in real-world scenarios. Data collection during this phase will create a foundational database that will be used to fine-tune PdM processes and train predictive models. Early training sessions will help personnel adapt to PdM and provide

feedback on system functionality. These pilot prototypes will act as learning opportunities to identify challenges before scaling. After this stage, a successful prototype will build trust in the PdM system across various units of BAF. Also, data collected during this phase will become the backbone for future AI integration. Initial training will also reduce implementation risks in later stages and build capacity for handling more advanced PdM tools.

**Phase 3: Full General PdM Rollout (18-36 Months)**

This phase marks the full operationalisation of general PdM across the BAF fleet. The installation of sensors and the generation of maintenance data will allow predictive capabilities to start functioning. By adopting both preventive and proactive maintenance practices, this phase will significantly reduce unexpected equipment failures. Standardised 'Standard Operating Procedures' (SOP) will ensure uniformity in maintenance practices across the entire fleet. After completion of this stage, improved aircraft availability and reduced downtime will be ensured by predictive maintenance. BAF personnel will become accustomed to data-driven maintenance, easing the transition to AI integration later. Also, SOPs will enhance operational efficiency and reduce human errors in maintenance workflows.

**Phase 4: IT Upgradation and AI Integration (1-36 Months)**

The primary focus of this phase is to build the IT backbone required to support AI-driven PdM. The integration of AI will automate predictive analytics, allowing for more accurate predictions of equipment failure. Training the personnel on AI systems is critical to ensure that they can operate and maintain the new technology effectively. This phase will create a seamless link between real-time data collection, AI analytics, and operational decision-making. On completion of this stage, improved accuracy will be ensured in predicting equipment failures, allowing for better resource allocation. Also, optimised logistics and spare parts forecasting, and reducing maintenance costs will be ensured. Moreover, Personnel equipped with advanced AI knowledge will ensure a smoother transition to full-scale AI-driven PdM in the next phase.

**Phase 5: Full AI-Driven PdM Implementation (37-48 Months)**

This phase represents the culmination of the entire PdM initiative. With AI fully integrated into the PdM system, maintenance will shift from being reactive to entirely predictive. AI models will continuously evolve, becoming more accurate as more data is fed into the system. The integration of predictive analytics into logistics will ensure that the right parts are always available when needed, further reducing downtime and improving fleet readiness. On completion of this stage, a significant reduction will occur in aircraft downtime, leading to improved operational readiness and cost savings.

Besides, streamlined logistics processes will ensure that maintenance personnel always have the parts they need when they need them. Also, continuous AI model improvements will occur for evolving maintenance needs.

**Overall Impact**

The phased implementation of general PdM followed by AI-driven PdM will transform BAF's aircraft maintenance system from a reactive to a predictive model. The immediate impact will be the availability of better aircraft and optimised resource use. As AI is integrated, the system will become more autonomous and data-driven, leading to substantial long-term benefits, including reduced costs, fewer unplanned maintenance events, and an overall increase in operational efficiency. This phased approach also ensures a smooth transition with continuous improvements at every stage, leveraging expertise from key directorates and personnel across BAF.

**Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis**

The SWOT analysis process provides a structured approach to assess both the internal and external factors influencing the implementation of AI-driven PdM in BAF. Examining the strengths, weaknesses, opportunities, and threats helps in identifying potential advantages while addressing challenges that could impact successful adoption and integration.

**Table-2: SWOT Analysis of the Proposed Roadmap**

| SWOT Matrix | |
|---|---|
| **Strengths** | **Weaknesses** |
| • Reduced downtime<br>• Optimised spare management<br>• Reduced logistical delays<br>• Enhanced operational readiness and maintenance efficiency<br>• Reduced workload of technicians | • Organisational resistance<br>• Dependence on accurate data<br>• Current IT infrastructure<br>• Significant training requirement |
| **Opportunities** | **Threats** |
| • AI integration to modernise BAF maintenance systems<br>• Improved collaboration between Branches through a unified system | • Initial costs of upgrading infrastructure and training<br>• Inaccurate or inconsistent data<br>• Over-reliance of AI and less human supervision |

Source: Author's self-construct

## Conclusion

BAF faces an increasing need to enhance its aircraft maintenance capabilities in a rapidly evolving technological landscape. AI-driven PdM has emerged as a viable solution to address this need, promising to reduce downtime, improve operational readiness, and increase the overall efficiency of maintenance practices. This research explored the feasibility of implementing such a system within BAF, identifying key challenges and opportunities, and providing a feasible and attainable roadmap for integration.

While BAF's current maintenance system is largely reactive, there is significant potential for improvement with PdM. The traditional systems, restrained by delays in spares acquisition, a lack of predictive accuracy in forecasting, and inefficiencies in data handling, present a strong case for modernisation through PdM and AI. This is not just a technical challenge but an organisational one, requiring a shift in organisational mindset towards embracing new advanced technologies and processes.

The importance of data accuracy and IT infrastructure is critical for the success of PdM. A predictive system is only as good as the data it processes, and thus, ensuring high-quality, consistent, and real-time data collection and processing is paramount. There is a need for leadership commitment at all levels of BAF as well as continuous personnel training to adapt to new AI-driven processes.

A phased approach can be utilised as the most suitable path for BAF to implement PdM, starting with pilot projects and scaling up to full deployment across all aircraft. This gradual rollout will allow BAF to mitigate risks, address any technical or operational challenges early, and ensure a smooth transition to an AI-driven maintenance model.

At the outset, it can be strongly emphasised that with proper implementation, PdM can improve operational efficiency, reduce downtime, and lead to better maintenance management. However, the success of this initiative hinges on overcoming identified challenges such as resistance to change, data management issues, and infrastructure limitations.

## Recommendations

Based on the findings of this research, the following recommendations are proposed to ensure the successful implementation of AI-driven Predictive Maintenance in BAF:

a. The BAF may adopt a phased approach, beginning with pilot projects on selected aircraft to evaluate the effectiveness of PdM before full-scale implementation.

b. The BAF may invest in upgrading its IT infrastructure to support real-time data collection, processing, and analysis. Reliable network connectivity, enhanced data processing capabilities, and secure storage solutions are essential for the success of PdM.

c. The BAF may implement comprehensive training programs for all personnel involved in the implementation process. Continuous education and upskilling will be required as the system evolves.

d. While future procurement plans for aircraft, BAF may consider having adequate sensors, which will be the primary source of aircraft data that would reinforce the functionality of AI-driven PdM.

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## Biography

**Wing Commander Rashed-ul-karim, psc, Engg** was commissioned in the Bangladesh Air Force on 01 December 2004 in the Engineering branch. He obtained B Sc in Engineering (Computer Science and Engineering) from the Military Institute of Science and Technology in 2006. He has also done various professional courses at home and abroad. Some of the notable courses are - Avionics Technology Basic Course in BAF, Oracle 10g Database Administrators' Course in BAF, Aviation Communication Squadron Commander Course in China, IFF Mode-6 Course in China, and Junior Command and Staff Course in BAF. Wing Commander Rashed, during his service career, served in different professional appointments such as Officer-in-Charge of Radar Maintenance Flight and Communication Squadron at BAF Base Bir Uttam Sultan Mahmud, Tangail, and Flight Commander Radar and Communication at BAF Radar Unit Moulvibazar. He has also served at various staff appointments at the Air Secretary's Branch and the Directorate of Communication and Electronics at Air Headquarters. On Deputation, he served at 'Introduction of MRP and MRV Project' at Passport Office, and 'Operation Kuwait Punorgothon (OKP)' in the Kuwait Armed Forces. He has also served as Officer-in-Charge of Engineering Studies Squadron at BAF Academy, Jashore.

# Mentorship as an Effective Tool in Fostering Leadership Competencies among Mid-level Officers: Suggested Options for Bangladesh Navy

*Commander Md. Ariful Islam, (G), NPP, psc, BN*

**Abstract**

While mentorship is crucial for military leadership development, Bangladesh Navy (BN) lacks a formal programme to systematically enhance strategic thinking, decision-making, and team-building skills. The study evaluates existing informal mentorship practices, identifies key challenges, and proposes a structured mentorship framework tailored to BN's unique cultural and organisational context. Using a mixed-method approach, the study employed surveys, interviews, Focus Group Discussions (FGD), and case study methods. The study's findings indicate that while informal mentorship in BN is beneficial, it is inconsistent and lacks formal mentor training. This led to varied experiences and outcomes. Officers express a strong interest in formalising mentorship to ensure reliable guidance and preparation for future challenges. Key obstacles include time constraints, cultural barriers, and resistance to change. These can be addressed through clear objectives, mentor training, and structured feedback. The proposed programme integrates formal and semi-formal elements, focusing on mentor training, feedback loops, and traditional and digital tools. This structured approach aims to strengthen leadership development, boost officers' confidence, and ensure a resilient leadership pipeline aligned with the BN's goals.

## Introduction

Mentorship is widely recognised as pivotal in professional and personal development across various sectors, including the military. In military settings, effective mentorship is crucial for nurturing leadership, enhancing operational effectiveness, and ensuring the seamless transmission of values, skills and knowledge. BN, like other military forces, often operates in a challenging environment. It demands high levels of leadership competency, particularly among mid-level officers who play a critical role in operations and management. Leadership competencies of mid-level officers are vital for ensuring operational readiness and effective utilisation of manpower and materials.

Leadership competencies refer to skills, behaviours, and attitudes that enable individuals to lead and manage others effectively. In the military, these competencies include strategic thinking, decision-making under pressure, ethical judgment, team building, and communication skills. Developing these competencies is essential for

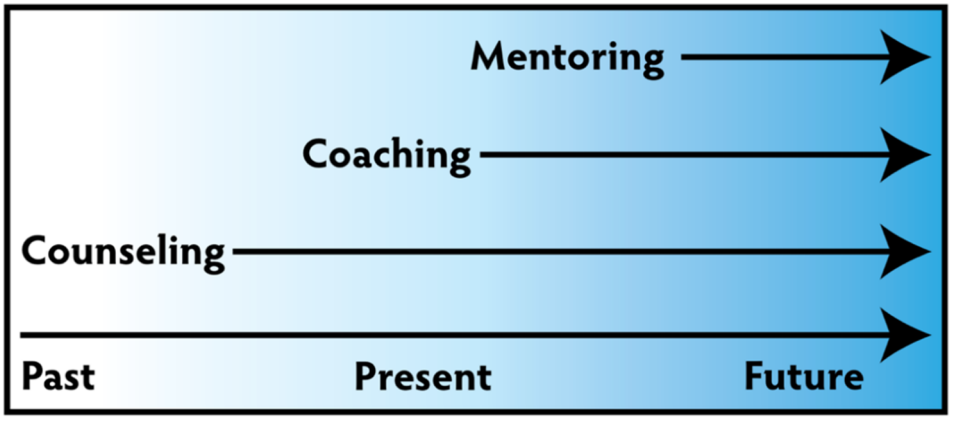
mid-level officers who are expected to lead by example, make critical decisions, and inspire their subordinates. Studies have shown that mentorship programmes can significantly contribute to developing leadership competencies. Effective mentorship fosters critical thinking, decision-making, and adaptability, which are key attributes of modern naval leadership.

Through mentorship, experienced officers can guide, advise, and support mid-level officers in their professional growth. It can help juniors navigate challenges and build the necessary skills for effective leadership. The interaction between mentors and mentees facilitates the transfer of tacit knowledge and the development of practical skills that often need to be covered in formal training. Despite the recognised importance of mentorship, more comprehensive research and well-structured mentorship programmes within BN are required. While informal mentorship may exist, a formalised programme with clear objectives, methodologies, and outcome assessment is necessary to enhance the leadership skills of mid-level officers.

**Theoretical Landscape of Mentorship and Leadership**

a. **Understanding the Difference between Mentorship, Coaching and Counselling**: Mentorship, often confused with coaching and counselling, is distinct in its focus. According to US Army FM 6-22 (2022), mentoring is a voluntary relationship built on trust and respect aimed at future potential. In contrast, coaching targets current skills for future improvement, and counselling reflects on past actions to enhance future performance. Counselling is a part of coaching, which is again an element of mentoring (Thomas & Jim, 2015).

**Figure-1: Relationship between Mentoring, Coaching, and Counselling**




Source: (Thomas & Jim, 2015)

b. **Formal versus Informal Mentoring**: The differences between formal and informal mentorship can be highlighted across four key dimensions, as shown in the table:

**Table-1: Differences between Formal and Informal Mentoring**

| Dimension | Informal Mentoring | Formal Mentoring |
|---|---|---|
| **Intensity** | Emotionally more intense, members are committed naturally and intrinsically | Emotionally Less intense, instigated by Organization |
| **Visibility** | Less visible. Often operate without the awareness of the organization | Visible. Known and accepted by the organization |
| **Focus** | Organization prescribes the training content and the focus of mentorship | Generally focused on the mentor's career and psychosocial development |
| **Duration** | Unconstrained about parameters. Longer in duration | Operate within clear guidelines for meeting frequency. Have expectation about termination |

Source: (Johnson & Anderson, 2010)

**Case Studies on Global Military Mentorship Programmes**

a. **Mentorship Practices in the USA, UK and Australia**: The case studies of the US Army, UK Royal Navy, and Australian Defence Force highlight the importance of structured mentorship programmes in leadership development. These programmes combine formal training with informal learning. Mentors are selected based on their leadership experiences. Mentorship is tailored to officers' career stages, career progression and retention. By integrating both formal and informal mentorship elements, these forces ensure mentorship remains relevant and impactful.

**Table-2: Differences between Leadership Programmes**

| Aspects | US Army | UK Royal Navy | Australian Defence Force |
|---|---|---|---|
| **Mentorship Approach** | Integrated into every aspect of an officers' career, with formal training sessions, on-the-job learning (Department of the Army, 2022) | Balances formal and informal mentorship and emphasized flexibility in mentorship relationships | Combines formal training with ongoing mentorship tailored to career stages and operational needs |
| **Mentor Selection** | Mentors are selected based on their experience and leadership qualities | Mentors come from both formal and informal networks | Mentors are matched with mentees based on career stages and specific needs |
| **Matching Process** | Structured matching process where mentees are paired with mentors systematically by the organization | Structured matching process where mentees are paired with mentors systematically by the organization | Structured matching process where mentees are paired with mentors systematically by the organization |

Source: Author's self-construct based on case studies

Military Leadership Diversity Commission (MLDC), USA, surveyed in 2011 to identify similarities and differences across the services' mentoring programmes. The analysis (Table-3) shows that the US Navy adopted a much more formal approach than other services (Mentoring Programs Across the Services, 2010).

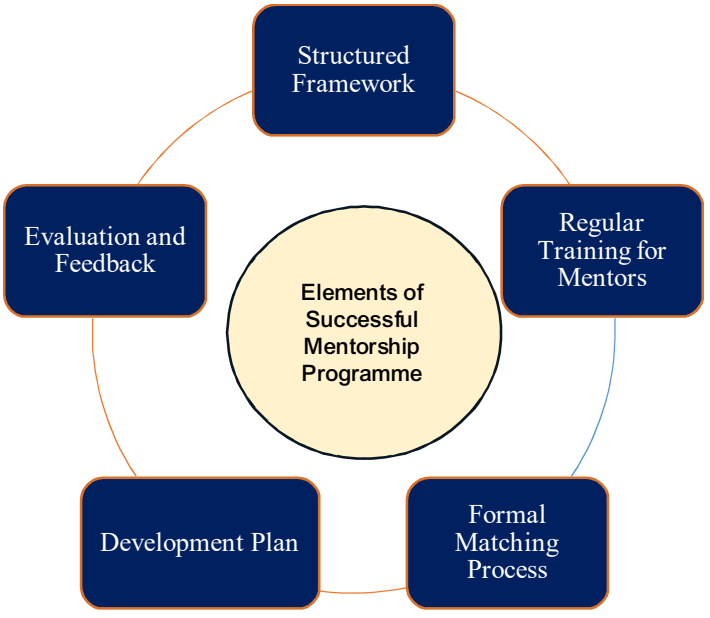
**Table-3: Comparison of Mentoring across the Services of the USA**

| | Air Force | Army | Coast Guard | Marine Corps | Navy |
|---|---|---|---|---|---|
| Goals and Assumptions | | | | | |
| Mentoring improves career potential of mentees | X | X | X | X | X |
| Mentors and Service benefit from mentoring | X | X | X | X | X |
| Equal access to mentors/everyone should have a mentor | X | X | X | X | X |
| Mentoring is part of diversity strategy | | | X | | X |
| Features | | | | | |
| Development plans include mentoring tools | X | X | X | | |
| Mentoring handbook/guide | X | X | X | X | X |
| Mentoring websites | X | X | X | X | X |
| Web-enabled mentoring tools | X | X | X | | X |
| Supervisor directed to mentor all subordinates | X | | | X | |
| Formal guidance for mentoring relationship (e.g., how often mentors and mentees should meet) | | | | X | X |
| Mentors are screened and trained | | | | | X |
| Mentor-mentee matching tool provided | | | X | | X |
| Contract has to be signed | | | | | X |
| Measures of Effectiveness | | | | | |
| Survey questions about mentoring | X | X | X | X | X |

Source: (Mentoring Programs Across the Services, 2010)

b. Review of Successful Elements from Global Mentorship Programmes: From the global best practices and case studies, a few elements of successful mentorship are identified, shown in Figure-2.

**Figure-2: Elements of Successful Mentorship Programmes**




Source: Author's self-construct

**Cultural Nuance in Mentorship Practices in Different Countries**

Cultural differences play a significant role in shaping mentorship practices, influencing communication styles, hierarchical structures, and social norms that define the mentor-mentee relationship:

a. **Communication Styles**: In high-context cultures, such as those in East Asia, communication tends to be indirect and relies heavily on context and non-verbal cues (Hall, 1976). In contrast, low-context cultures, such as those in the United States, prioritise direct and explicit communication. This difference can impact the mentor-mentee relationship, as mentors in low-context cultures may need to focus on clear and straightforward communication.

b. **Hierarchical Structures**: In cultures with high power distance, such as those in many Asian and Middle Eastern countries, hierarchical relationships are more pronounced. Subordinates may be less likely to challenge or question their

superiors (Hofstede, 2001). This can create barriers to open communication and feedback in mentorship relationships. Conversely, cultures with low power distance, such as Scandinavian countries, encourage more egalitarian relationships, facilitating more open and reciprocal mentorship interactions.

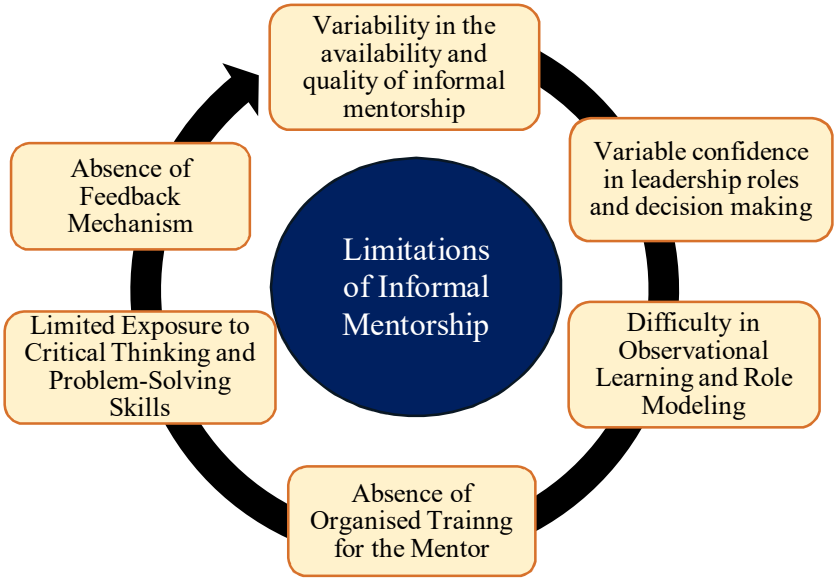
c. **Social Norms and Values**: Social norms and values influence the expectations and behaviours associated with mentorship. For example, collectivist cultures, which emphasise group harmony and cohesion, may prioritise mentorship practices that foster group success and support (Triandis, 1995). In contrast, individualistic cultures, which value personal achievement and autonomy, may focus on mentorship practices that emphasise personal growth. These mentorship practices would typically support the development of individual skills, self-reliance, and leadership potential.

**Analysis of the Current State of Mentorship in BN**

The analysis of mentorship in BN reveals that while informal mentorship is prevalent, it is mainly short-term and inconsistent. Most officers receive guidance from senior officers within their immediate units. Surveys indicate that 91.2% of officers have experienced informal mentorship, though 60.2% report these relationships last less than six months, focusing more on immediate issues rather than long-term development. This underscores the need for a structured mentorship programme to provide consistent and comprehensive guidance. Reports show that mentorship moderately impacts leadership competency development, emotional support, stress management, and skill acquisition. Still, the variability in experiences highlights the potential benefits of formalising mentorship efforts.

The research identified several limitations of informal mentorship in BN (Figure 3). One critical issue is the variability in the availability and quality of informal mentorship. This inconsistency has been linked to fluctuating confidence levels in leadership roles. The absence of a feedback mechanism exacerbates these challenges. Positive reinforcement from mentors significantly builds self-confidence and resilience among officers (River, 2024).

**Figure-3: Limitations of the Informal Mentorship Programme**




Source: Author's self-construct

**Adaptation of Global Best Practices to the BN**

a. **Consideration of Cultural, Organisational, and Operational Factors**: Adapting global best practices to the BN requires carefully considering its unique cultural, organisational, and operational context. Bangladesh is a high-context, collectivist culture with significant hierarchical structures (Insights, 2022). These cultural characteristics influence communication styles, expectations around authority and respect, and the value of group harmony.

b. **Structured Frameworks with Cultural Sensitivity**: While structured mentorship frameworks are beneficial, they must be adapted to align with the Bangladeshi culture's hierarchical practices. This might involve formalising mentorship relationships while maintaining respect for hierarchy and seniority.

c. **Balancing Formal and Informal Mentorship**: Incorporating both formal and informal mentorship practices can leverage the strengths of both approaches. Formal programmes can provide clear guidelines and structure, while informal mentorship can foster more profound, more personal connections that resonate with the collectivist values of Bangladesh.

d. **Career Stage Alignment with Hierarchical Respect**: Aligning mentorship programmes with different career stages is crucial. In BN, this alignment should respect the hierarchical structure, ensuring that mentorship relationships reinforce the appropriate authority and respect dynamics.

e. **Leadership Focus within Cultural Context**: Leadership development is essential, but it should be done in a way that aligns with cultural values. This means fostering leadership qualities such as strategic thinking and ethical judgement while promoting group harmony and collective success.

**Challenges in Implementing Formal Mentorship in BN**

The study identified a few challenges to implementing a formal mentorship programme in BN, which are described below:

a. **Cultural and Organisational Barriers**: BN's hierarchical and collectivist culture presents significant barriers to adopting formal mentorship practices. Implementing formal mentorship in such an environment requires a nuanced approach that respects and works within the existing cultural norms while gradually introducing changes that can enhance leadership development (Mentoring for Global Diversity: Navigating Cross-Cultural Dynamics, 2024). Incorporation of formal mentorship might involve piloting the programme in smaller units, where lessons learned can be scaled up to the broader organisation. Additionally, incorporating elements of the existing informal system into the formal programme could help ease the transition and reduce resistance.

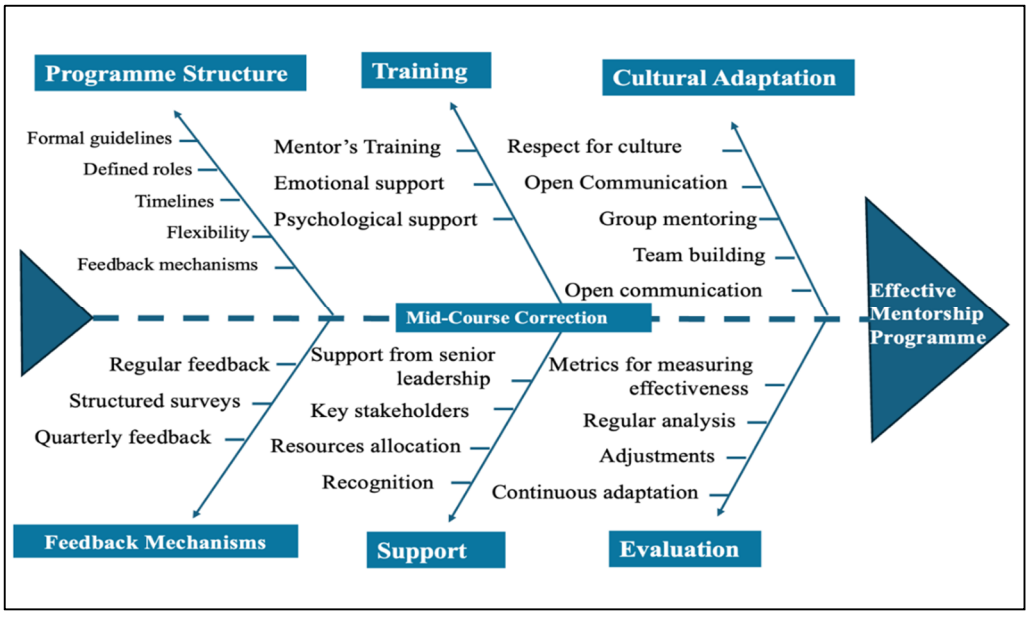
b. **Resistance to Change and Fear of Formalisation**: Formalising mentorship could disrupt the natural mentor-mentee relationships that have developed over time. This fear is rooted in the belief that formal programmes are inherently rigid and may impose structures that do not account for officers' individual needs and circumstances. A similar opinion was also received during the FGD (FGD was conducted on 27 June 2024, Dhaka). Addressing this resistance requires clear communication about the benefits of formal mentorship and how it can complement, rather than replace, existing informal practices.

c. **Threat to Community Harmony**: Selecting mentors formally may risk disturbing community harmony because it might create dissatisfaction among the officers who were not chosen as mentors. However, FGD data suggests that while these concerns are valid, they do not necessarily outweigh the benefits of a structured mentorship programme. BN may implement a transparent and inclusive selection process and promote a culture of informal mentoring alongside formal programmes.

## Enhancing Mentorship Practices and Suggested Imperatives

The analysis reveals gaps in BN's current informal mentorship practices, which lack consistency and structure. This led to varied experiences among mentees and reduced confidence in leadership roles. A structured mentorship programme with clear guidelines and objectives is essential to ensure equitable support for officers, improve leadership development, and enhance competence. Comprehensive mentor training in career guidance, emotional support, and critical thinking is also crucial. Incorporating cultural sensitivity into mentorship practices will promote open communication and constructive feedback, fostering more effective leadership development.

**Figure-4: Fishbone Diagram of an Effective Mentorship Programme**

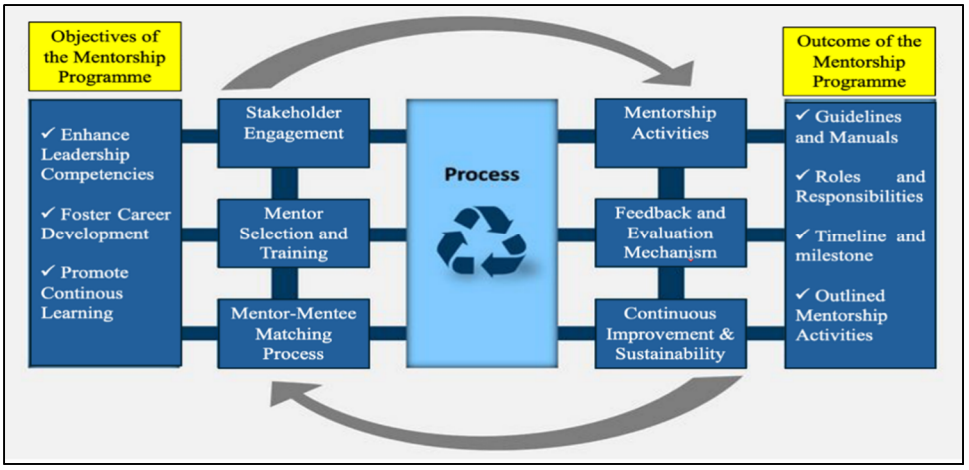



Source: Author's self-construct

## Designing the Future of Mentorship in BN

a. **Proposed Blueprint for Formal Mentorship Programme**: This blueprint for a formal programme in BN integrates successful examples from other military organisations and specific insights from qualitative data collected within BN. For example, the United Kingdom's Royal Navy has implemented a structured mentorship programme focusing on leadership development and career progression (Buss, 2018). Figure 5 shows the process of a mentorship programme designed to address the identified needs and challenges.

**Figure-5: Proposed Comprehensive Process for Mentorship Programme**



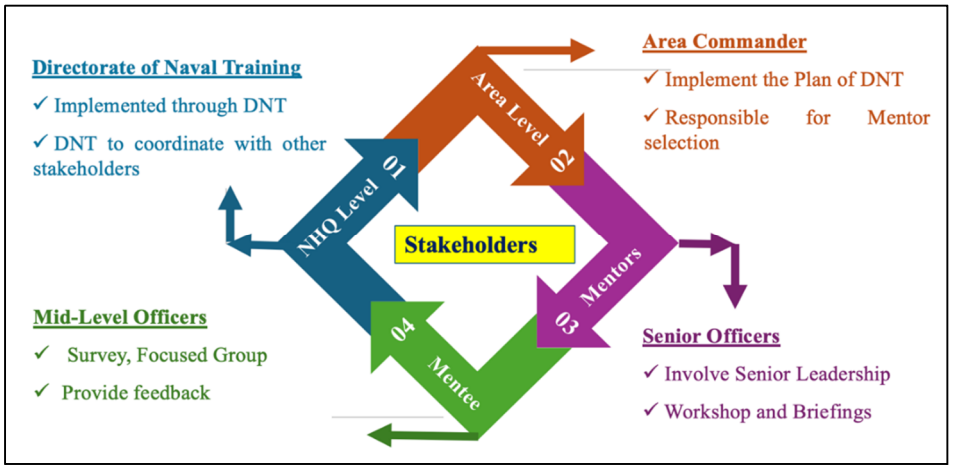

Source: Author's self-construct

b. **Addressing Challenges and Needs**: Developing a formal mentorship programme for BN requires careful consideration of cultural adaptation and strategies to overcome resistance to change. Research has shown that mentorship programmes tailored to the cultural and organisational context are more effective in achieving desired outcomes (Thomas D. A., 2011). Overcoming resistance to change and cultural adaptation can be particularly challenging in military settings (Adams, et al., 2023). By integrating quantitative and qualitative data insights, the programme can be tailored to the BN's specific context, ensuring its effectiveness and acceptance.

c. **Programme Design and Planning**: The mentorship programme's design sets clear objectives to enhance leadership, foster career development, and promote continuous learning among mid-level officers. Comprehensive guidelines will define roles, set timelines, and outline structured activities, ensuring consistent and effective mentorship for professional growth within BN.

d. **Stakeholders' Engagement**: Engaging key stakeholders early is crucial for the mentorship programme's success. Senior leadership endorsement formalities efforts, while input from mid-level officers, gathered through surveys and pilot testing, ensures the programme meets participants' needs. Collaborating with training departments integrates mentorship into existing initiatives, enhancing leadership development (Chao, Patm, & D., 1992).

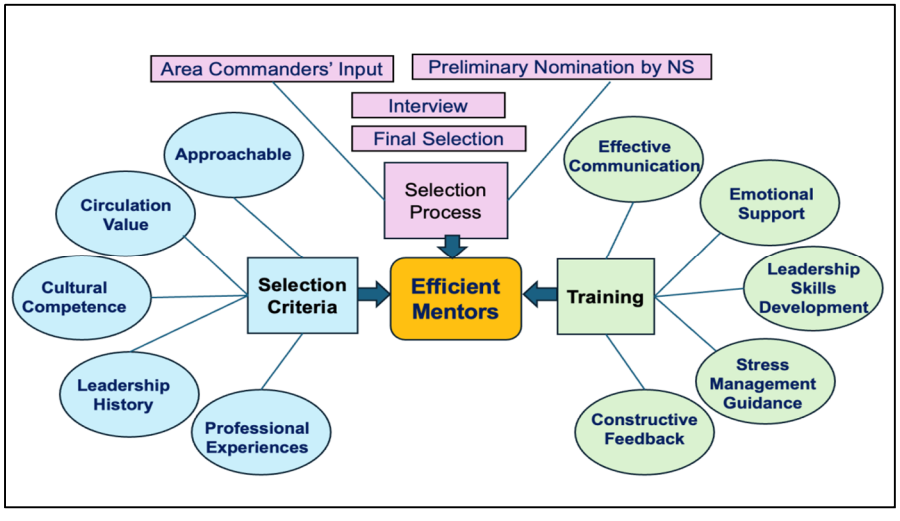
**Figure-6: Different Stakeholders in the Mentorship Programme**




Source: Author's self-construct

e. **Mentor Selection and Training**: Selecting the right mentor is key to the programme's success. BN may adopt a process like the Royal Australian Navy, emphasising leadership experience, cultural competence, and interpersonal skills. Criteria should include approachability and supportiveness, assessed through interviews, peer evaluations, and self-assessments (Navy New-Entry Mentoring Program , 2020). After selection, mentors should undergo thorough technical and soft skills training to ensure effective mentorship (Clutterbuck, 2004). Figure-7 provides a broad idea about preparing an effective mentor.

**Figure-7: Proposed Comprehensive Process to Prepare an Efficient Mentor**




Source: Author's self-construct

f. **Mentor-Mentee Matching Process**: An Effective mentor-mentee matching process can bring remarkable success in a mentorship programme (Turban. & Dougherty, 1994). The matching process may consider career goals, compatibility, shared values, and communication styles, like the Canadian Armed Forces' approach. Additionally, the seniority and generation gap between mentors and mentees should be carefully assessed to create compatible pairings (Lagace-Roy & Knackstedt, 2020).

g. **Mentorship Activities**: Qualitative data revealed that officers highly value hands-on experiences and real-life scenarios. Incorporating team-building exercises and social gatherings can strengthen the mentor-mentee relationship and foster a sense of camaraderie (Daloz, 1999). These activities foster trust, communication, and collaboration, providing a more effective mentoring experience (Kathy & Isabella, 1985).

h. **Effective Communication Techniques**: Workshops focused on active listening, empathetic communication and conflict resolution will foster open, honest dialogue between mentors and mentees. Role-playing exercises can simulate common challenges, helping participants practice and reinforce these skills.

j. **Constructive Feedback and Emotional Support**: Mentors should be trained to provide constructive feedback and emotional support, which are critical for helping mentees navigate their career paths and personal challenges. Training sessions should include methods like the 'feedback sandwich' and strategies for managing stress and burnout. The feedback sandwich is a method of providing constructive criticism. It begins with positive feedback, followed by constructive criticism, and ends with encouragement.

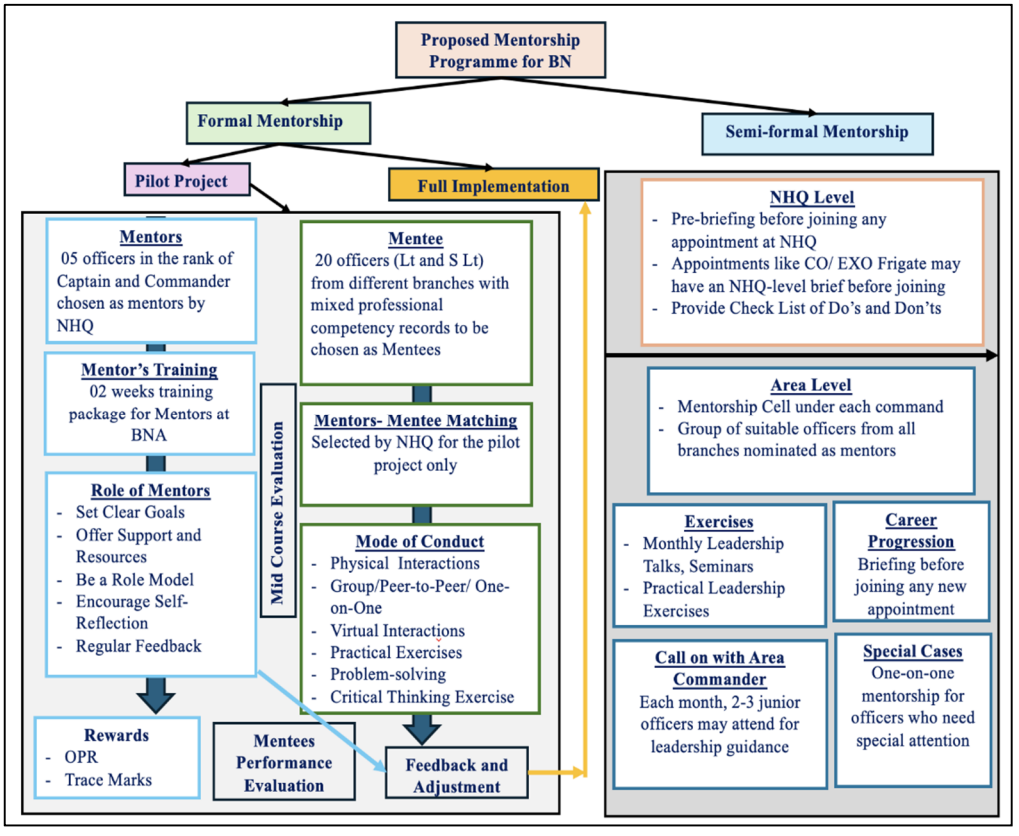
k. **Building Trust and Confidentiality**: Trust-building activities and clear confidentiality agreements are crucial to creating a safe and supportive environment. These initiatives will ensure that mentors and mentees can communicate openly, fostering a solid mentorship bond.

l. **Feedback and Evaluation Mechanisms**: Structured feedback tools, such as periodic surveys and evaluations, can provide valuable insights into the mentorship programme's effectiveness (Allen T. D., Eby, O'Brien, & Lentz, 2008). Implementing robust mechanisms to gather and act on feedback will ensure the programme remains relevant and practical. Regular progress reviews and milestone tracking will help monitor the programme's success. Besides, responsive adjustments based on feedback will ensure continuous improvement and alignment with BN's needs.

### Proposed Mentorship Model towards Competent Leadership

The proposed mentorship programme for BN addresses leadership development through a structured approach combining formal and semi-formal elements. A pilot project with five mentors and twenty mentees will focus on clear goals, support, and feedback, followed by full-scale implementation. Activities include one-on-one sessions, peer interactions, and practical exercises, with semi-formal mentorship at Naval Headquarters (NHQ) and area levels through leadership talks and seminars to foster career growth and continuous learning.

**Figure-8: Proposed Mentorship Programme for BN**



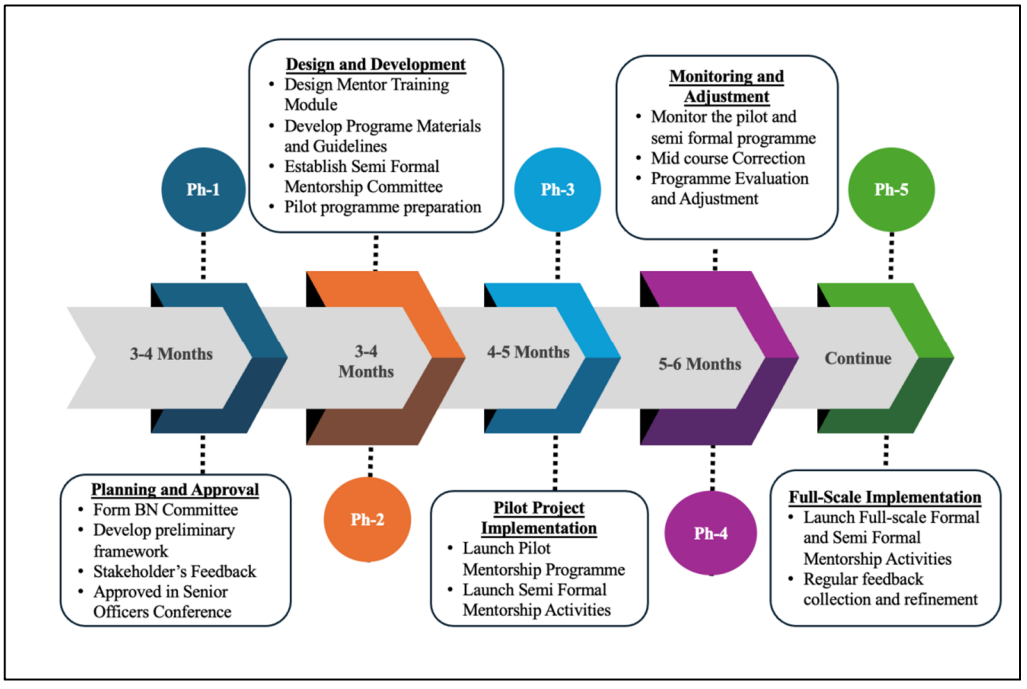

Source: Author's self-construct

### Proposed Implementation Roadmap

The phased roadmap for BN's mentorship programme includes five stages: Phase 1 focuses on planning and approval; Phase 2 designs mentor training and guidelines; Phase 3 launches the pilot project; Phase 4 monitors and adjusts the programme; and

Phase 5 rolls out full-scale implementation with continuous refinement based on feedback.

**Figure-9: Proposed Roadmap for Implementing Formal Mentorship in BN**




Source: Author's self-construct

## Conclusion

BN operates in a dynamic maritime environment, requiring competent and adaptable leaders. This research evaluates the impact of mentorship on leadership development for mid-level officers in BN, drawing from global best practices. Structured mentorship programmes, both formal and semi-formal, are recognised as critical tools for fostering leadership competencies, career development and operational effectiveness. While informal mentorship exists within BN, there is a need for a formalised programme that aligns with the Navy's goals and addresses leadership gaps.

The proposed mentorship model focuses on selecting experienced mentors, establishing structured pairings, setting clear goals, and providing regular feedback. A pilot project involving five mentors and twenty mentees will emphasise leadership growth and career advancement, followed by a semi-formal approach at NHQ and area levels. This dual approach allows flexibility and accommodates logistical challenges while promoting knowledge-sharing and leadership development.

Challenges such as resistance to change and mentor-mentee compatibility are addressed through senior leadership endorsement, clear communication, and structured pairing processes. Regular evaluations and feedback mechanisms will ensure that mentorship relationships remain productive. Ultimately, the programme aims to build a resilient leadership pipeline within BN, fostering continuous development and strengthening the Navy's operational effectiveness. This mentorship model provides a pathway for leadership growth and ensures the BN's readiness to face modern naval challenges.

Furthermore, the successful implementation of this mentorship programme will create a structured framework for leadership development, ensuring long-term sustainability and continuous improvement. By fostering a culture of learning and guidance, BN can enhance decision-making, crisis management, and operational readiness among mid-level officers. Additionally, integrating mentorship with career progression will provide officers with clear pathways for professional growth, ultimately increasing retention and job satisfaction. The mentorship model should be periodically reviewed to incorporate feedback, evolving leadership challenges, and emerging best practices. A strong mentorship culture will benefit individual officers and strengthen the BN's overall strategic leadership capacity, ensuring excellence in naval operations and national security.

## Recommendations

Based on the findings, the following recommendations are proposed to optimise mentorship practices in the BN:

a. BN may form a committee to implement a mentorship programme as per the proposed module in Figure 8 to foster leadership competencies among mid-level officers.

b. Committees may be formed at the area level to implement the semi-formal leadership module. A mentorship cell may be formed under each area commander to coordinate the mentorship activities. Area commanders may implement different mentorship activities, as proposed in the module

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## Biography

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# 'Military' as a Tool for Diplomacy in the Contemporary World

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**Abstract**

Although traditionally viewed as the domain of bureaucrats, diplomacy in the 21st century increasingly intersects with military engagement, giving rise to a dual-role approach where military forces contribute not only as tools of hard power but also as instruments of soft power. This paper explores the evolving concept of military diplomacy as an exclusive part of the instrument of national power, particularly in the context of Bangladesh. The objective of this study is to analyse the role, practices, and potential of military diplomacy in enhancing a nation's foreign policy, with a focus on Bangladesh. Military diplomacy covers a wide range of peacetime activities, such as defence dialogues, bilateral and multilateral agreements, personnel exchanges, participation in international exercises, and contributions to the UN peacekeeping and humanitarian efforts. Using a qualitative methodology, this research reviews secondary literature, official reports, and case studies from global and regional contexts to examine how military assets are used in peacetime engagements such as defence dialogues, joint exercises, personnel exchanges, and UN peacekeeping missions. The Bangladesh Armed Forces have significantly contributed to global peace by participating in United Nations Peacekeeping Operations (UNPKO) and carrying out various Humanitarian Assistance and Disaster Relief (HADR) missions around the world. The findings reveal challenges such as the absence of a formal and comprehensive policy framework, grey zones in civil-military relations, and a lack of strategic awareness among policymakers, which hinder its full potential. The study concludes that for Bangladesh—and similar developing nations—to effectively utilise military diplomacy, a dramatic shift in mindset is required, particularly on the part of policymakers. For this, it is essential to develop a resilient and proactive foreign policy.

## Introduction

Amongst many, 'Military' and 'Diplomacy' are two important "Instruments of National Power" that many countries steer in different ways towards achieving their national interests. Historically, diplomacy–the ways and means used by nation/nations for peaceful negotiation, communication, and international relations–was the absolute credit of diplomats. However, in the contemporary world, besides other means military has also become an important tool for diplomacy. Although the military is primarily

regarded as the 'hard power' to deter, punish, destroy, and/or defeat the enemy, today, an organised and disciplined force like the military can also play an influential role in diplomacy. In fact, in the Post-Cold War era new form of military relations between armed forces of different nations has emerged in contrast to the traditional role of the military. The term "Military Diplomacy" is a frequently talked-about subject in today's contemporary world.

Today, the role of the military extends beyond the traditional concept of national security and the defence of a country. Rather, it encompasses conflict prevention and promotion of peace. The idea has gained importance especially after the Cold War era, when the Western powers often started deploying their armed forces for a range of new missions, like Peacekeeping and Peace-building Operations, Humanitarian Assistance and Disaster Relief (HADR) Operations, etc. In recent times, countries like the USA, UK, Australia, France, Russia, and the NATO nations are the leading proponents of the art of military diplomacy.

For decades, these countries have effectively employed military force in diplomatic efforts to further their interests all around the globe. The USA has structured its Theatre Commands in such a way that those commands can pursue their objectives across the world. Over time, the US has consciously acted on the vision of its popular president, John F Kennedy, who once wisely expressed, "Diplomacy and defence are not substitutes for one another, either alone would fail."[1]

Besides others, today, China has also emerged aggressively, enlarging its military-diplomatic efforts. Countries like India, Türkiye, etc., are also not far behind. In today's complex and interdependent security environment, they all go out of their way to utilise their military forces to gain confidence and promote peace.

This paper will initially highlight the dynamics of military diplomacy, including the objectives and key elements. The exploration will continue by highlighting models of military diplomacy in different countries. The discussion then shifts to the challenges of using the military as a diplomatic tool in Bangladesh.

**What is Military Diplomacy?**

Normally military achieves the nation's objectives by 'hard power', like the employment of forces; on the contrary, diplomatic efforts to accomplish the nation's goals by 'soft power', through dialogue, persuasion, cooperation, treaties and alliances, aid, and other humanitarian assistance.[2] In earlier periods, there were many instances in which different nations employed the peaceful use of the military to pursue their international relations. This peaceful use of the military as a tool of national diplomacy led to the use of the term 'Military Diplomacy'.[3] Thus, 'military diplomacy' can be

defined as the use of military resources in a peaceful manner to support a nation's foreign policy objectives.

In this era, nearly every military engages in some kind of 'Military Diplomacy'. While there is no universal definition per se, 'Military Diplomacy' is commonly understood as the peaceful cooperative activities between militaries of different nations. In a broader sense, military diplomacy means the activity of military and civilian components of the Ministry of Defence of the state to support its foreign policy in non-combat and non-violent means.[4] The American analyst M. Edmonds defines military diplomacy as "the use of armed forces in other than combat operations (...) for the purpose of promoting the objectives of the state abroad."[5]

British scholars A. Cottey and A. Forster characterise it as "a cooperative (non-violent) manner of use of armed forces and related infrastructure – mainly of the Ministry of Defence – as an instrument of foreign and security policy".[6] UK's defence diplomacy is defined by Anton du Plessis, in a narrow sense, as the "use of military personnel, including service attaches, in support of conflict prevention and resolution. Among a great variety of activities, it includes providing assistance in the development of democratically accountable armed forces".[7] Chinese definitions of military diplomacy are broad and encompass a wide variety of activities like "external relationships pertaining to military and related affairs between countries and groups of countries, including military personnel exchange, military negotiations, arms control negotiations, military aid, military intelligence cooperation, military technology cooperation, international peacekeeping, military alliance activities, etc. Military Diplomacy is an important component of a country's foreign relations."[8]

Overall, military diplomacy involves the peaceful (non-violent and/or non-combat) use of military resources to foster positive and cooperative relations with other foreign nations, both bilaterally and multilaterally. Such a kind of diplomacy covers activities like defence cooperation, mutual security pacts, mutual agreements, training and exercises to enhance interoperability, high-level engagements between senior military leadership of different levels, bilateral meetings, staff dialogue, intelligence sharing, anti-piracy missions, communications assistance, humanitarian and disaster relief, etc.

**Objectives of Military Diplomacy**

In simple terms, military diplomacy focuses on both national security and a nation's foreign policy objectives. However, it must be remembered that military diplomacy is not an exclusive instrument; rather, it supplements other means of diplomacy to achieve a nation's foreign policy objectives. While usually diplomacy is the first tool used by a nation for developing international relations, the use of military means is generally

considered the last resort. In the present-day context, military diplomacy aims for the following objectives:

a. To enhance sustainable and cooperative relationships among partners, both in military and international relations perspectives.

b. To develop mutual trust and to enable conflict prevention.

c. To introduce transparency and to assist in confidence-building measures.

d. To build and reinforce perceptions of common interests.

e. To encourage cooperation in other areas like trade and commerce, health, sports, education, culture, etc.

f. To assist in pursuing the foreign policy of the government.

**Key Elements of Military Diplomacy**

Today, traditional warfare between states has largely been replaced by 'War among the People' and 'War among the Ideology', where military is often used in a Brittle, Anxious, Nonlinear, and Incomprehensible (BANI) environment, such as the United Nations Peacekeeping Operations (UNPKO), HADR operations, Counterinsurgency operations, and Humanitarian interventions. In such an environment, the military has become a tool not only for defence or support, but also for shaping the political outcome and thereby working as a diplomatic tool. In the present world, the military can play a crucial role in both peacetime and war/crisis time as a diplomatic tool, though the functions and approach differ significantly. It is the policymakers who should employ the military tool in pursuing diplomacy. During peacetime following kinds of employment of military can work as a tool for diplomacy[9]:

a. **Defence Dialogues**: In today's world, defence dialogue has become a common tool of military diplomacy. Dialogues among participants, both bilaterally or multi-laterally, can foster positive understanding in diverse sectors like Political, Security and Strategic matters and can establish areas of common and mutual interest. Besides the dialogues at the political level where national leadership, like the head of state/government/ ministry participate, such dialogue can also be arranged at the specialist level of the armed forces aiming for the promotion of peace.

b. **Defence Agreements/Memorandum of Understanding (MoU)/Treaties**: Defence agreements/ MOUs/treaties are the regular peacetime events that the military of different friendly nations hold at regular intervals. These agreements could range from mutual assistance to cooperation and can be bilateral or

multilateral, which would enhance mutual trust and prevent misunderstanding. These, in turn, improve the relationship among the countries and work as an alternate means of diplomacy.

c. **Professional Personnel Contacts**: Engagement among the professional personnel of armed forces of different countries could not only foster a better understanding of respective positions, but also could reduce misunderstanding and hostility, and thereby would promote a more conducive environment towards problem solving and interoperability. For example, engagements among the alumni who all participated in different long military engagements, like training in other friendly countries' academies/institutions, long courses like National Defence College or Command and Staff Colleges, where spouses are also encouraged to participate, may play an important role in facilitating such a process.

d. **Military Exchange**: Various exchange programs among the militaries of different countries are conducted at regular intervals. Initiatives can be taken, both formally and informally, to identify common ground, enhance mutual benefit, and manage areas of discord. Participation in exchanges, visits, seminars, conferences, symposia, etc., and presentation of papers at these events can educate the participants and can help decision makers in informed decision-making.

e. **Participation in the United Nations Peace Keeping Operations (UNPKO) or coalitions and HADR Operations**: A formal commitment to the UN and other regional cooperative organisations could be one of the appropriate approaches for military diplomacy. Moreover, HADR operations, joint or combined, are also the means of pursuing military diplomacy, as these are indicative and counted in international relations. The USA funds the UN training and simulation facilities in countries like Bangladesh, India, Nepal, etc., to ensure that these countries are willing to contribute troops for the UN missions with the requisite trained forces. The setting up of the Bangladesh Institute of Peace Support Operation Training (BIPSOT) by Bangladesh is an example of stepping in the direction of military diplomacy.

Overall, in peacetime, the military serves as a confidence-building element and an enabler of peacekeeping and diplomatic relationships. It is used alongside the government's diplomatic efforts to manage international relations and to protect national interests. The combination of the government's diplomatic efforts and effective military diplomacy strategies forms the backbone of a nation's foreign policy and security posture.

## Model of Military Diplomacy in Different Countries

### The US Model of Military Diplomacy

a. **Structure**:[10] The US military diplomacy is under the operational purview of the US Department of Defense (DoD) and the US Department of State. DoD's main organ for military diplomacy is the Defense Security Cooperation Agency (DSCA). DSCA directs all Foreign Military Sales (FMS), manages Foreign Military Financing (FMF) and International Military Education and Training (IMET), and oversees the DoD's five "regional centres", for example, the Asia-Pacific Center for Security Studies (APCSS). The State Department, through its Bureau of Political-Military Affairs, is responsible for funding FMF and IMET programs. The US military diplomacy is usually operated abroad through Defense Attaché offices (DAOs) located within the US embassy.

b. **Fundamental Strategy**: The US military has a dominant focus on the projection of military as soft power. Overseas commands of the US forces with their inclusive political stature became tantamount to embassies where "the role of diplomatic negotiator in most cases is assumed by the senior uniformed officers." The US government has adopted the policy of pursuing national objectives by employing the soft power of military rather than its coercive or manipulative physical posture to shape the outcome of engagement with partners. The US has a proactive approach to military diplomacy. They achieve this by deploying their training teams in regions with strategic interests. Their aim is not only to train the military of friendly countries, but also to execute/advance their political agenda in those regions.[11]

c. **Functional Overview**: The US military pursues its foreign policy through multilateral military diplomacy in the political and military spheres, which includes diverse bilateral, multilateral cooperation and agreements as its means. A few of the functional methods usually evolved by the US military are discussed below:

(1) **Defence Support to Public Diplomacy**: Defence Support to Public Diplomacy (DSPD) includes information operations to reach out to the international community through websites, radio, print, and television.

(2) **Strategic Communication with Partners**: Strategic communication is another inclusive aspect of the US military diplomacy doctrine, through bilateral and multilateral dialogue, meetings, and defence support.

(3) **Defence Agreement**: The US military is a major shareholder in multiple continental and global defence agreements where the US has direct military commitments to its partner countries. A few important agreements are as follows:

**Table-1: US Collective Defence Agreements**

| Multi-national Agreement | Bi-lateral Agreement |
|---|---|
| • North Atlantic Treaty<br>• Agreement between the US, and Australia, and New Zealand<br>• Southeast Asia Treaty<br>• Rio Treaty | • Philippines Treaty<br>• Japanese Treaty<br>• Republic of Korea Treaty |

Source: US Department of State - Diplomacy in Action (Open Source)

(4) **Building Military Partner Capabilities**: This method includes foreign military sales, financing, military education, and training programs. It also benefits the US combatants to operate in new environments and enhance interoperability.

(5) **Security Cooperation**: Security cooperation is a peacetime strategy of the US military that involves activities like assisting partners in combating terrorism, transforming alliances, and building coalitions for the future, cooperating to resolve regional disputes, etc.

**Chinese Coherent Military Diplomacy**

a. **Structure**: Military diplomacy in China is conducted by the Central Committee of the Communist Party of China (CCP), setting broad foreign policy goals. The Central Military Commission (CMC) determines specific activities for various parts of the People's Liberation Army (PLA). Chinese leadership considers that a coherent military diplomacy strategy can "serve as a planning construct for national strategy, contain actual or perceived enemies and spur national and military construction." Chinese military diplomacy objectives are divided into strategic and operational categories, which include broad foreign policy efforts through the development of soft power to create a favourable international image, shaping China's security environment, gathering intelligence, and learning from advanced military forces.

b. **Diplomatic Objectives of the Chinese Military**:

(1) **Strategic Objectives**:

(a) To employ PLA as a tool to engage friendly foreign militaries.

(b) To support overall PRC diplomacy by engaging and maintaining strategic relations with great powers and by providing public goods.

(c) To shape the security environment in its favour by displaying or deploying PLA capabilities.

(2) **Operational Objectives**:

(a) To improve PLA's ability to fight and win wars.

(b) To collect intelligence on foreign military capabilities and intentions, and about potential operating areas for its operational preparation.

(c) To learn new skills and tactics, techniques, and procedures from other militaries for using them in its purpose.

c. **Military Diplomatic Footprint**: The Ministry of National Defence is responsible for sending and controlling China's Military Attachés (MA) to guide them in the military's external work. China maintains military relations with more than 150 countries and employs MAs in more than 110 countries (Yasuhiro, 2018).

d. **Diplomatic Activities of PLA**: The Spectrum of PLA's military diplomatic activities span over five main broader areas as follows:[12]

(1) **Senior-level Meetings and Visits**: The Chinese defence minister is primarily responsible for hosting foreign defence ministers and senior foreign military leaders. However, senior PLA leaders significantly devote themselves to interacting with foreign military and civilian counterparts to promote Chinese foreign affairs and military-to-military interactions.

(2) **International Military Exercises**: The PLA has historically been secretive and insular in engaging with foreign counterparts on operational matters. However, since 2002, it has begun to participate and conduct bilateral and multilateral exercises, like in 2023 PLA conducted a Military Exercise named 'Aman Youyi-2023', or 'Peace and Friendship-2023', with five ASEAN countries.

(3) **Naval Port Calls**: PLAN conducts regular "friendly visits" where crews usually meet with Chinese ambassadors, MAs, and host country government and naval officials. The ships also remain open for the public, Chinese expatriates, and students.

(4) **Functional Exchanges**: Functional exchanges of PLA include visiting expert delegations between Chinese and foreign militaries for operations, logistics, management, and military medicine assistance. In

addition, PLA has a military education and training exchange program with more than 25 friendly countries.

(5) **Non-traditional Security Operations**: PLA's non-traditional security operations aim to support broader Chinese foreign policy goals through security assistance in the international environment. This includes participation in UNPKO, international anti-piracy escort task forces, escort, Search and Rescue (SAR) missions, deployment of Chinese hospital ship 'Peace Ark' on HADR missions abroad, etc.

e. **Strategic Military Presence**: China is expanding its military presence around the world, particularly in regions where it has vital interests. For example, the Chinese navy has increased its presence in key maritime areas like the Indian Ocean and the South China Sea, areas which are having strategic importance for China. Moreover, China has established its first overseas military base in Djibouti, strategically located near key shipping routes in the Horn of Africa. In recent times, China has also shown interest in other parts of Africa and the South Pacific, strengthening China's global military footprint.

**Military Diplomacy Practices in Bangladesh**

Despite numerous challenges, the Bangladesh Armed Forces has been playing a significant role as a diplomatic tool, leveraging its influence and capabilities to boost the country's international standing and foster stronger global relations.

a. **Military-Diplomatic Footprint**: Bangladesh Armed Forces continues its military diplomatic efforts through the deployment of a Defence Attache (DA) in friendly countries. Currently, twenty-three Bangladesh Armed Forces officers are deployed as DAs/ADAs in 17 different countries. In the absence of a military diplomat, a Ministry of Foreign Affairs (MOFA) representative remains responsible for overseeing military/security matters. The current exercise may temporarily serve the purpose; however, there is scope for optimising military efforts considering the increasing roles and functions of Bangladesh Armed Forces and the growing interdependence of the states.

b. **Exchange of Visits**: Several visits are reciprocated at the command and leadership levels in all three services regularly, including visits by service Chiefs and other military officers of different levels with a view to promoting friendship and cooperation with other countries.

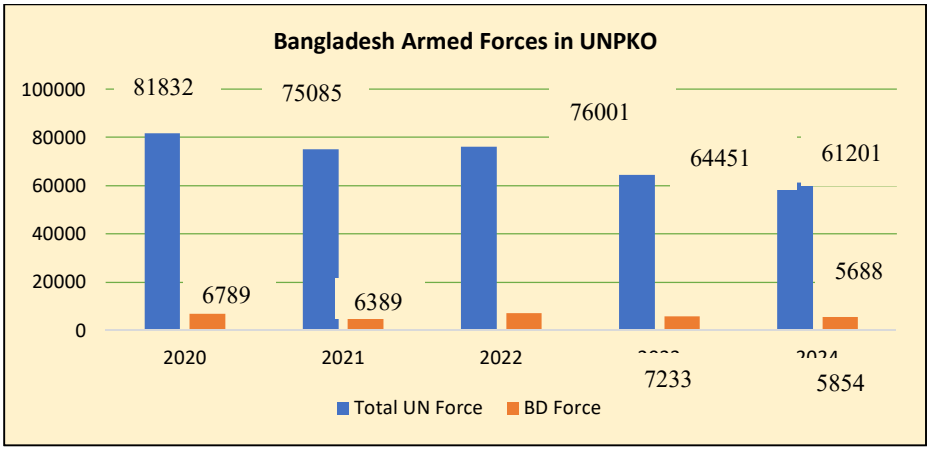
c. **Defence Dialogue**: Defence dialogues with other countries take place at three different levels – at the government level run by the MOFA, at the military level by AFD, and at the service level by individual service headquarters.

Currently, regular dialogues with the USA, Türkiye, and India are held at all three levels. In contrast, occasional dialogues with China, Russia, Sri Lanka, Belarus, Qatar, South Korea, Japan, Italy, and Kuwait are meant to promote defence cooperation and assistance.

d. **Military Training and Exercises**: Exchange of military training with friendly countries is a widely practised means of military diplomacy conducted by Bangladesh Armed Forces. Such training ranges from basic training to higher courses for different levels of officers and other ranks. The Bangladesh Army participates in combined exercises with the Indian Army and the US Army regularly. The Bangladesh Navy regularly participates in exercises with the US Navy and Indian Navy, in addition to taking part in International Fleet Reviews and other related activities. The Bangladesh Air Force regularly holds combined air exercises with the USMC, like Exercise COPE SOUTH, Exercise Pacific Angel, etc. Besides, all services hold Subject Matter Expert Exchange (SMEE) programs with friendly countries at regular intervals, significantly enhancing bilateral relations.

e. **Promoting Global Peace**: Bangladesh Armed Forces has continued its efforts to promote world peace under the 'Blue Helmet' for more than three decades. Bangladesh has been one of the largest troop contributors to UNPKO missions for several decades, providing personnel and resources to maintain international peace and security in conflict zones around the world. The graph below shows the total peacekeepers participating in the peacekeeping operations from 2020- 2024.

**Figure-1: Troops Contribution of Bangladesh Armed Forces in UNPKO**




Source: Author's self-construct based on data collected from the Armed Forces Division in March 2025

It is evident from the graph that every year, on average, 6000± troops are participating in UNPKO, which is almost 9% of the total peacekeepers. Position of Bangladesh in the last 12 years in terms of troops' contribution is appended below:

**Table-2: Position of Bangladesh in UNPKO Missions**

| Position | Year | Frequency |
|---|---|---|
| 1st | 2011, 2014, 2015, 2021, 2022 | 5 |
| 2nd | 2012, 2013, 2017, 2018, 2020 | 5 |
| 3rd | 2019 | 1 |
| 4th | 2016 | 1 |

Source: Author's self-construct

Overall, the contributions of Bangladesh Armed Forces personnel, leadership, and resources in UNPKO demonstrate the country's unwavering commitment to international peace and stability. As a major Troop Contributing Country (TCC) to peacekeeping, Bangladesh's efforts in humanitarian assistance, security, and conflict resolution have made a significant impact on the overall effectiveness of UNPKO missions worldwide.

f. **Military Operations Other Than War (MOOTW)**: Bangladesh Armed Forces has been actively participating in HADR operations in various friendly countries, offering support in times of natural disasters, conflicts, and emergencies. On several occasions, Bangladesh, as part of its diplomatic strategy, has sent humanitarian aid in the form of personnel, medical equipment, food, water, and other relief materials to disaster-affected countries through BN ships and BAF transport aircraft. These operations demonstrate the Bangladesh Armed Forces's commitment to global peace and humanitarian aid.

**Table-3: HADR Supports to Friendly Nations by Bangladesh Armed Forces**

| Year | Country | Remarks |
|---|---|---|
| 2001 | India (Earthquake) | Sent teams of trained personnel, including medical teams, to help with rescue operations, provided medical assistance and aid, including food, medicine, and other essential supplies, to support the victims of the earthquake. |
| 2004 | Sri Lanka (Indian Ocean Tsunami) | Provided disaster relief, medical assistance, and helped rebuild infrastructure in the tsunami-affected areas. |

| Year | Country | Remarks |
|---|---|---|
| 2005 | Pakistan (Kashmir Earthquake) | Medical teams, engineers, and logistics personnel assisted in rescue operations, provided medical care, and helped with the rebuilding efforts |
| 2008 | Myanmar (Cyclone Nargis) | Provided relief teams, including medical personnel, food supplies, and other humanitarian aid to assist Myanmar |
| 2010 | Pakistan (Floods) | Provided humanitarian assistance team that included medical teams, engineers, and relief supplies to help flood victims. |
| 2011 | Thailand (Floods) | Provided flood relief materials and military personnel, supported the Thai government in rescue and relief operations. Also provided medical care, shelter, and logistics support. |
| 2015 | Nepal (Earthquake) | Provided search and rescue teams, medical units, and engineers. Also provided medical aid, distributed food, and helped in rebuilding efforts. |
| 2017 | Myanmar (Rohingya Refugee Crisis) | Bangladesh Armed Forces is still playing a central role in providing medical assistance, food, shelter, and security to the refugees. |
| 2020 | India, Sri Lanka, Maldives | Medical assistance during COVID-19 |
| 2020 | Lebanon (after the port explosion) | Medical items like medicine and other essential relief materials like foods and emergency relief kits to assist those affected by the explosion. |
| 2021 | Afghanistan (Humanitarian Support) | Humanitarian assistance included essential supplies such as food, medicine, and medical equipment. |
| 2023 | Türkiye and Syria (Earthquake) | Bangladesh sent rescue team including medical experts, engineers and relief supplies including foods, medicine, etc. to help the victims. |
| March 2025 | Myanmar (Earthquake) | Bangladesh sent rescue team and medical team including relief materials to help the victims. |

Source: Author's self-construct, Data collected from AFD, Directorate of Air Operations, Directorate of Overseas Air Operations

g. **Protocols/ MOU/ Agreements**: Protocols/MOU/Agreements are one of the important tools for enhancing bilateral military diplomacy. So far, Bangladesh

has around 26 defence MOUs signed with different friendly countries like Austria, Belarus, France, Germany, Kuwait, Russia, Türkiye, etc. Such a friendly military relationship also enhances the diplomatic relations among the countries.

h. **Military Diplomacy in Regional Organisations**: Bangladesh is a member of the South Asian Association for Regional Cooperation (SAARC) and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), both these organisations facilitate defence cooperation and dialogue. Through its military involvement in these organisations, Bangladesh strengthens its regional relationship and asserts itself as a key player in South Asia's security dynamics.

**Challenges to Use 'Military' as a Diplomatic Tool in Bangladesh**

Diplomacy is fundamentally the domain of diplomats, without a doubt. However, with a well-articulated policy and strategy, the military can serve as a powerful tool and can work as a force multiplier for diplomatic efforts. In Bangladesh, such kind of policy is very much absent at the government level. There remains a gap in such understanding. Bangladesh has been a leading TCC in UNPKO for a long time, showcasing Bangladesh's constitutional commitment to global peace and stability. Besides, the support of Bangladesh Armed Forces members to friendly countries through HADR operations during times of crisis has strengthened the relationship of Bangladesh with other countries to a great extent.

Despite its prominent role in peacekeeping, the military in Bangladesh has not been fully utilised as an effective diplomatic tool due to political instability, complex civil-military relations, geopolitical constraints, limited strategic outreach, and a lack of a cohesive military diplomacy strategy. These challenges are further compounded by the political bureaucrats' lack of understanding regarding the associated military policy and strategy. All these challenges must be navigated carefully to ensure the continued effectiveness of Bangladesh Armed Forces diplomatic efforts. To reduce the gap, regular engagement to be introduced, like regular meetings in NCSA, which brings both military leadership and policymakers to the same table.

In the Ministry of Foreign Affairs, the Ministry of Defence permanent coordination cells or civil-military liaison committees may be established, which would increase the engagement at the mid-level of both parties. Joint courses, workshops, and seminars on defence diplomacy, international relations, and security studies may be arranged regularly. Institutions like the Bangladesh Institute of International and Strategic Studies (BIISS) may play a leading role in such arrangements.

## Conclusion

The elements of diplomatic affairs depend on the national interest in a specific geo-strategic environment. Though primarily diplomacy is the task of diplomats; however, historically, there have been many occasions where the military played a significant role as 'soft power' to achieve the national objectives. For example, in recent years, China has extensively leveraged its military diplomacy as a form of soft power, especially through its peacekeeping operations and humanitarian aid missions in the African region. Through these efforts, China is not only improving its reputation as a contributor to global peace, while simultaneously advancing its economic and strategic interests, where its investments are expanding. A well-articulated national security, foreign and defence policy can endorse the use of military in diplomatic roles and can set the doctrinal aspects of comprehensive military diplomacy. Moreover, the diplomatic efforts of the military in peacetime can create an environment that would enable the country to go for further diplomatic negotiations in a very friendly and victorious manner. Military diplomacy also helps the country to achieve international support in many ways.

The 21st century has created a new international dynamic in the present globalised environment. Any nation that does not deploy all its "Instruments of National Power" towards optimising its diplomatic relations would remain on its back foot in terms of maintaining a balanced international relationship. In this context, nations that develop and implement a sound, comprehensive strategy/approach to military diplomacy are likely to benefit most. This is particularly important for smaller countries to have positive diplomatic relationships in all sectors with other developed countries to enjoy a benign, if not completely safe, security environment.

Countries like the USA, UK, China, France, Russia, Australia, etc. are the leading states that utilise their military effectively as part of their overall diplomacy. Their military acts as a significant element in strengthening ties with friendly countries. In fact, today, military power plays a great role in the diplomacy of great powers. But there are countries, particularly the smaller nations, where military diplomacy often does not receive the attention that it deserves. Practically, this underestimation is further multiplied by a lack of understanding corresponding to military policy and strategy. Strategic leadership must recognise that in today's democratised and globalised world military could also be utilised beyond its traditional roles for diplomatic efforts. Smaller nations should continue their diplomatic efforts through effective utilisation of military as soft power as a means of diplomacy. This will pay dividends in times of crisis. The mindset that 'the pursuit of foreign policy/diplomacy is the exclusive game of the diplomats' is no longer valid in this globalised world. There cannot be a foreign policy without military content. Credibility in UNPKO, humanitarian work, and regional

security initiatives of the members of Bangladesh Armed Forces gives Bangladesh a unique position to shape its diplomatic profile. Within the overall framework of the Constitution, through consistent, well-coordinated efforts, Bangladesh can utilise its military more effectively as a powerful diplomatic tool.

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## Biography

**Air Commodore Md Asadul Karim, BSP, GUP, ndc, afwc, acsc, psc, GD(P)** was commissioned on 22 June 1993 in the General Duties (Pilot) branch from the Bangladesh Air Force Academy. He is a fighter pilot, and he holds qualifications as a 'Category A' flying instructor. Throughout his career, he has undertaken diverse roles in various staff, instructional, and command appointments. He has attended various courses both at home and abroad. He is a proud alumnus of Defence Services Command and Staff College (DSCSC), Mirpur, where he has also served as Directing Staff (Air). He has also attended the Air Command & Staff Course (acsc) at Maxwell Air Force Base, Alabama, USA. He has completed the Armed Forces War Course (afwc) from the National Defence College, Bangladesh, and has also served as Directing Staff in the same institution. He has attended the National Security and Strategic Studies Course at the National Defence College, New Delhi, India. His academic credentials include Executive Master of Business Administration in Strategic Leadership and Public Policy from the Indian Institute of Technology, Madras, Master of Science in Military Studies and Master of Philosophy in Strategy and Development Studies from Bangladesh University of Professionals, and Master of Operational Art and Science from Air University, USA. As a peacekeeper, Air Commodore Karim has served twice in DR Congo and once in the Central African Republic (CAR). At present, the officer is serving as the Air Officer Commanding, Air Headquarters (Unit) of the Bangladesh Air Force.

# Increased Requirement of Jointmanship: Need for Synergising the Organisation at the Command Level

*Captain Abu Naim Md Ashiqure Rahman, (ND), NPP, psc, BN*

**Abstract**

Today's operational environment demands greater jointness and synergy amongst the three services to achieve strategic or operational success. This study aims to evaluate the suitability of the Continental Staff System (followed in the NATO countries) to synergise organisation in the three services' operational and tactical level headquarters. Both the primary and secondary sources were used to collect data. Open-source documents regarding the Continental Staff System were analysed to gain a workable knowledge of its functioning and effectiveness in fostering jointness. Surveys and interviews were conducted with the officers of different countries that follow this system. Another survey on fifty serving officers from three services was carried out, and the outcome was analysed to determine the pros and cons of the existing system. The existing system is effective in managing service-oriented administrative and operational requirements. However, a lack of synergy in an organisation creates difficulties in a joint environment. Contrary, the Continental Staff System is more suitable in a joint environment as the headquarters of the three services are similarly organised. It provides better interoperability, mutual understanding, and scope for integration. However, it would be a challenging task to implement the Continental Staff System in the current politico-military environment.

## Introduction

The term 'jointmanship' or 'jointness' is gaining significant importance amid growing strategic imperatives to cooperate more closely among the three services of the armed forces. The distinctions between sea, air, land, and indeed space power are getting increasingly blurred (Till, 2004). At the same time, defence spending is rapidly increasing to keep pace with technological advancement. Most countries in the world are facing a resource-commitment gap that hinders their ability to sufficiently develop and prepare their armed forces according to requirements. The unconventional and multifaceted threats, coupled with traditional threats, are complicating the overall security situation, a complex one. It is difficult for a single service even to function on its own, let alone fighting in today's complex security scenario. Modern warfare necessitates waging battles in an integrated manner with structures created to support such a strategy (Sacher, 2004).

The realism about jointness was well understood by the Western militaries, especially the USA, UK, and NATO forces. Over the period, it had structured the organisation, resources, doctrine, training, culture, strategy, and infrastructure to meet the requirements of jointness. The process was not always smooth due to inter-service rivalry, mistrust, and mostly for different inherent service cultures, but the essence of jointness is largely achieved as observed during the Gulf War. In short, the global trend is towards greater joint direction and management of armed forces, driven by the operational pressures and the needs of effective management (Taylor, 2003). Most importantly, these countries could effectively create necessary structural and organisational reform and restructuring to support the concept of jointness. In the headquarters and formation level, the organisations were reshaped to follow the 'Continental Staff System' to bring synergy amongst the services. Similarity is maintained in the branches and staff organisation of the joint forces and individual services. Little change/restructuring in the traditional service organisation allowed them to effect the transformation to jointness more smoothly than that envisaged.

In the Indian subcontinent, the services continued to follow the British structure, organisation, culture, and service traditions that were inherited during independence. Bangladesh has also been continuing with the same system since its independence. Staff at the command/formation level of all three services must perform similar types of duties in a broader sense, like: operation, administration, logistics, legal, intelligence, planning, maintenance, etc. At present, three services follow different organisational structures to perform these similar duties. Existing structure at times creates confusion for other services to recognise the correct contact point; thus, it delays/hinders effective and timely cooperation and coordination. In the backdrop of increased jointmanship among the services, the present staff structure at the formation level might pose certain difficulties. It would be a difficult task for the officers serving in a joint command structure, when formed or needed. Additionally, confusion and additional fog would cloud the operational planning process, as the planning process originates from foreign militaries. It is thus necessary to study the existing staff structure of the formation level of the three forces, including modern armed forces, to see whether our existing structure is suitable in a future joint environment, or if there is a need for some modification.

Initially, this study will analyse both the Traditional Staff System followed in the Bangladesh Armed Forces and the Continental Staff System followed in the UN and the NATO countries. Later, the paper will seek to determine whether the Continental Staff System can be fruitful in enabling the three services' operation and tactical level headquarters to work more effectively in a joint environment.

## Evolution of Staff System

There is a myth about the beginning of the structured staff system in the military. The common belief is that it started during the Napoleonic era, with his Chief of Staff (COS) General Louis Alexandre Berthier being at the helm of the staff system. History reveals that the staff system in the military originally started in Austria during the mid-eighteenth century (Cristopher, 2000). There were two branches of staff officers, namely the General Staff and the Adjutant Staff. The General Staff had three primary divisions: directing operations, external activities, and the inspection service. The Adjutant Staff used to look after internal administration and intelligence activities.

Later, the Netherlands followed a similar staff system, bringing a couple of changes to bring more efficiency. The staffs were divided into three: Political Correspondence, the Operations Directorate dealing with planning and intelligence, and the Service Directorate dealing with administration, supply, and military justice. Prussia initially adopted the Austrian system. Later, it adapted to a General Staff Branch system where mid-level officers were trained separately to gain specialist staff skills. These officers served in headquarters to plan campaigns. The system continued in Germany during WW I and WW II. Despite being criticised, the system is followed in some manner in different countries (Oberst, 1992).

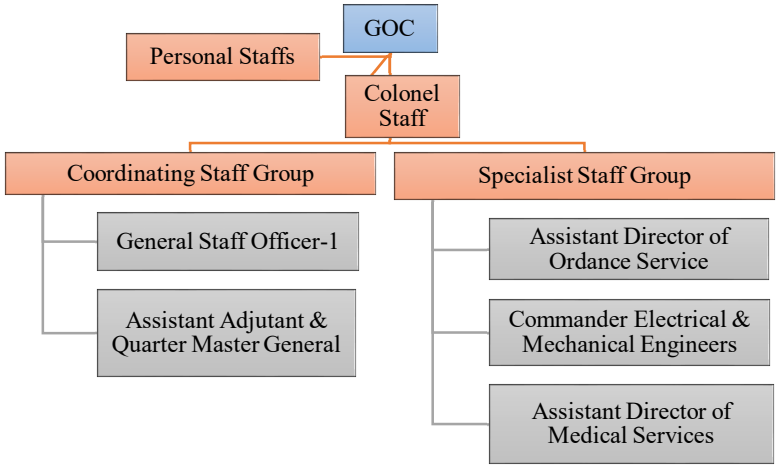
The British did not have a separate Staff Branch during these periods. In the army, it followed its system of G (General Staff), A (Administration), and Q (Quartermaster/ Logistics) branches to administer different activities of the army. The branches were headed by a Brigadier General-level officer at the Corps level. There were Grade Staff Officer-1 (GSO-1), Grade Staff Officer-2 (GSO-2), and Grade Staff Officer-3 (GSO-3) to support the activities. The system was followed till 1984. Then, it aligned itself with the Continental or the NATO system.

## Staff System of Bangladesh Armed Forces at the Formation Level

### Bangladesh Army

At the divisional headquarters, the General Officer Commanding (GOC) commands both the operational and administrative organisations. The staff officers and other staff at the divisional headquarters are headed by Colonel-Staff, an officer in the rank of Colonel. He is the de facto Chief of Staff (COS) of the organisation. Broadly, five branches coordinate all the activities of a division. A classical organisation is given below:

**Figure-1: Staff Organisation of a Division in the Bangladesh Army**

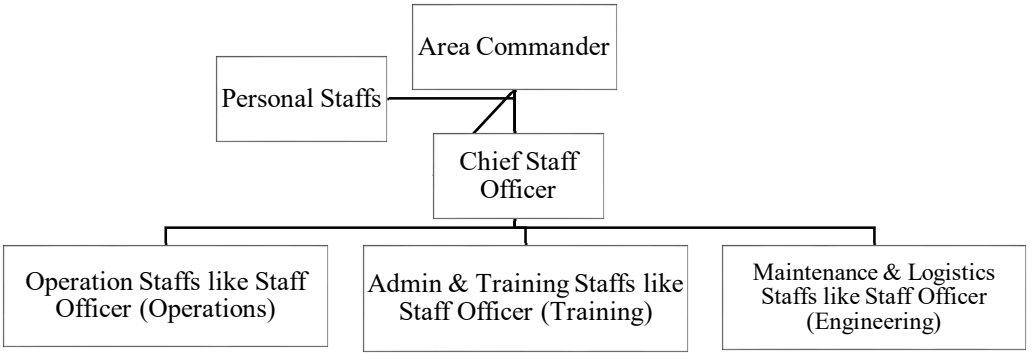



Source: Author's self-construct based on Collected Information

**Bangladesh Navy**

At the operational and tactical level, Bangladesh Navy assets and manpower are organised broadly under Area Command Headquarters and Fleet Headquarters. Area Command Headquarters looks after the admin, logistics, and training bases of the respective naval area. Fleet Headquarters is responsible for the operation of the Naval Fleet in that naval area. In general, the staff organisation of BN in Area Command Headquarters and Fleet Headquarters is almost similar except a few appointments.

**Figure-2: Staff Organisation of an Area/Fleet Headquarters in the Bangladesh Navy**

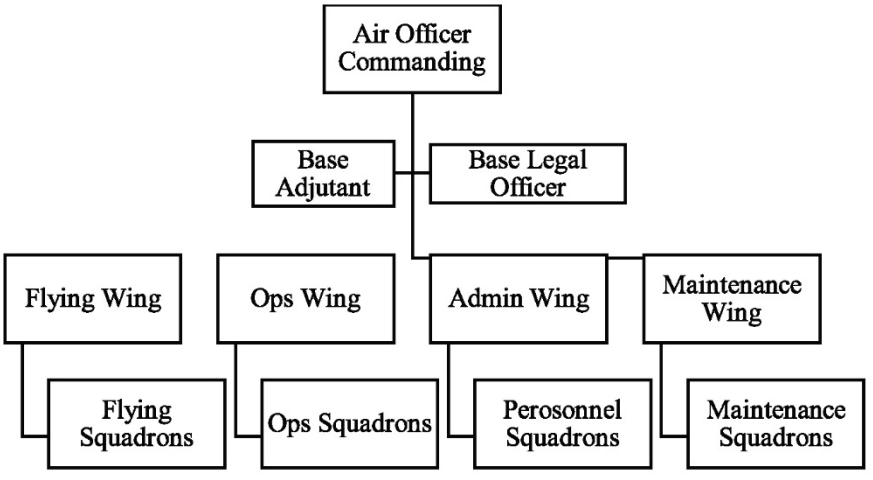



Source: Author's self-construct

**Bangladesh Air Force (BAF)**

The Bangladesh Air Force operates in a slightly different manner than the Army and Navy. An area is commanded by an Air Officer Commanding (AOC). Air bases and other organisations in the area are administered by base headquarters. A classical organisation of staff officers in a base headquarters of BAF is given below:

**Figure-3: Organogram of an Air Base Headquarters of BAF**




Source: Author's Self-Construct based on Collected Information

**Continental Staff System**

Most of the NATO countries had adopted the 'Continental Staff' System while structuring their military staff function. Some of the Asian countries, like Malaysia, also adopted this system later (Rizwan, RMN). This has similarity with the General Staff system practiced by the French Army during the 19th century. Each of the staff positions is assigned a letter prefix and a number corresponding to the branch of the headquarters. Generally, number 1 to 9 is used to identify the branches. The letter-prefixed numbers are assigned according to custom, not hierarchy; this means 1 is not senior to 9. The letter-prefix branches are:

**Table-1: Letter-prefix Branches at the United Nations (UN) Forces Headquarters**

| Letter Prefix | Branch | Letter Prefix | Branch |
|---|---|---|---|
| 1 | Personnel/ Admin | 6 | Communications |
| 2 | Intelligence | 7 | Training |
| 3 | Current Operations | 8 | Engineering/ Finance |
| 4 | Logistics | 9 | CIMIC |
| 5 | Plans | | |

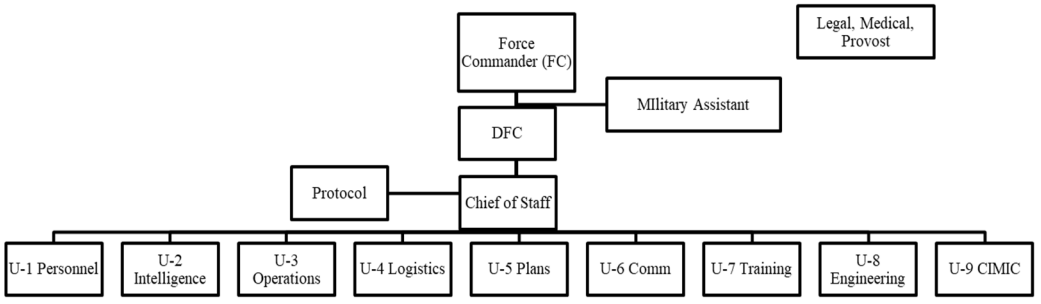
Source: United Nations Forces Headquarters Handbook

Different forces are assigned with different letters, while the army retains the original letter 'G'. Navy, Air Force, UN, and Joint Headquarters use 'N', 'A', 'U', and 'J' respectively.

## UN Staff Organisation

Staff organisation in a typical force headquarters in the UN where military strength is below 6000 is given below:

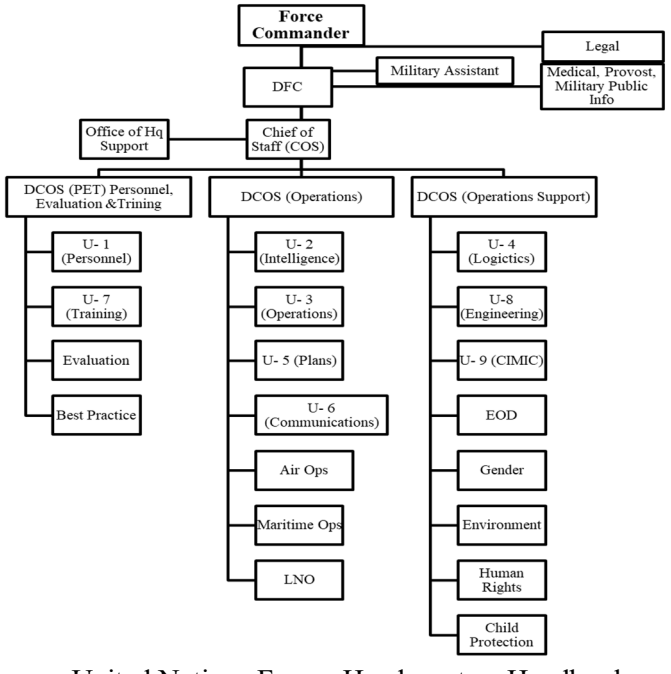
**Figure-4: Staff Organisation of the UN Forces Headquarters-1**




Source: United Nations Forces Headquarters Handbook

Staff organisation is slightly revised for a force headquarters where the strength of the troops is more than 10000. The modular staff organisation is designed to facilitate the planning and decision-making processes that are crucial within a force headquarters. The organisation is given below:

**Figure-5: Staff Organisation of the UN Forces Headquarters-2**




Source: United Nations Forces Headquarters Handbook

### Customisation by Countries

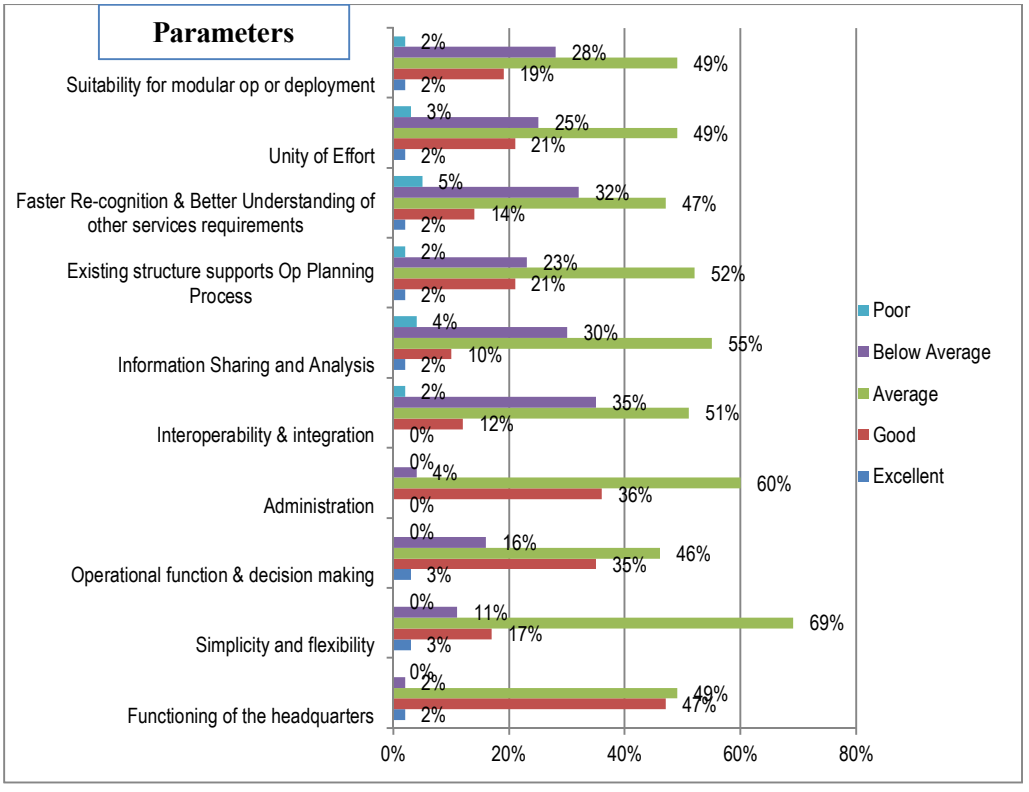
Some of the countries have customised this staff structure according to the requirements of the country. For example, in Malaysia, training and exercises are also looked after by J-3 Branch. J-4 Branch looks after the material and maintenance aspects. J-7 looks after strategic communications. J-8, J-9 and J-10 are responsible for Reserve, Medical, and Inspection, respectively. In some of the countries, J-8 looks after finance.

### Analysis of Staff Systems Vis-à-vis Jointmanship

### Parameters Selected for Analysis

Few parameters were chosen to critically analyse the effectiveness of both staff systems in a joint environment from joint doctrines of the US, UK, and India. A survey was undertaken among the mid-level officers of the Bangladesh Armed Forces who have experience serving in tri-service organisations and under the blue helmets. Another survey was undertaken among the international officers of the countries practicing the Continental Staff System.

**Figure-6: Survey Results of the Parameters in the Existing Staff System**




Source: Author's self-construct based on Survey

**Analysis of Existing Staff System from the Survey**

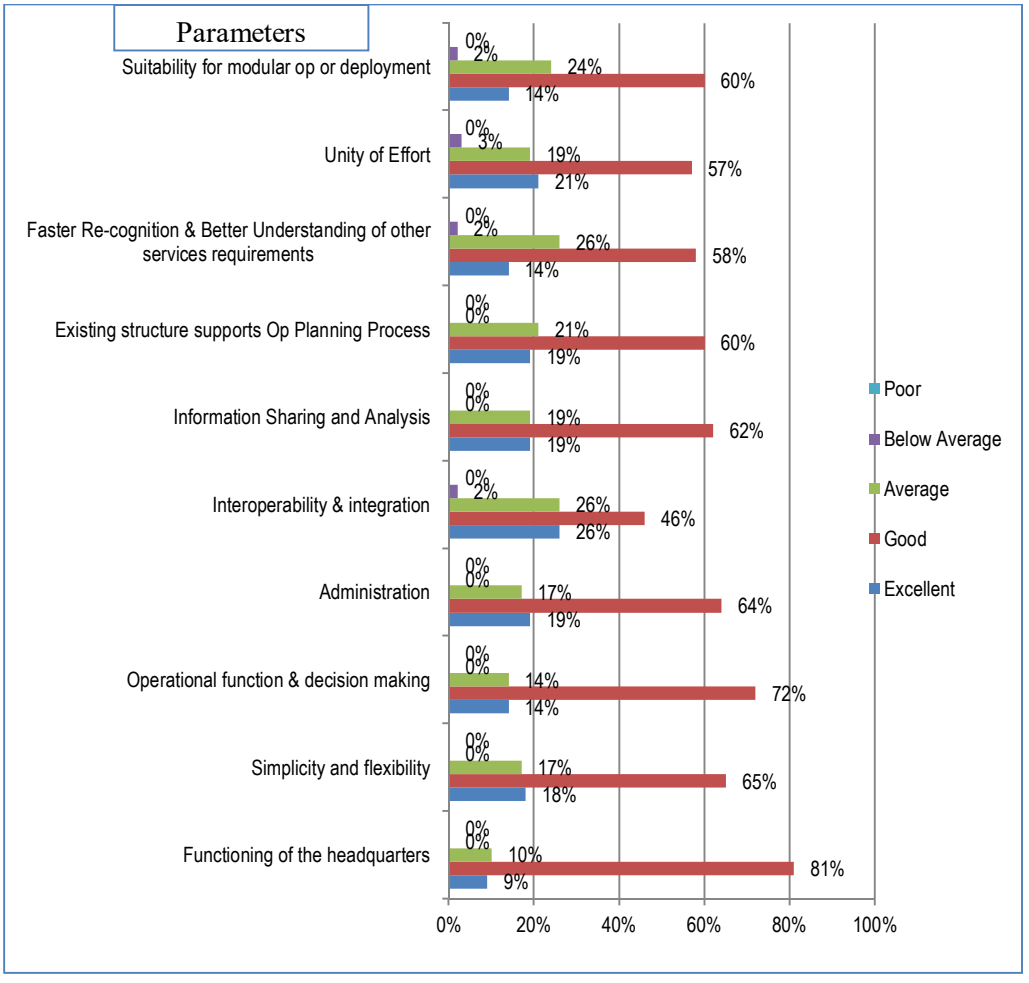
The existing staff system satisfactorily covers routine administrative and operational tasks in a single service environment. However, it appears to be insufficient to perform in a joint environment. It would be difficult for officers to perform staff duties satisfactorily in a joint headquarters. Staff officers need to coordinate many operational and administrative aspects with different staffs in different services headquarters. It gets more difficult for a newly joined staff officer. About 38.6% respondents find that the existing staff structure do not promote jointness. It is a matter of concern as a similar percentage remained neutral. Only 21% officers found the structure suitable to promote jointness.

The state of interoperability, integration, and information sharing is also not satisfactory. The existing structure seems to provide average structural support to the Operational Planning Process, which is very important for success in operations. Arguably, good and desired unity of effort is not possible with the existing structure in the present-day joint environment. The existing structure is not fully suitable for modular operation or deployment according to 28% officers. Besides, the structure is not adequately helping officers to recognise and understand other services.

**Analysis of the Continental Staff System from the Survey**

Most of the parameters scored well in the Continental Staff System in a joint environment. The system seems equally effective in performing service-oriented functions and joint functions. The parameters like interoperability, integration, information sharing, and unity of effort scored good marks in this system. These are all prerequisites for promoting jointness. The structure seems to provide good and required structural support for the operational planning process and decision-making. Overall operational functions would run efficiently in the Continental Staff System. Certainly, this system would allow the officers and men to recognise and understand the other services' requirements. This system is also suitable for modular deployment, which is a futuristic requirement for Bangladesh.

**Figure-7: Survey Results of the Parameters in the Continental Staff System**

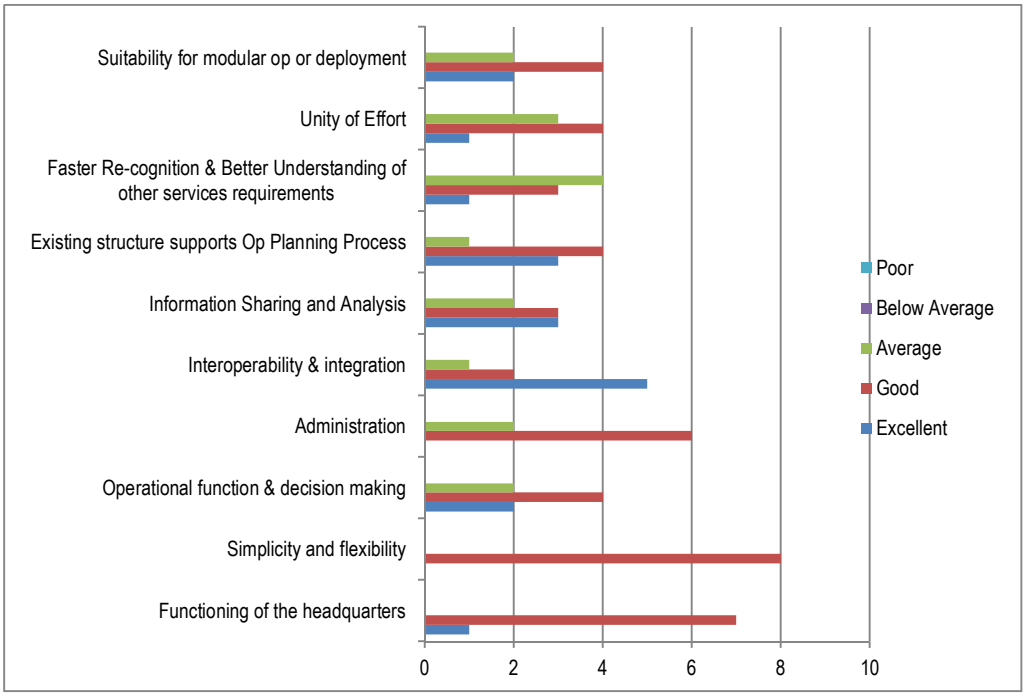



Source: Author's self-construct based on Survey

**Response from Officers from Overseas Armed Forces**

Most of the overseas officers whose countries follow the Continental Staff System have a clear idea and understanding of the sister services' staff system. This is due to the uniqueness of the system, as one number would indicate a similar department in three services. Most of the respondents found the parameters to be in a good or excellent state in the Continental Staff System. It is also identified that their system is equally efficient in both individual service and promoting jointness. Most of the respondents viewed that the aspect of integration and interoperability is in an excellent state. These aspects are prerequisites in a joint environment.

**Figure-8: Survey Results of the Parameters – Overseas Officers**




Source: Author's self-construct based on Survey

**Advantages of the Existing Staff System in the Joint Environment**

The existing Staff System is inherited from the British, and officers and men are comfortable with this heritage system. It serves individual services well, covering regular issues. In this system, at the headquarters level, the requirements of officers are minimal. As such, few officers can run regular and structured activities. At the same time, the appointments are service-specific and match the tactical and ground-level appointments. It is easier for lower-level personnel of the same service to understand and work with staff officers. It is clear from the survey that the existing structure can perform individual services' administrative and routine tasks satisfactorily.

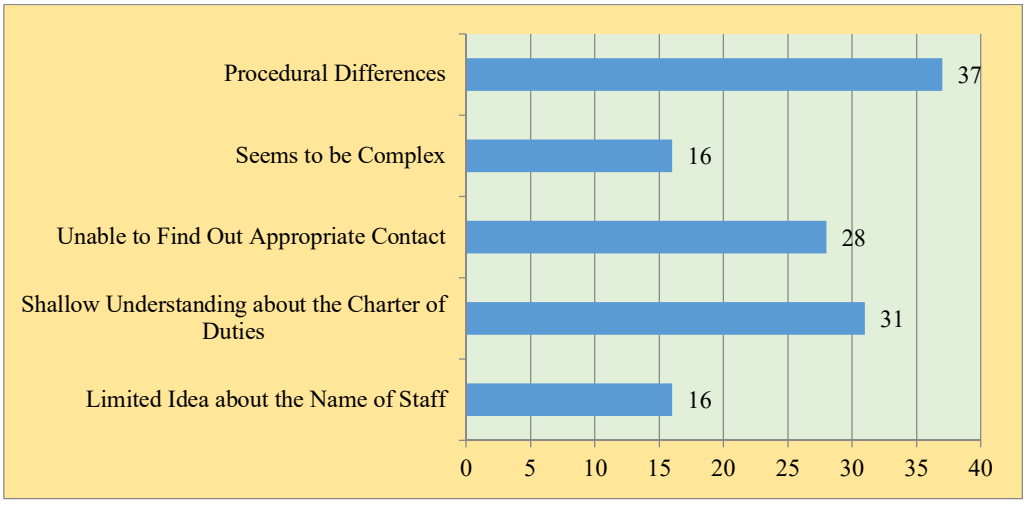
**Shortcomings and Challenges of the Existing Staff System in the Joint Environment**

The organisational structures are distinctly different in the three services. In the army and navy, there is an officer responsible for coordinating all staff work, which is missing in the air force. Similar tasks are carried out in the headquarters of the three services, but the appointment names are different in almost all cases. BAF formation headquarters staff are organised under four divisions and are headed by Group Captain-level officers. Bangladesh Army's formation headquarters staff are organised under two

categories, but without anyone heading these two. In the Bangladesh Navy, all the staff officers work under the supervision of the Chief Staff Officer.

Many dissimilarities create confusion even among the personnel of the same service. Things become hazy when looked at through the lenses of the other two services. Every time someone needs to be asked about the duties before approaching or communicating with a staff officer of other services. Staff are not organised in real real-time operational planning process. Staff are to be reorganised in time of operational planning. Additional staff are required from the field formations to complete the process and achieve the desired outcome.

**Figure-9: Experience while Working with Sister Services Staff Officers**




Source: Author's self-construct based on Survey

**Advantages of the Continental Staff System**

The Continental Staff System was introduced to the NATO countries to bring similarities in the staff system amongst the services, keeping different duties and responsibilities of the headquarters addressed. It is equally or more efficient in addressing administrative, routine, and functional tasks of the organisations than the existing staff system. Sufficient staff are allocated for different duties, making organisational activities smooth, fast, and effective. In larger organisations, the staff departments are grouped into three main divisions headed by a Deputy Chief of Staff (DCOS). This allows different fields to be looked after with equal effort and resources.

The organisations are simple and like sister services. It provides a strong background to understand and work in a joint environment. At the same time, organisational structure provides sufficient flexibility. Any service that feels necessary may add an additional

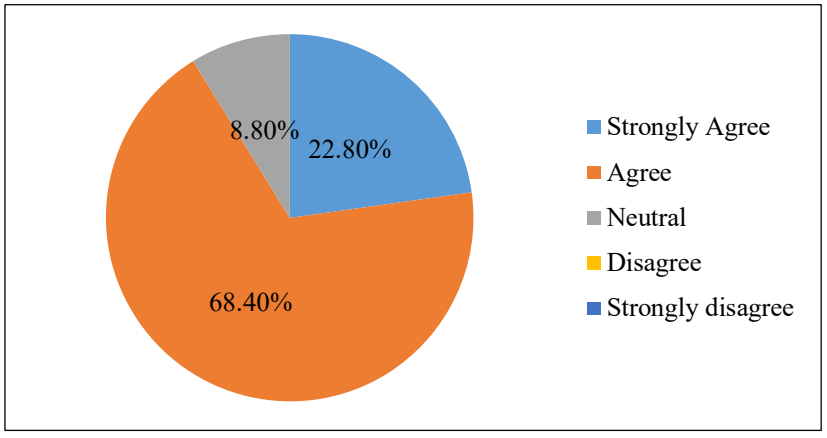
section and prefix this section with a non-allocated number. In this way, service-specific tasks may also be addressed. In this system, staff are organised to undertake the operational planning process. Different branch undertakes planning at the same time as required by the planning process. Reorganisation is not necessary in any changing scenario.

In the Continental Staff System, the decision-making process is structured and faster. It provided better interoperability and integration, as seen in the survey of both local and international officers. This system is suitable for modular operation. This structure is also suitable for quick information sharing amongst the services, which is an important facet of jointmanship.

**Feasibility of Continental Staff System in the Bangladesh Armed Forces**

Most of the Bangladeshi mid-level officers have experience of serving in the UN environment, and a good number of officers are being trained in the NATO countries. As the Continental Staff System would not require a drastic change in the formation headquarters, it would be feasible to introduce the system in the Bangladesh Armed Forces. The services need to restructure and rename the existing staff organisations. The officers who responded to the survey were very positive about this aspect, as can be seen below.

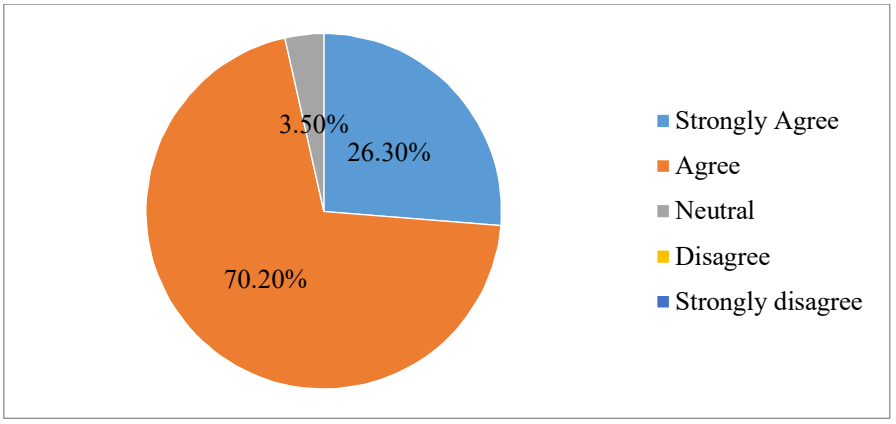
**Figure-10: Response to Introduction of the Continental Staff System**




Source: Author's self-construct based on Survey

Bangladesh is one of the top troop-contributing countries in the UN peacekeeping operations. Introduction of the Continental Staff System would facilitate the officers and men to work more efficiently as staff in the UN headquarters. It would also encourage the UN top echelon to select more senior-level officers in UN decision-making circles.

**Figure-11: Response to Introduction of the Continental Staff System for the UN Deployment**




Source: Author's self-construct based on Survey

The Bangladesh Armed Forces are already taking part in many multi-national exercises with modern militaries. Introduction of the Continental Staff System would facilitate the Armed Forces personnel to gain more experience and knowledge from their counterparts.

**Challenges to be Faced while Synergising**

Introducing the Continental Staff System would not be an easy task in this country. Certain challenges would be there in the process. Some challenges are described below:

a. **Resistance to Change**: Armed Forces have a common characteristic of resistance to change. Many may not like to change a well-set and known structure even though it would help promote jointness. At the same time, all three services may not accept all proposed changes.

b. **Changing Existing C2**: There would be a need to change the existing command and control in the new system. More automation and computer-based processes would have to be introduced. These aspects will be resisted from different corners.

c. **Administrative Hurdles**: There would be opposition from bureaucracy as the 'Table of Organogram and Equipment' needs to be adjusted, and a lot of staff work would be needed at the ministerial level. There would also be some budgetary implications that need to be worked out and settled.

d. **Service-centric Culture**: There are still many hurdles in the aspects of jointness. Many other aspects need to be addressed before implementing the

system. The three services need to understand and respect each other's service culture. The proposed system change will be an enabler, but it would require inclusive support from all corners.

**Way Forward/Options**

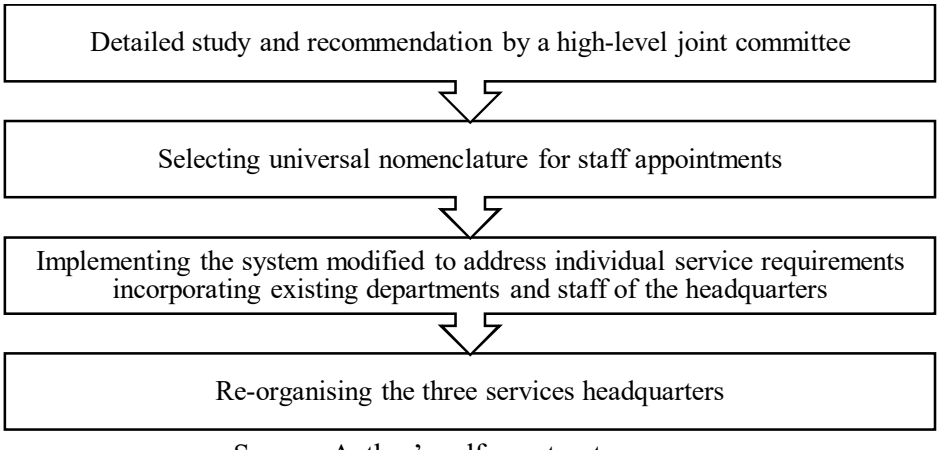
There are a few options available with respect to staff organisations in the three services to bring synergy. All the options need further study and acceptance from the three services.

a. **Common Steps**: Common steps like joint doctrine, exercises, interoperable equipment, a single communication network, a similar welfare scheme, etc., may be pursued to improve jointness at all levels.

b. **Minor Modification**: Keeping the existing staff structure, intake, and carrying out some minor modifications to bring some simplicity. Like, organising existing staff under three or four groups as practiced in BAF. The names of the groups may be similar.

c. **Introducing the Continental Staff System Gradually**: The Continental Staff System may be introduced gradually and phase-wise. The phases may be:

**Flow Chart-1: Gradual Implementation of the Continental Staff System**




Source: Author's self-construct

d. **Introducing the Continental System at all Levels Simultaneously**: The Continental Staff System may be implemented simultaneously at all levels in the three services. However, this would require a major shift in mindset and political will. This change may also create chaos and confusion as the personnel at all levels are not equally educated and trained.

## Conclusion

The importance of jointness and integration is discussed in different forums. A few studies have focused on the structural changes or measures to improve the mindset or ground-level requirements to promote jointness. The progress in jointness is slow, also due to the absence of a structural and systematic approach. Staff organisations provide the basis for jointmanship at the headquarters level. The existing staff system is effective in managing service-specific administrative and operational requirements. The structure faces difficulties functioning in a joint environment. Survey result shows that both systems are equally good at undertaking service-specific administrative and operational activities. However, the Continental Staff System is more suitable for joint functions. It provides structural support for the operational planning process. Nevertheless, this support is insufficient in the existing system of Bangladesh. The Continental Staff System provides better interoperability, scope for integration, and information sharing than the existing staff system.

Continental Staff System is a better-suited staff organisation to promote jointness. But implementation in the current military environment would not be an easy task. Generally, the military is resistant to change, and how much the country's military is ready to implement changes to improve jointness remains a grey area. It is also true that, exact system followed in the NATO countries will not be suitable in the context of Bangladesh. Again, drastic and radical changes would also be difficult to implement at the ground level. A compromise needs to be made to structure a staff organisation that would bring synergy and meet the individual services' requirements while keeping it simple.

Although late, we need to take a pragmatic approach. Synergising staff organisation can be a start of that effort that should also be accompanied by other confidence and efficiency-building measures. A top-down approach is necessary, but a bottom-up approach would also build the necessary strong base. We should improve jointness rather than jointness being imposed.

## Recommendations

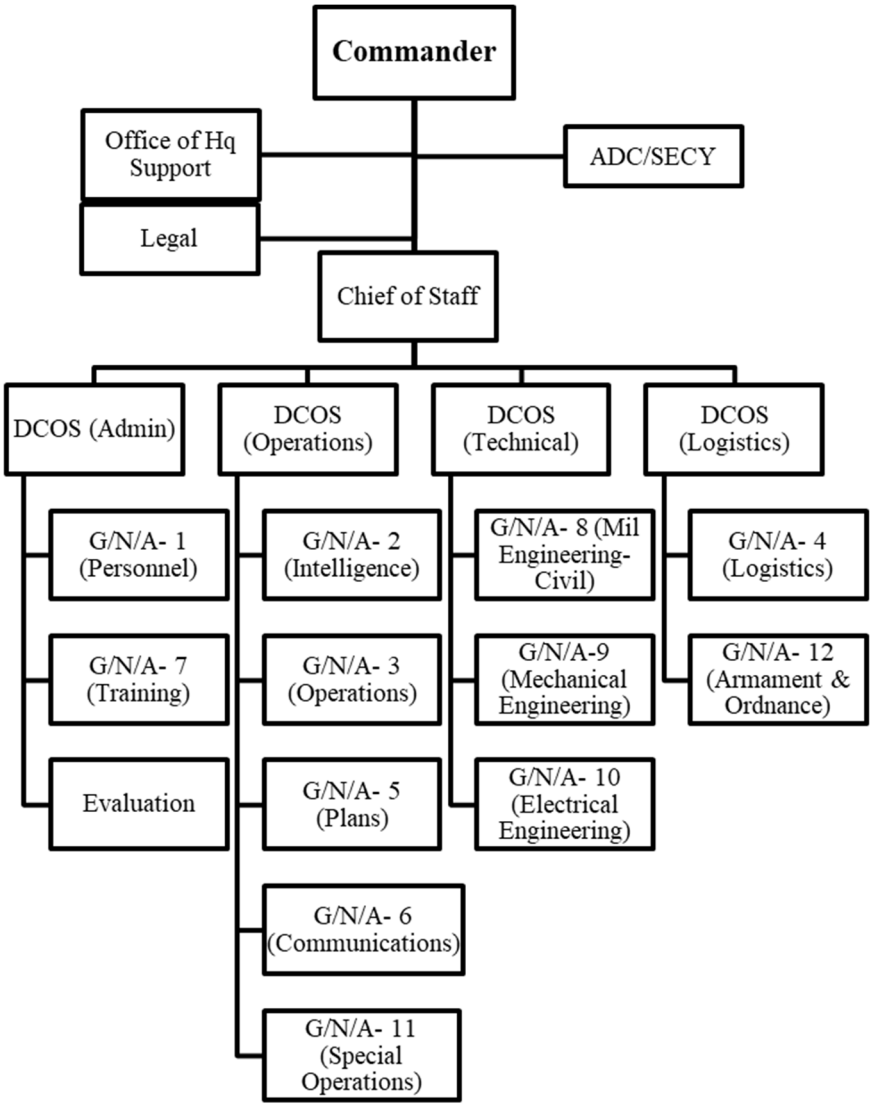
The following recommendations are made:

a. Continental Staff System followed in the UN forces headquarters may be followed as a baseline to reorganise formation headquarters to bring synergy amongst the services. Similar departments may be given an identical number prefixed by a letter denoting the service.

b. Existing departments and branches of different services may be synchronised by slightly renaming them to keep a common meaning, considering the tasks.

c. In case of a bigger formation like Area Commander or Commander-in-Chief, the departments may be put under four DCOSs who will, in turn, report to the COS. COS will be the head of the staff organisation. In the case of a smaller formation, all staff officers will directly work under COS. If any department is irrelevant for a specialised formation headquarters, the numerical designation may remain unused. A proposed staff organisation is given below:

**Figure-12: Proposed Staff Organisation for Formation/Area Headquarters**




Source: Author's self-construct

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## Biography

**Captain Ashiqure Rahman, (ND), NPP, psc, BN** was commissioned on 21 Dec 2002 in the Executive branch from Bangladesh Naval Academy. He completed his Executive Officer's Basic Course from BNS ISSA KHAN and Junior Staff Course from Junior Staff Training Institute (JSTI). He completed his specialisation in Navigation and Direction from PNS BAHADUR of the Pakistan Navy and Surface Vessel Navigation Officer Course from China.

Besides, he has done Group Testing Officer Course from Inter Services Selection Board (ISSB) and served as GTO. He has served on board various ships of the Bangladesh Navy in different capacities. He has commanded BNS TURAG, BNS ATONDRO, and CGS SHETGANG. His instructional appointment includes Bangladesh Naval Academy and JSTI. As staff officer, he has served as Deputy Director of Naval Training at the Naval Headquarters, Staff Officer (Navigation) at Operational Sea Training Guide (OSTG) and Fleet Training Officer under Commander Flotilla West. He also served in UN mission in Lebanon (UNIFIL) onboard BNS ALI HAIDER as Operations Officer. He is an alumnus of Defence Services Command & Staff College, Mirpur and Defence Services Staff College, Wellington, India. Currently, he is serving in BNS DHAKA. He is happily married and blessed with two daughters and one son.

# Digitalisation in Crime Prevention and Detection: A Bangladesh Perspective

***Superintendent of Police Sheikh Md. Abdullah Bin Kalam, psc***

**Abstract**

The emergence of digital technologies has resulted in significant transformations across multiple domains, such as law enforcement, crime prevention and detection. This study investigates how Bangladesh's crime management is impacted by digitalisation, particularly as it relates to developments in data analysis, DNA forensic, digital reporting systems, verification system, traffic system, national emergency services, information management system, and surveillance technology. The study aims to provide a thorough understanding of the effectiveness and challenges of digital technologies in the Bangladeshi context by utilising a mixed-methods approach that includes surveys analyses and interviews with law enforcement officials, community members, tech and legal experts.

The results show that while digitalisation presents significant opportunities for improving crime detection and prevention—such as enhanced communication and coordination, improved data management and analysis, advanced surveillance and monitoring, cyber security and cybercrime, community engagement and transparency, and operational efficiency. It also presents significant obstacles to realising these benefits, such as cyber security risk and data management, data privacy risk and ethical challenges, resource constraints and lack of training, resistance to change and frequency of posting. The report ends with suggestions for maximizing the use of digital tactics in crime prevention and detection.

## Introduction

Development in technology, continuing internet expansion, and the escalating shift of globalization conjointly drive the rampant advancement of digitalisation (Oberzaucher, 2019). Digital technologies are igniting various sectors around the world (Brynjolfsson & McAfee, 2014). Utilisation of digital technology to crime prevention and detection and to ensure the citizen safety in twenty-first century has been a supreme priority for police (Bhuiyan, 2023). Investment in digital crime prevention and detection approaches has the prospects to lessen the shortcomings of the traditional criminal justice system, eventually leading to a diminution in crime rates and victimisation

(Akter, 2018). Therefore, digitalisation of Policing can be a great way forward to fighting terrorism, violent extremism, and other tech-based crimes (Goodman, 2015).

While law enforcement agencies (LEAs) are undergoing a digital change, it is important to provide the agencies with updated equipment to ensure digital safety for all (Bhuiyan, 2023). LEAs adopted digital means such as online General Diary (GD), Closed-Circuit Television (CCTV), Crime Data Management System (CDMS), Citizen Information Management System (CIMS), Call Details Record (CDR), e-traffic prosecution, Digital forensics, and so on to combat digital crimes. However, the effectiveness of the digital methods is not yet fully obtained due to a lack of infrastructure development, budgetary constraints, a lack of knowledge among LEAs, a lack of people's sound knowledge on digital methods and a lack of collaboration between public-private sectors.

Therefore, this study attempts to assess the effectiveness of digital applications in fighting crime. It also intends to identify the challenges related to the management of digital methods efficiently and strives to come up with viable strategies to overcome these obstacles.

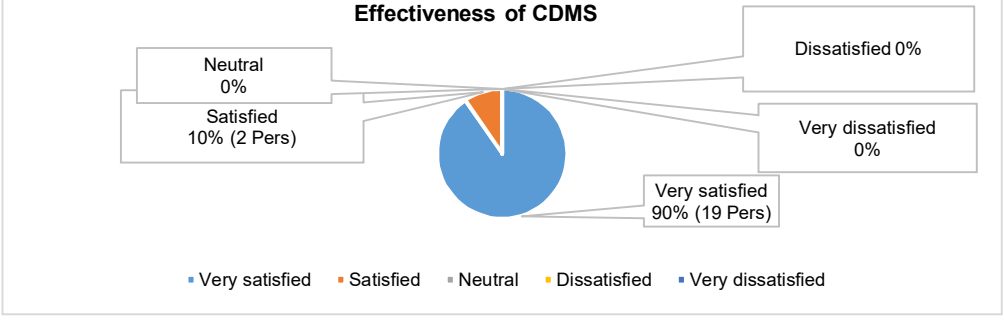
**Effectiveness of Existing Digital Methods in Crime Prevention and Detection**

**Impact of Present Digital Tools in Crime Prevention and Detection**

**Operational Impact**

Digital tools increase operational capacity of LEAs. CDMS is one of the digital tools which aim to enable easy access and processing of data related to any crime or criminal (Mannan, 2017). The CDMS system links various police stations and coordinates a complex set of processes from filing First Information Reports (FIR) to the trial (Chowdhury, 2023). In a survey, 90.5% (19 out of 21) officers (Inspectors) who worked in police station opined that they are 'very satisfied' with CDMS to prevent and detect crime. This means that CDMS has significantly impacted on operational capacity of LEAs.

**Figure-1: Survey on Effectiveness of CDMS**

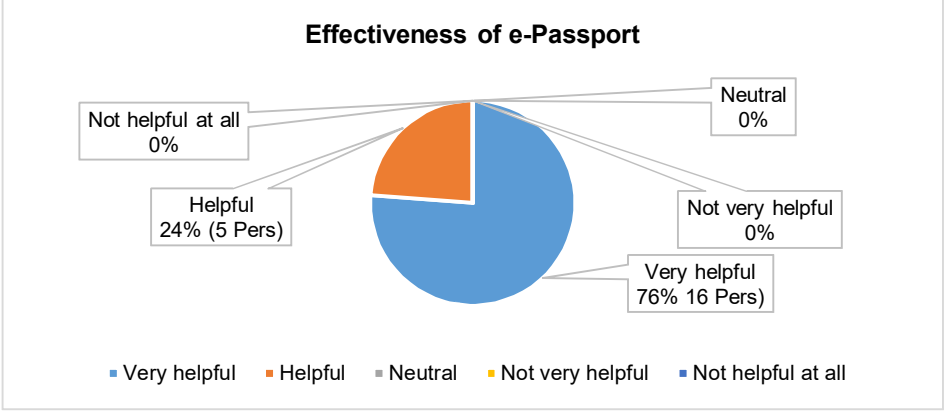



Source: Author's self-construct

Besides, LEAs use CCTV and other tools to increase efficiency and broaden surveillance coverage in a complex society (Khan et el., 2020). LEAs of Bangladesh utilise a vast network of CCTV cameras, strategically placed in public and private locations, alongside businesses and institutions (Daily Messenger). Using CC cameras, recording high-quality footage can give detectives a strong foundation for understanding the perpetrators of the crime (Ashby, 2017).

E-passport is another area through which operational activities of LEAs developed significantly. By incorporating an electronic chip and a digital security feature into the passport booklet, the e-passport enhances the security of traditional non-electronic passports by storing the biographical data that can be viewed (The Daily Star, 2020). LEAs in Bangladesh process the verification part very fast (Chapman et el., 2009). In a survey, 76.2% (16 out of 25) officers opined that use of e-passports is 'very helpful'. 5 (five) officers said that it is helpful which indicates that it has an impact on operational activities of LEAs.

**Figure-2: Survey on Effectiveness of e-Passports**

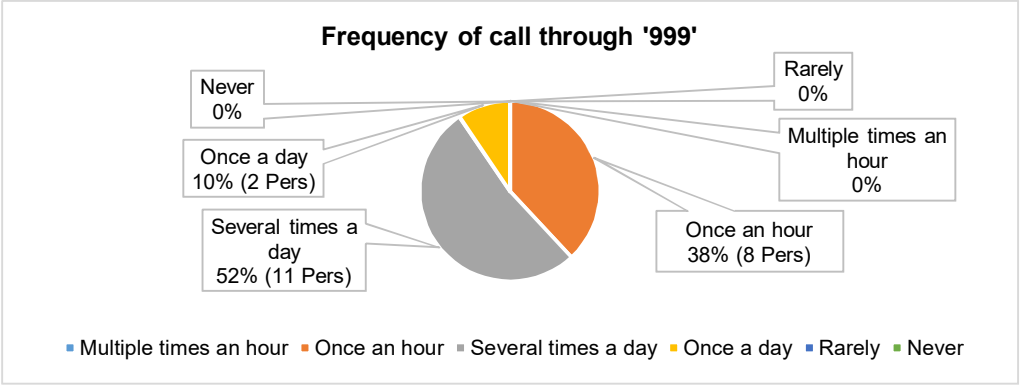



Source: Author's self-construct

**Impact on Community**

Digital tools significantly impact on communities by enhancing law enforcement's ability to prevent and detect crime. One of the significant digital tools is '999'. The utility of emergency services has gained global recognition and popularity (Paul, 2022). Bangladesh Fire Service, Civil Defense Headquarters, and the Department of Health, the government inaugurated the emergency number 999 (Khan, 2019). In a survey, 52.4% (11 out of 21) officers opined that police stations receive calls through '999' 'several times a day' which signifies that people resort to digital tools for getting quick response.

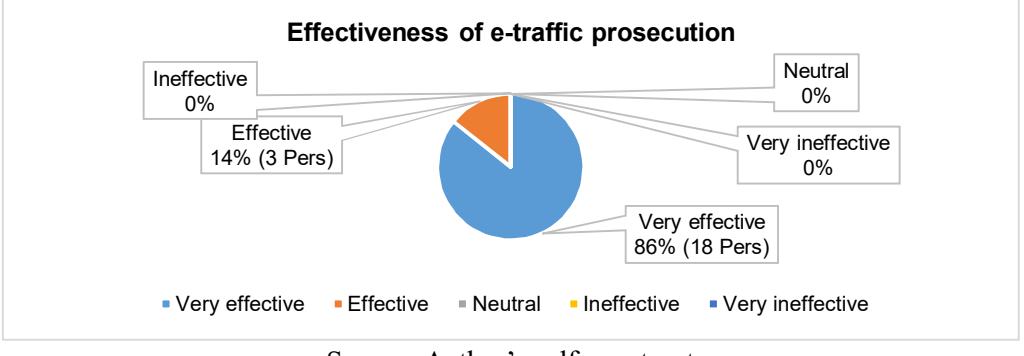
**Figure-3: Survey on Effectiveness of 999**




Source: Author's self-construct

To meet community expectations, a legal progression was needed to adapt the LEAs to society's demands and times (Bagasatwika, 2020). Traffic situation cannot reduce the accidents and fulfill the expectation of the citizens. Therefore, Bangladesh Police has launched e-traffic prosecution system to lower the frequency of traffic accidents. E-traffic prosecution ensures openness in traffic police operations. In a survey, 86% (18 out of 21) officers opined that e-traffic prosecution has been 'very effective' in reducing crime. These surveys are mainly carried out on those who are directly related with traffic controlling activities.

**Figure-4: Survey on Effectiveness of E-traffic Prosecution**

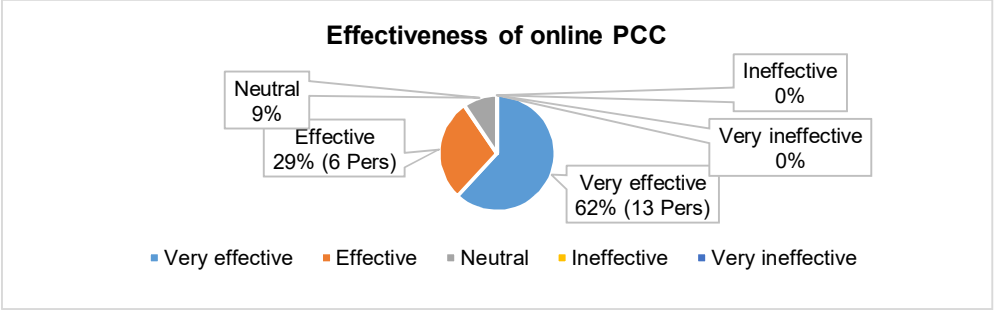



Source: Author's self-construct

Furthermore, Online Police Clearance Certificate (PCC) has huge impact on communities. Earlier obtaining PCC was difficult as there was no tracking system to ensure transparency in the application process. Service recipient visits incurring more costs and energy to get the certificate-a situation that negatively impacted department's reputation (TIB, 2017). The police in Bangladesh have introduced an online service that enables individuals to obtain a PCC without the need to visit a police station. In a

survey, 61.9% (13 out of 21) officers opined that online PCC has been 'very effective' in reducing crime. Other officers said it is effective. Therefore, there is an impact on communities to get service digitally.

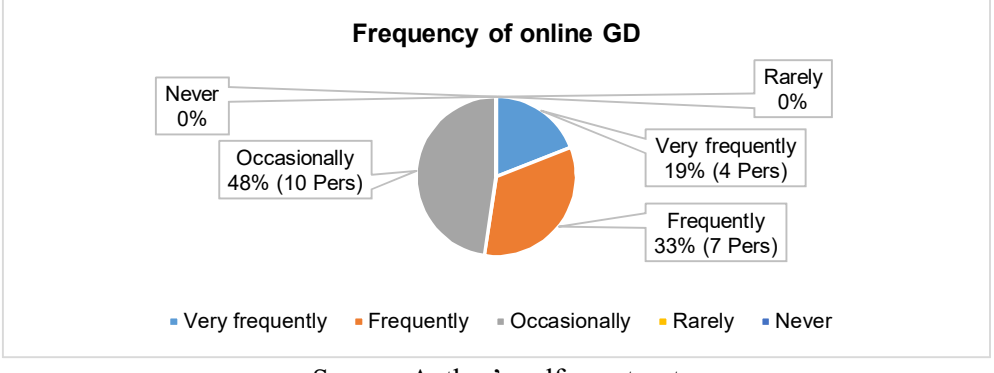
**Figure-5: Survey on Effectiveness of Online PCC**




Source: Author's self-construct

Online GD has also reduced harassment of community members. Since its development in 2011, all police stations in Bangladesh have maintained online GD and related information. This initiative helps citizens save time, cost, and visits to the police station (Kalimullah, 2523-921X). However, in a survey, 47.6% (10 out of 21) officers opined that people 'occasionally' report incidents through online GD. Online GD has reduced time and money that entails for going physically to the police station.

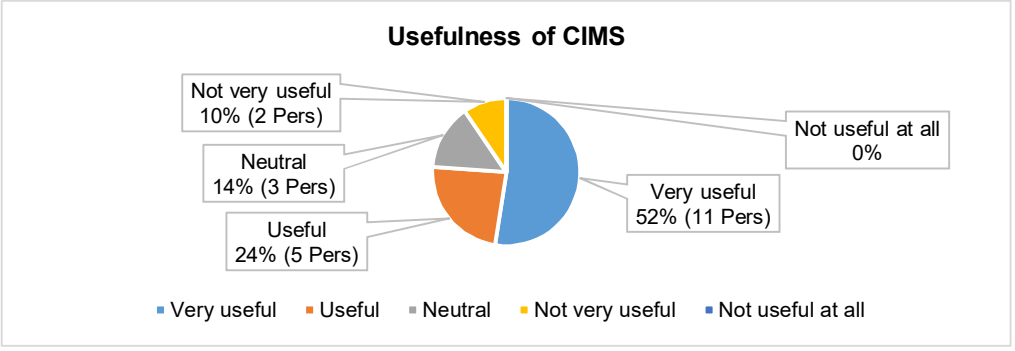
**Figure-6: Survey on Effectiveness of Online GD**




Source: Author's self-construct

In 2016, CIMS was unveiled to build a thorough database by gathering residents' data (The Financial Express, 2021). The DMP's CIMS system has prevented terrorist attacks and has helped curb extremist activities. The goal is to prevent terrorism, militancy, murder, and robbery in Dhaka (New age, 2019). In a survey, 52.4% (11 out of 21) officers opined that CIMS is 'very useful' in crime prevention and detection. Officers those who are surveyed reported that CIMS helps to combat crime by preserving the data from the community.

**Figure-7: Survey on Effectiveness of CIMS**

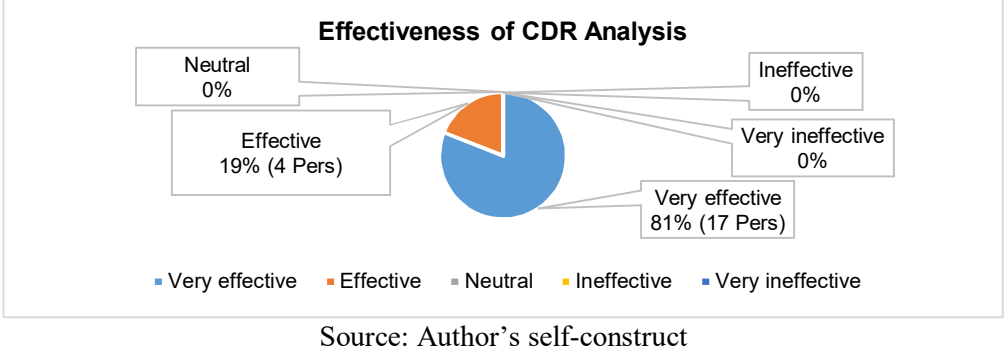



Source: Author's self-construct

## Impact on Legal Procedure

Digital tools have strengthened the evidential value of legal issues. CDR is a structured data set that contains relevant information on a specific phone call (Nair et el, 2017). When there is an insufficient proof in the form of case files and police records, the suspects' CDR becomes the sole viable lead (Khan et al., 2017). Therefore, CDR provides strong evidence in legal process. In a survey, 81% (17 out of 21) officers opined that CDR is 'very effective' in crime prevention and detection. Inspectors those who are surveyed explains that CDR helps to proof any crime incident, which is a stronghold for legal procedure.

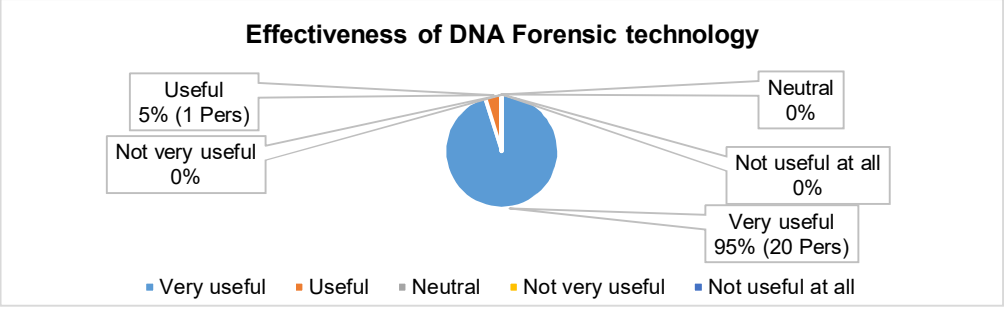
**Figure-3: Survey on Effectiveness of CDR.**




Source: Author's self-construct

Additionally, Forensic evidence provides strong connection with the incidents related with legal issues. Bangladesh is utilising DNA data to solve homicide cases, replacing traditional forensic methods like fingerprints and expert testimony. DNA Forensic tools can solve vital issues of the present time like paternity disputes, proof of relationship, rape and murder cases. In a survey, 95.2% (20 out of 25) officers opined that digital DNA Forensic technology is 'very useful'. Officers opined that DNA Forensic Technology established the identity which has a huge evidential value in legal procedure.

**Figure-8: Survey on the Effectiveness of DNA Forensic Technology**




Source: Author's self-construct

**Analysis of Effects of Existing Digital Methods on Crime Prevention and Detection**

The survey responses of ASIs/SIs and Inspectors have been organized in a '5-point Likert Chart'. The analysis is given in Table 6. According to the survey responses, existing digital tools have effects on crime prevention and detection.

**Analysis of Rural-Urban Disparity in use of Technology**

a. Surveillance networks:

(1) Urban/Metropolitan (e.g. Dhaka, Chattogram, Rajshahi, Khulna)

(a) Dhaka Metropolitan Police (DMP) monitors roughly 680 post-DMP cameras across 221 nodes and aims to integrate 50,000+ private CCTV systems.

(b) Chattogram CMP's "Eyes of CMP" system operates 411 live IP cameras across 70 strategic points.

(c) Other cities such as Cox's Bazar and Madaripur have begun deploying hundreds of cameras, controlled by SP offices

(2) Rural / District / Upazila jurisdictions.

(a) Digital connectivity is inconsistent: approximately 600 police stations were connected under *Info-Sarkar Phase-2*, and 1,000 more by its Phase-3 (covering some upazila offices).

(b) Biometric systems now required by High Court for all Police Stations/ jails have not been fully implemented across unions or upazilas.

(c) CCTV coverage is weak: although district towns liks Madaripur and Jashore have installed cameras, 50-60% of these systems are inoperative or vandalized.

b. The urban–rural digital divide (numeric view)

(1) Internet users: 53.7 % of urban residents uses the internet vs. 37.1 % of rural populations.

(2) Broadband coverage is heavily skewed toward cities; many unions still lack reliable 3G/4G service and consistent electricity.

**Case Studies**

Bangladesh has piloted several successful AI-powered and classical CCTV-based crime detection systems particularly in Sylhet, Dhaka, Chattogram, and highway corridors that have demonstrably helped arrest suspects faster, reduce street offenses, and recover missing persons.

a. **Sylhet's "Digital Sylhet City" AI Camera Pilot (2019)**

Between June and July 2019, the Bangladesh Computer Council (BCC) installed 110 AI-enabled IP cameras (facial recognition + ANPR) at key points in Sylhet City including Zindabazar and Subid Bazar linked to a command room at Kotwali Police Station managed by Sylhet Metropolitan Police. Within weeks, a suspect in a high-profile murder (a vegetable vendor killed near Hotel Onurag) was identified via face match and arrested, credited directly to that CCTV system.

b. **Dhaka Metropolitan Police (DMP): Networked CCTV & Crime Busts (2023-25)**

(1) In early 2023, DMP complemented its 680 government run cameras across 221 hot spots (Mirpur, Farmgate, Moghbazar, Jatrabari, Baridhara, Gulshan, etc.) by integrating 1,500 upgraded private CCTV feeds from homes, malls, cooperatives into a central monitoring sys with live alerts for face detection or suspicious vehicles.

(2) Outcome: Police say this enabled them to solve around 1,400 cases in the first half of 2025 (robberies, kidnappings, shootings); multiple cases, like the Sheorapara murder of a teenager and a Moghbazar student snatching, were cracked within 72 hours, largely via location-based CCTV trails and plate ID. Residents report mugging rates in Gulshan and Banani have dropped sharply.

c. **Highway Police & Port-City CCTV Roll-Out (2021-23)**

(1) Between 2021–23, the Highway Police installed an automated surveillance system along the Dhaka–Chattogram export corridor: 1,427 cameras covering 490 spots over 265 km with real-time monitoring centers in Narayanganj, Cumilla, Feni, and Chattogram gate.

(2) Outcome: Since the live camera system went online (July 2023), thefts of garment exports (truck load, relay theft) reportedly dropped by 40–50%; highway teams intercepted dozens of thefts runs by matching vehicle plate numbers in advance via Brussels-style LPR alerts sent to nearby patrol units.

d. **Chattogram Metropolitan Police (CMP): "Eyes of CMP" Project (2021-25)**

(1) Since late 2021, CMP has set up 411 CCTV units at 70 priority locations around key markets, bus terminal, bridges, and ports controlled via a 24/7 "Eyes of CMP" command room with two technical shift teams.

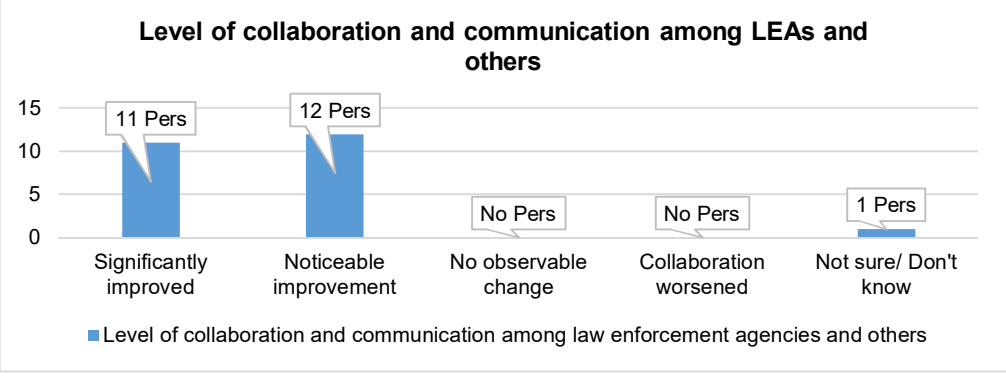
(2) The cameras provided several initial successes in tracking down vehicle snatchers involved in the Patel railway bridge killings and early kidnappings in 2022; CMP has plans to expand face recognition capabilities city-wide by 2026.

**Impact of Digitalisation on the Functioning of the Members of LEAs**

**Enhanced Communication and Coordination**

Technology has significantly influenced police work, with innovation for communication. (Borrion, 2018). Through secure digital platforms, officers can now instantaneously communicate information, updates, and alerts, speeding up reaction times. Social media has transformed modern policing practices (Stevens, et. El 2012). In a survey, 50% (12 out of 25) community members opined that digitalisation has caused a noticeable improvement in terms of collaboration among LEAs and community members.

**Figure-10: Survey on the Level of Collaboration and Communication among LEAs and Community Members**




Source: Author's self-construct

**Improved Data Management and Analysis**

LEAs can now gather, store, and analyse massive volumes of data more effectively than before. Data on criminal activity, suspects, and victims are included in this. Agencies can spot trends, anticipate possible dangers, and strategically deploy resources with the use of advanced analytics (Montasari, 2023). CDMS of Bangladesh Police improves efficiency, data analysis, police operations, and criminal records check by Background (Mannan, Towhidul. (2020).

**Advanced Surveillance and Monitoring**

With the advancement of technology, the role of the police has changed greatly. They prevent and detect crime with the use of surveillance, like CCTV. According to the District police of Faridpur, there are 128 places where CCTV is installed to keep surveillance and monitoring. The role of surveillance enormously impacts on social control and governance (Wilson, 2017). However, there are ethical and legal implications, addressing concerns about privacy infringement, potential abuse, and the balance between security and individual rights (Lyon, 2003).

**Cyber Security and Cybercrime**

According to a recent estimate, internet criminals record approximately 80 Billion automated scans per day on internet service providers (ISPs) to identify potential targets for cybercrime (Lewis, 2018). Police is to work against the dark web, an underground part of the internet where illegal activities thrive because cybercriminals operate in this hidden network, trading in illicit goods and services, and sharing tools and techniques (Goodman, 2015).

**Community Engagement and Transparency**

Digitalisation has developed police transparency and community engagement through social media and digital tools (Maqsood et al., 2019). Digital policing changed the understanding among communities about how police communicate with them in a digital setting. Police communications have evolved from professionalisation to digitalisation, providing new opportunities to showcase the human side of policing through creative content (Radic, 2023).

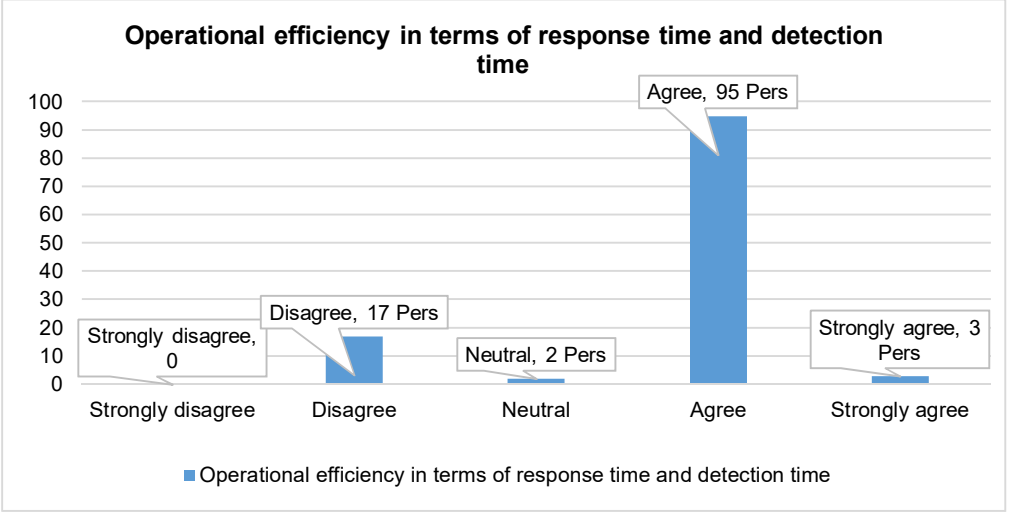
**Operational Efficiency**

Digitalisation has facilitated digital forensics, allowing LEAs to recover, analyse, and present digital evidence in court, while cybercrime units tackle crimes like hacking, online fraud, and identity theft (Casey, 2011). Besides, Digital automation in administrative tasks, report generation, and case management systems enables LEAs to

concentrate on fieldwork and investigations, enhancing efficiency and reducing administrative burden (Manning, 2008).

In a survey, 81.2% (95 out of 117) officers (ASIs/SIs) agreed that digitalisation has increased operational efficiency in terms of response time and detection time of crime incidence.

**Figure-11: Survey on impact of Digitalisation in terms of Response Time and Detection Time after a Crime**




Source: Author's self-construct

**Challenges Faced by Law Enforcement Agencies**

**Cybersecurity Risks and Data Management**

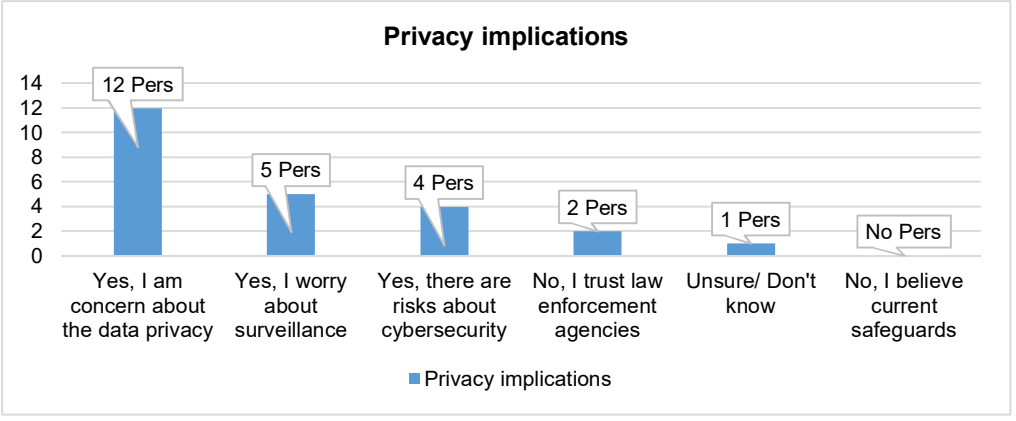
The digitalisation of policing has significantly increased cyber security risks, as the reliance on digital tools exposes them to cyber threats such as criminal records, investigation details, and personal data of citizens (Goodman, 2015). Ensuring data accuracy, accessibility, and security requires robust infrastructure and specialised systems, which can be costly and resource intensive (Lum & Isaac, 2016).

**Data Privacy Risks and Ethical Challenges**

The digitalisation of policing introduces significant privacy risks, as the extensive collection and utilisation of personal data can lead to potential invasions of privacy and data misuse, which lead to ethical concerns (O'Neil, 2016). It may disproportionately target marginalised communities, exacerbating existing biases and discrimination (Brayne, 2017). However, in a survey, 50% (12 out of 25) community members opined

that they are concerned about the potential misuse of personal data collected through digital tools.

**Figure-12: Survey on Privacy Implications in Utilising Digital Methods**

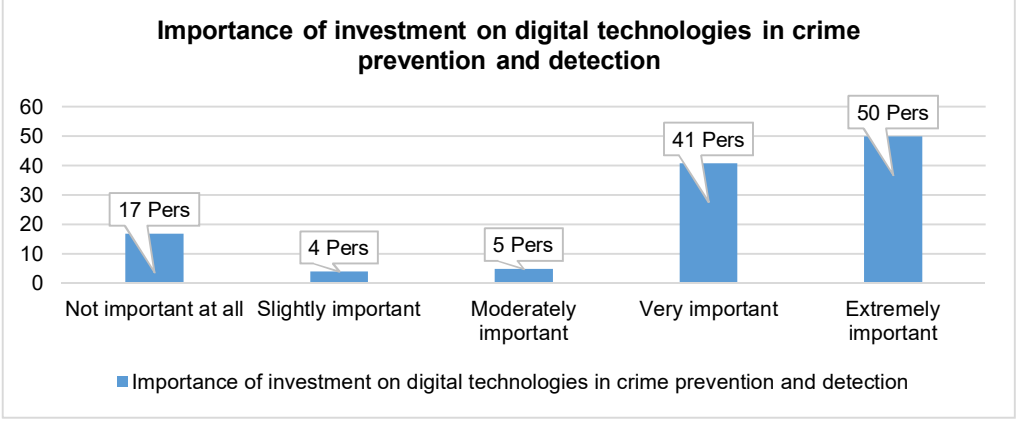



Source: Author's self-construct

**Resource Constraints and Lack of Training**

Limited financial resources for training and professional development may limit access to modern technologies and facilities, hindering skill development (Moon, 2023). Additionally, the need for specialised training and expertise to manage and operate these technologies further strains limited resources (Miller, 2018). In a survey, 42.7% (50 out of 117) officers (ASIs/SIs) opined that it is extremely important to invest on upgrading and expanding digital technologies in crime prevention and detection.

**Figure-13: Survey on the Importance of Investment in Upgrading and Expanding Digital Technologies**

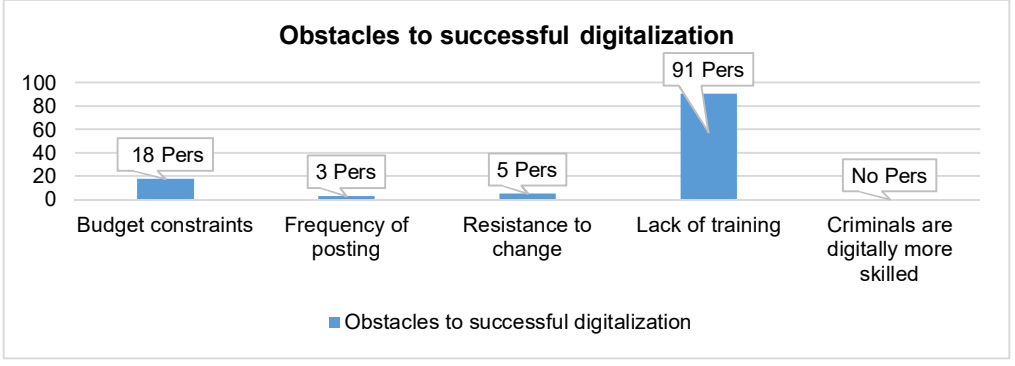



Source: Author's self-construct

**Resistance to Change and Frequency of Posting**

To adapt to the changing world, it is essential to fully embrace technology and have a more up-to-date police force (Dhaka Tribune). Technological change in policing presents challenges due to cultural resistance and implementation experiences (Koper et el., 2015). Besides, police officers' frequent posting often kept them away from adopting new digital tools (Otieno, 2022). In a survey, 77.8% (91 out of 117) officers (ASIs/SIs) opined that lack of training is the main obstacle.

**Figure-14: Survey on Challenges of Utilizing Digital Methods by LEAs**

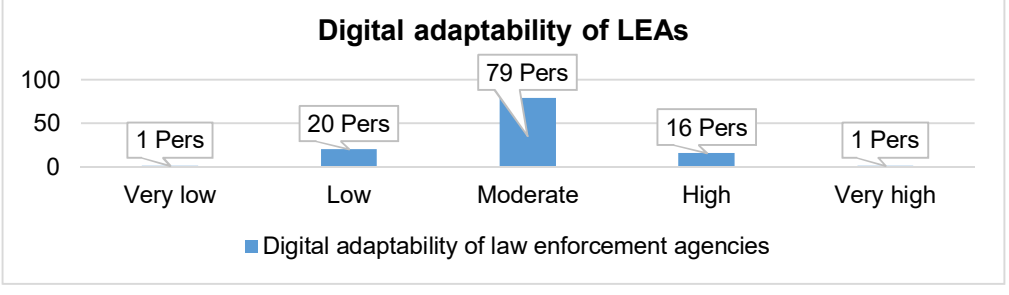



Source: Author's self-construct

**Enhanced Digital Prowess of Modern Criminals**

Due to the borderless nature of cybercrime, criminals can exploit people from anywhere (Augustin, Sujon, rising bd). Police officers face challenges in handling cybercrime, including limited technological support, inadequate training, jurisdictional complexities, and anonymity, which significantly impact investigations (Rukhsana Siddiqua, 2024). However, in a survey, 67.5% (79 out of 117) officers (ASIs/SIs) opined that they are moderately adaptable to the digitalisation method.

**Figure-15: Survey on Digital Adaptability of LEAs**




Source: Author's self-construct

### Analysis of the Effectiveness of Digitalisation on Crime Prevention and Detection

Three research surveys (ASIs/SIs – Inspectors – Community members) responses have been organised in a **ANOVA ANALYSIS** test. The Mean Values and the Significance Value show that there is a very less difference among the opinions of 3 different survey groups.

**Table-2: Analysis of ANOVA Test**

**Descriptives**

**How satisfied are you with the effectiveness of digitalization on crime prevention and detection in your area?**

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| Inspector | 21 | 3.67 | .856 | .187 | 3.28 | 4.06 | 2 | 5 |
| ASI_SI | 117 | 3.67 | .820 | .076 | 3.52 | 3.82 | 2 | 5 |
| Community Member | 25 | 3.92 | .572 | .114 | 3.68 | 4.16 | 3 | 5 |
| Total | 163 | 3.71 | .793 | .062 | 3.58 | 3.83 | 2 | 5 |

**ANOVA**

**How satisfied are you with the effectiveness of digitalization on crime prevention and detection in your area?**

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 1.358 | 2 | .679 | 1.081 | .342 |
| Within Groups | 100.507 | 160 | .628 | | |
| Total | 101.865 | 162 | | | |

Note: SPSS Based on 3 Different Surveys

### Ways Forward to Improve the Effectiveness of Digital Policing

#### Improve Training and Skill Development

Lack of knowledge and training can be a major barrier to usage of new technology (White & Escober, 2008). Since sociological, urban, and demographic changes never stop, police need to receive proper training and skill development program to succeed in the future (Taylor et el., 2014). Often, lack of knowledge plays a major role in the low conviction rates for digital crimes (Leibolt, 2010).

#### Change in LEAs' Mindset and Embracing the Change

Rather than seeing digital crimes as an extension or adaptation of existing crimes, many police personnel view them as something entirely different (Holt et al., 2019). Investigators' sense of readiness and confidence in handling digital crime cases is influenced by their perceptions of the distinctions between digital crimes and regular

crimes, and therefore by their assessment of the relevance to their current knowledge and expertise (Bossler et al., 2020).

**Foster Community Engagement and Trust**

Any new policing technology must first be accepted by society to be successful (Bradford et al., 2020). Public rejection of the intervention in the issue may have a long-term detrimental effect on police-community relations (Nam, 2018). Officers are often unlikely to comprehend people and their needs (Curtis & Oxburgh, 2023). Therefore, community engagement and trust-building are paramount, which is reflected by the interviewees.

**Enhance Cybersecurity Measures**

LEAs should take effective measures to safeguard digital tools. It prevents damage and reinforces trust in digital environments (Kabilan and Sabitha, 2023). These days, cloud storage is the preferred method for storing data. Hackers are proficient in every entrance (Mohammad, 2019). Besides, focusing on firewall technology can effectively prevent and supervise network security threats, control internet access, and ensure the safe operation of computer networks (Wang, 2022).

**Develop Institutionalized Framework for Effective Use of Technology**

The lack of institutionalisation of technological innovation in policing, coupled with rigid hierarchies and inflexible structures, hinders bottom-up and top-down digital effectiveness (Borins, 2002). Digital technologies can have neutral or potentially detrimental effects on police productivity if not accompanied by flexible organisational practices (Garicano & Heaton, 2010). Therefore, developing institutionalised framework is paramount for obtaining the desired effects of digital technology in policing.

**Interoperability and Collaboration Among Agencies**

Technological problems impede advancement, particularly due to system compatibility across several agencies (Laufs & Borrion, 2022). A collaborative approach is crucial for interoperability among the agencies in digitalisation of policing (Fernandez-Anez et al., 2018). Concerns regarding public-private partnerships are not new (Cvrtila and Perešin, 2014), but with the likelihood of future digitalisation infrastructure being increasingly privatised, they are more pertinent than ever in the context of digital policing (T Liu et al., 2021).

**Allocation of Budget and Resources**

According to Elmaghraby and Losavio (2014), a smart city makes use of technology to enhance citizen well-being and increase resource efficiency in services. It also entails measures to improve the protection of inhabitants, encompassing both law enforcement and digital security infrastructure within the city. (Laufs et al., 2020a). Financial limitations may negatively impact police attitudes on the adoption and application of

new security technology (Rogers & Scally, 2018). Sufficient budget allocation for digital policing is mandatory.

**Adopt Cutting-edge Technologies**

At present, the Bangladesh police need to adopt cutting-edge technologies to fight digital crimes. Big data analytics is a crucial technology utilised by police worldwide to improve efficiency and resource management by enabling crime prediction, risk assessments, investigations, analysis, and data exchange (Neiva et al., 2023). Besides, Drones are increasingly utilised in various sectors, including LEAs, to collect live images of people, places, and situations that are otherwise unavailable or difficult to reach (Lundgaard, 2023).

**Conclusion**

The researcher initially delves into the current state of digital methods utilised by LEAs and its effectiveness in crime prevention and detection (Chapter II). He works on the most used ten digital methods at present by the LEAs to prevent and detect crime. Every digital method is explained in short; thereafter, its features and effectiveness in crime prevention and detection are described and analysed. Digitalisation has impacted the functions of LEAs members in many ways, and the challenges they face in functioning digitally to prevent and detect crime are analysed by the researcher (Chapter III). Researcher has attempted to find ways forward (Chapter IV) to improve the effectiveness of digital methods.

**Recommendations**

The recommendations are set with a view to improving the use of digital tools by the Bangladesh Police for crime prevention and detection. The researcher's viewpoint and the respondents' insights are combined to create these recommendations.

**A Visual Roadmap or Action Matrix (Short, Mid, and Long Term)**

**Short-Term (0-1 Year)**:

- **Literature Review**: Analyse existing research on digitalisation and crime prevention globally and in Bangladesh.
- **Data Collection**: Gather preliminary data on current digital tools and crime stats in Bangladesh.
- **Stakeholder Interviews**: Engage law enforcement agencies, policymakers, and tech providers to understand current digital initiatives.

**Mid-Term (1-3 Years)**:

- **Case Studies**: Conduct detailed case studies of successful digital crime prevention initiatives in Bangladesh.
- **Assessment of Digital Tools**: Evaluate effectiveness of existing digital tools like CCTV, biometric systems, online reporting apps.
- **Capacity Building**: Develop training programs for law enforcement on digital tools and data analysis.

**Long-Term (3-5+ Years)**:

- **Impact Evaluation**: Measure the long-term impact of digitalisation on crime rates and detection efficiency.
- **Innovation and Technology Adoption**: Promote new technologies such as AI, big data analytics, and block chain for crime prevention.
- **Policy Recommendations**: Formulate comprehensive policies to enhance digital crime fighting frameworks.

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## Biography

**Superintendent of Police Sheikh Md. Abdullah Bin Kalam, psc, Bangladesh Police** was born on 31st October 1982 in Chuadanga. He obtained Bachelor of Pharmacy (B.Pharm) and Master of Pharmacy (M.Pharm) from University of Dhaka in 2004 and 2005 respectively. He further obtained Master in Police Science (MPS) from University of Rajshahi during one-year basic training in Bangladesh Police Academy, Sardah, Rajshahi in 2012.

Moreover, he completed MSc in Terrorism, Security and Policing degree from University of Leicester, England in 2020 under Government Scholarship. He has pursued MSS in Security Studies from Bangladesh University of Professionals (BUP) and obtained 'PSC' from Defence Services Command and Staff College (DSCSC) in 2024. He passed Secondary School Certificate Examination and Higher Secondary Certificate Examination from Pabna Cadet College in 1998 and 2000 respectively. He joined Bangladesh Civil Service with 29th BCS (Police) on 1st August 2011.

He has professional achievements as well. He achieved best probationer, best in academics and best shooter award from Honorable Prime Minister of Peoples Republic of Bangladesh during one-year basic training in Sardah, Rajshahi in 2011-2012. He obtained certificate of excellence award from Honorable Prime Minister of Peoples Republic of Bangladesh during Foundation Training Course (FTC) in Bangladesh Public Administration Training Course (BPATC) in 2014.

He served in different capacities in Bangladesh Police. He was a proud agent of Special Security Force (SSF) at Prime Minister's Office to provide security to the Honorable President and Honorable Prime Minister of the Peoples Republic of Bangladesh. He participated in UN peace keeping mission in Bamako, Mali (MINUSMA) as the platoon commander of Bangladesh Formed Police Unit (BANFPU). Apart from completing the mandatory basic courses, he also participated in various local and international training programs. He is now working in Bangladesh Police Academy, Sardah, Rajshahi.

# Robotics in Disaster Response: Enhancing Bangladesh Army's Role in Earthquake Crisis Management in the Capital City

*Colonel Sarker Md Iqbal Hossain, psc*

**Abstract**

The increasing frequency of natural disasters, particularly earthquakes, necessitates advanced mechanisms for disaster response. Dhaka, Bangladesh's capital, faces heightened vulnerability due to its high population density, unplanned urbanisation, and inadequate infrastructure. The Bangladesh Army plays a critical role in disaster management, but traditional methods often fall short in addressing the complexities of urban crises. Integrating robotics into disaster response offers a transformative solution, enhancing the Army's capabilities in tasks like debris removal, survivor location, and damage assessment. Bangladesh Army needs to adopt the latest robotic technologies to build and develop its earthquake response capacity. The research explores the application of robotics in earthquake response, focusing on Dhaka's unique challenges and proposing strategies for the Bangladesh Army to adopt robotic technologies. This study involved a qualitative research approach, combining a review of relevant literature with a structured survey conducted among Army personnel and disaster management professionals. The results showed strong support for robotics in enhancing earthquake response following phased adoption and capacity development to integrate robotics effectively.

## Introduction

The increasing frequency and severity of natural disasters globally demand robust mechanisms for disaster response and crisis management. Among these, earthquakes are particularly devastating, especially in densely populated urban centres like Dhaka, Bangladesh. Earthquakes pose a significant threat to densely populated cities like Dhaka. It's the capital city of Bangladesh, where rapid urbanisation, unplanned construction, and limited disaster preparedness exacerbate vulnerabilities. The aftermath of a severe earthquake could lead to widespread destruction, loss of life and critical challenges in search-and-rescue operations.

The Bangladesh Army plays a pivotal role in disaster management in the country, owing to its discipline, resources, and ability to mobilise quickly. In any such scenario, the Bangladesh Army is pivotal in managing disaster response efforts. However, traditional methods often struggle to cope with the complexities of modern urban crises.

The integration of robotics into disaster response strategies offers a transformative opportunity to enhance the Bangladesh Army's capabilities in managing earthquake crises. Advanced robotics can provide faster, safer, and more efficient solutions for tasks such as debris removal, locating survivors, and assessing structural damages. This technological approach aligns with global trends, where military and civilian agencies increasingly leverage robotics to augment human efforts in disaster scenarios.

This write-up explores the application of robotics in earthquake response, focusing on the challenges in Dhaka, and suggests strategies for the Bangladesh Army to integrate robotic technologies into their disaster management framework.

**The Context: Earthquake Risks in Dhaka**

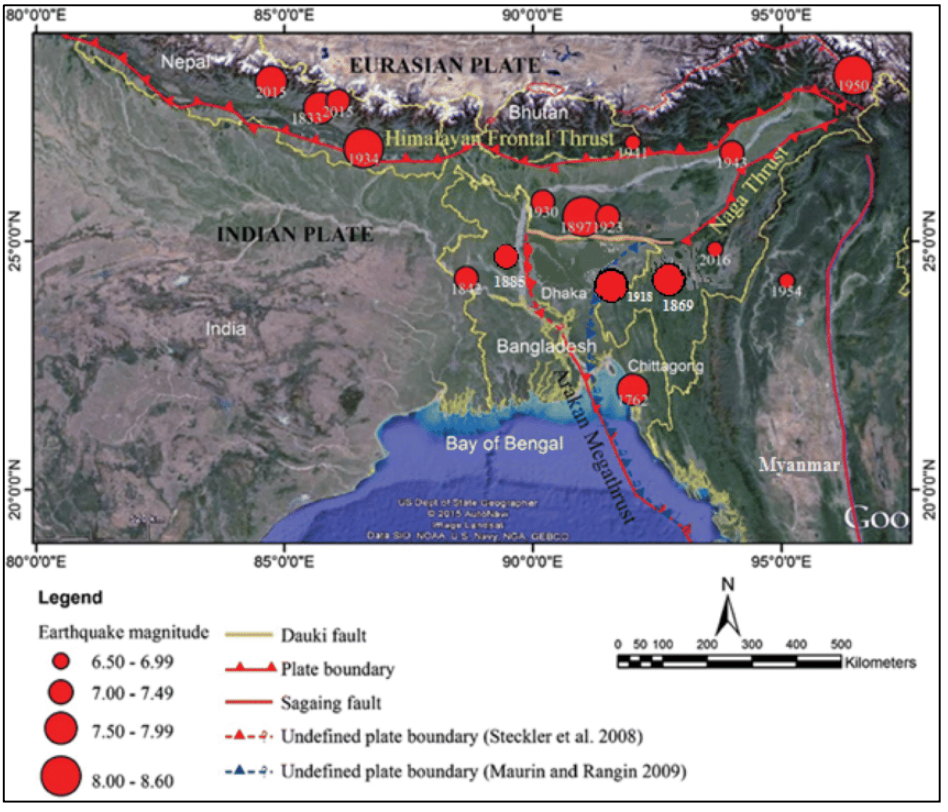
Dhaka, the bustling capital of Bangladesh, is one of the most densely populated cities in the world, with over 20 million residents packed into a metropolitan area of just 306 square kilometres (Ahmed et al., 2023). The city faces a high level of vulnerability to earthquakes due to its geographic location and socio-economic factors. Situated near the seismically active Indian and Eurasian tectonic plates, Bangladesh is prone to moderate to severe earthquakes. Although the country has not experienced a major earthquake in recent decades, historical records and geological studies indicate that the risk of a significant seismic event remains substantial. Figure 2 shows the recent and historical large earthquakes in the surrounding area of Bangladesh, where Dhaka city falls under a very vulnerable zone. For Dhaka, the implications of such an event are particularly alarming, given its rapid urbanisation, inadequate infrastructure and high population density. Earthquake hazard zoning of the Dhaka Metropolitan Megacity is shown in Figure-2.

The city's urban landscape is characterised by poorly enforced building codes, with a significant percentage of structures unable to withstand even moderate tremors. Unplanned construction, narrow roads and insufficient open spaces exacerbate the risk, making evacuation and rescue operations extremely challenging. Furthermore, Dhaka's critical facilities, including hospitals, communication hubs and transportation networks, are at risk of severe damage in the event of a powerful earthquake. Such disruptions would significantly hamper emergency response efforts and prolong recovery.

Compounding these risks is the lack of widespread public awareness and preparedness for earthquake disasters. Many residents are unaware of basic safety measures and the city's disaster response infrastructure is underdeveloped. The Bangladesh Army, a key player in national disaster management, often steps in to fill critical gaps. However, the scale and complexity of an earthquake's impact in a densely populated urban environment like Dhaka could overwhelm traditional response mechanisms. This underscores the urgent need to integrate advanced technologies, such as robotics, into

the disaster response framework to enhance efficiency and effectiveness in saving lives and mitigating damage.

**Figure-1: Recent and Historical Large Earthquakes in the Surrounding Area of Bangladesh**




Source: Asian Journal of Civil Engineering

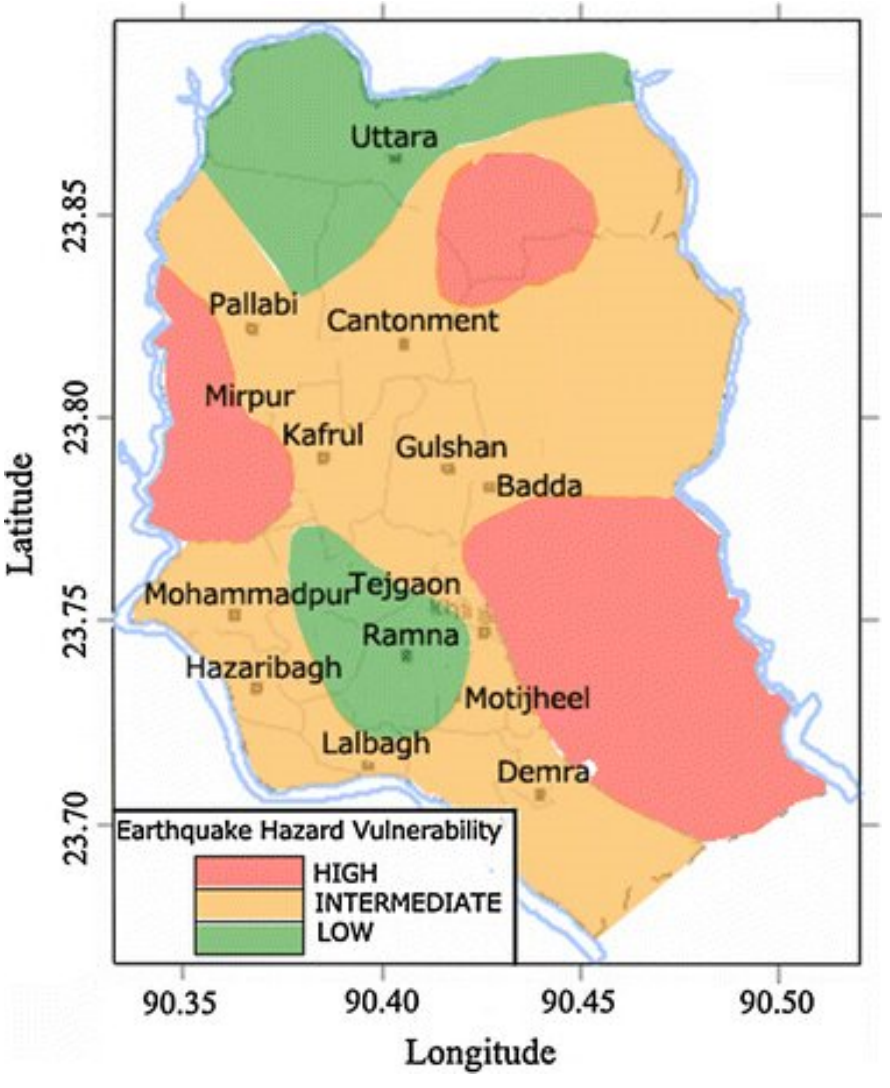
The following reasons make Dhaka city prone to disaster due to earthquakes:-

a. **High Population Density**: Dhaka's density exceeds 43,500 people per square kilometre, creating a highly congested urban environment (World Bank, 2022). Millions reside in informal settlements or poorly constructed buildings that are structurally incapable of withstanding seismic activity (Hossain et al., 2021). A significant earthquake in such a setting would result in catastrophic human and structural losses, overwhelming response systems.

b. **Unplanned Urbanisation**: Unregulated urban growth in Dhaka has led to the construction of buildings that often disregard safety codes. Studies indicate that 70% of Dhaka's structures are non-compliant with the Bangladesh National

Building Code (BNBC), making them prone to collapse during moderate-to-severe seismic events (Rahman & Kabir, 2022). The informal construction practices further compound risks, as builders often prioritise cost savings over safety.

**Figure-2: Earthquake Hazard Zoning of Dhaka Metropolitan Megacity**




Source: Natural Hazards Journal

c. **Inadequate Infrastructure**: Emergency response in Dhaka faces logistical challenges due to its congested road networks and limited access points (Khan, 2023). Fire stations, hospitals, and disaster relief facilities are sparse and

poorly equipped to handle large-scale emergencies. For instance, during the 2020 Banani building collapse, response delays caused by traffic congestion highlighted the urgency of adopting modern crisis management tools (Hossain et al., 2021).

d. **Limited Technological Integration**: Crisis management in Dhaka largely relies on traditional, manual methods, which delay response times and reduce operational efficiency. The absence of advanced tools such as drones, ground robots, and AI-driven systems hampers the ability to locate survivors in rubble or assess damage promptly. In contrast, countries like Japan and the U.S. have demonstrated the efficacy of robotics in reducing response times and improving operational outcomes (Murphy, 2014).

**Robotics in Disaster Response: A Focus on Earthquake Scenarios in Dhaka, Bangladesh**

Robotics, an interdisciplinary field combining artificial intelligence, engineering and sensor technology. The integration of robotics into disaster response represents a groundbreaking advancement, particularly in an earthquake-prone city like Dhaka. Robots equipped with advanced sensors, artificial intelligence, and autonomous navigation capabilities can address critical challenges in post-earthquake scenarios. They can be deployed to navigate through collapsed structures, locate trapped survivors, assess structural damage, and deliver essential supplies to inaccessible areas. In Dhaka, where dense urbanisation and narrow streets hinder traditional search-and-rescue operations, robotics offers a practical solution to overcoming these obstacles. Furthermore, their ability to operate in hazardous conditions reduces risks to human responders, allowing the Bangladesh Army to enhance its operational efficiency and safety during crisis management. By incorporating robotic technologies into its earthquake response strategy, the Army can not only save lives but also establish a model for innovative disaster management in a rapidly urbanising and disaster-prone region. The probable use of robotics is shown in Table-1.

The use of robotics in earthquakes is described below:-

a. **Search and Rescue Operations**: One of the primary applications of robotics in disaster response is in search and rescue operations. Earthquakes often result in collapsed buildings and extensive debris, making it challenging for human responders to locate and rescue survivors. Robots equipped with advanced sensors, such as thermal imaging cameras, LIDAR, and sensitive microphones, can effectively navigate through unstable structures to identify trapped victims. For instance, the deployment of robots like the PackBot and TALON in

earthquake-hit regions has demonstrated their ability to access confined spaces and provide real-time visual and auditory data to rescue teams (Murphy, 2014). These robots are designed to operate in environments too hazardous for humans, reducing risks to rescuers. In Dhaka, where unplanned urbanisation and dense population exacerbate earthquake risks, deploying such robots can significantly enhance the efficiency of search operations. Studies have shown that robots equipped with artificial intelligence (AI) can distinguish between human cries and environmental noise, further optimising rescue efforts (Chen et al., 2019). Additionally, swarm robotics, a concept where multiple robots work collaboratively, has been gaining traction in disaster scenarios. These robotic systems can cover large areas simultaneously, share data in real-time, and adapt to dynamic conditions. In the aftermath of an earthquake, deploying a swarm of robots in Dhaka could potentially save lives by reducing the time needed to locate survivors.

b. **Damage Assessment**: Assessing structural damage is another critical aspect of earthquake response, and robotics has proven invaluable in this domain. Unmanned aerial vehicles (UAVs) and ground robots are particularly effective in providing real-time data on damaged infrastructure. UAVs, equipped with high-resolution cameras and sensors, can rapidly survey affected areas, capturing images and videos that allow experts to evaluate structural integrity (Scherer et al., 2015). In Dhaka, where buildings often fail to adhere to earthquake-resistant standards, rapid damage assessment is crucial for prioritising rescue efforts and planning recovery operations. UAVs such as the DJI Phantom and Inspire series have been utilised in disaster-stricken regions to generate 3D maps and identify critical damage points (Zhao et al., 2021). These maps can guide decision-makers in allocating resources efficiently. Ground robots, on the other hand, are instrumental in inspecting the interiors of partially collapsed buildings. Equipped with robotic arms and sensors, they can detect cracks, measure vibrations, and evaluate the risk of further collapses. This information is vital for ensuring the safety of rescuers and for planning the stabilisation or demolition of unstable structures.

c. **Logistics and Supplies**: Logistics is often one of the most challenging aspects of disaster response, particularly in earthquake-affected urban areas where roads may be blocked or infrastructure severely damaged. Robotic systems can play a pivotal role in overcoming these challenges by delivering emergency supplies such as food, water, and medical aid to inaccessible areas. For instance, autonomous delivery robots and UAVs have been successfully deployed in disaster zones to transport essential supplies. During the Nepal earthquake in

2015, UAVs were used to deliver medical supplies to remote areas, showcasing their potential in bridging logistical gaps (Erdelj et al., 2017). In Dhaka, where densely populated neighbourhoods and narrow roads could hinder traditional supply chains, robotic systems could provide a lifeline for affected communities. Robots like Boston Dynamics' Spot have been used for similar purposes, capable of navigating uneven terrain and carrying payloads. In earthquake scenarios, such robots can ensure that survivors in the most isolated areas receive timely aid. Additionally, the integration of AI enables these systems to autonomously plan optimal delivery routes, further enhancing efficiency.

d. **Medical Assistance**: Robots can deliver medical supplies to trapped individuals or areas inaccessible to human responders. Autonomous vehicles equipped with life-saving equipment could stabilise injured victims until human responders arrive. This capability is particularly vital in Dhaka, where road congestion often impedes timely medical interventions (Khan, 2023).

e. **Clearing Debris**: Debris removal is a critical component of earthquake response, as it not only facilitates rescue operations but also reduces the risk of secondary disasters. Autonomous and semi-autonomous robots have emerged as invaluable tools in this regard. Robotic excavators and loaders, equipped with AI and computer vision, can operate in hazardous environments to clear debris without endangering human workers. For example, the Brokk series of demolition robots has been used in disaster zones to safely remove rubble and debris (Shen et al., 2020). In Dhaka, where debris from collapsed buildings could obstruct rescue efforts, deploying such robots could significantly expedite the recovery process. Moreover, robots with advanced grippers and manipulators can sort debris, separating hazardous materials from reusable ones. This not only aids in safe disposal but also contributes to environmental sustainability in post-disaster scenarios. Collaborative robots, or cobots, can work alongside human operators, enhance productivity and ensure safety in challenging environments.

**Table-1: Robotic Technologies for Earthquake Response**

| Category | Technology | Description |
|---|---|---|
| Search and Rescue Robots | Unmanned Ground Vehicles (UGVs) | Tracked or snake-like robots for navigating debris and locating victims. |
| | Drones (UAVs) | Aerial robots for visual assessments and mapping affected areas. |
| Structural Assessment Robots | Climbing Robots | Robots that scale walls or structures to assess damage in hard-to-reach places. |
| | Crawling Robots | Designed to inspect cracks and structural integrity inside debris or buildings. |
| | Sensor-equipped Robots | Use LiDAR, thermal cameras and seismic sensors for structural damage analysis. |
| Logistics and Material Transport Robots | Transport Robots | Deliver emergency supplies such as medical kits, food, or water to affected areas. |
| | Debris-clearing Robots | Autonomous vehicles for clearing debris or creating access pathways. |
| Communication and Coordination Robots | Communication Robots | High-bandwidth systems to establish networks in areas with destroyed infrastructure. |
| | Swarm Robots | Autonomous coordination for tasks like mapping or victim location. |
| Medical Assistance Robots | Medical Supply Robots | Deliver medical kits and perform basic assessments in hazardous areas. |
| | Autonomous Stretchers | Transport injured victims safely from disaster zones. |
| Inspection and Monitoring Robots | Seismic Activity Monitoring Robots | Monitor ongoing seismic activity and assess rescue site stability. |
| | Thermal imaging, aerial surveillance Drones | Locating trapped victims |
| | Integrated Sensors | Robots with deployable seismic sensors for real-time data collection. |
| Autonomous Mapping Systems | Swarm Drones or Robots | Create real-time 3D maps of affected areas to assist in rescue planning. |
| Ground Robots | Debris clearance, delivering supplies | Urban SAR operations |
| Amphibious Robots | Navigating flooded areas | Post-earthquake flooding |

Source: Author's self-construct

**Global Case Studies: Robotics in Action**

The application of robotics in disaster response has grown significantly over the years, providing critical assistance in areas such as search and rescue, damage assessment, and hazardous environment exploration. Robots are particularly valuable in scenarios where human responders face risks from radiation, unstable structures, or other hazardous conditions. Three significant instances where robotics were effectively utilised: the 2011 Tōhoku Earthquake and Tsunami in Japan, the 2015 Nepal Earthquake, and the 2017 Mexico City Earthquake.

a. **Tōhoku Earthquake and Tsunami, Japan (2011)**: The devastating Tōhoku earthquake and tsunami in March 2011 severely impacted northeastern Japan, causing extensive loss of life, infrastructure damage, and triggering a nuclear disaster at the Fukushima Daiichi Nuclear Power Plant. Robots played a pivotal role in response efforts, especially in areas deemed too hazardous for humans. One notable example is the use of **Quince robots**, developed collaboratively by Chiba Institute of Technology, Tohoku University, and other institutions. These robots were designed to operate in environments with high radiation and structural instability. Deployed inside the Fukushima Daiichi nuclear plant, Quince robots gathered critical data, such as radiation levels and structural conditions, allowing engineers to plan stabilisation and decommissioning efforts without endangering human lives (Murphy et al., 2012). Similarly, **PackBots**, developed by iRobot Corporation, were used to assess radiation levels and carry out reconnaissance in areas inaccessible to humans. Equipped with cameras, sensors, and other tools, these robots identified hazards and provided real-time information, greatly enhancing situational awareness during the disaster response (Jacoff et al., 2013). These robotic interventions underscored the importance of technological innovation in mitigating disaster impacts and protecting human responders.

b. **Nepal Earthquake (2015)**: The Nepal Earthquake in April 2015 caused widespread devastation, particularly in the Kathmandu Valley. With roads and infrastructure severely damaged, international rescue teams relied heavily on robotics to expedite response efforts. Unmanned aerial vehicles (UAVs), or drones, played a central role in mapping affected areas and prioritising rescue operations. UAVs were utilised to conduct aerial reconnaissance, capturing high-resolution images of damaged structures and inaccessible regions. These images were processed to generate detailed maps that highlighted the extent of destruction. The use of UAVs significantly improved resource allocation, enabling rescuers to focus on areas with the greatest need (Meier, 2015).

Additionally, drones were employed to deliver medical supplies to remote areas, showcasing their versatility in disaster scenarios. This application demonstrated the effectiveness of UAVs in overcoming logistical challenges and improving the efficiency of disaster response. The Nepal Earthquake marked a turning point in integrating drone technology into global humanitarian efforts.

c. **Mexico City Earthquake (2017)**: On September 19, 2017, a powerful earthquake struck Mexico City, collapsing buildings and trapping many people under rubble. In the critical hours following the disaster, robots, including drones and specialised search-and-rescue machines, were deployed to assist in locating survivors. Drones equipped with thermal imaging cameras and sensors provided aerial surveillance, identifying heat signatures indicative of trapped individuals. Ground-based robots, such as snake-like machines, navigated through narrow crevices to deliver water, assess survivor conditions, and relay real-time footage to rescue teams. These robots played a vital role in supplementing human efforts, particularly in areas deemed too dangerous for manual entry (García et al., 2018). The deployment of these robotic systems highlighted their potential in life-saving operations and emphasised the need for continued research and investment in robotic technology for disaster response. The experience from Mexico also revealed the importance of pre-disaster preparation and training in deploying robotic systems effectively during emergencies.

**Potential Applications of Robotics in Dhaka**

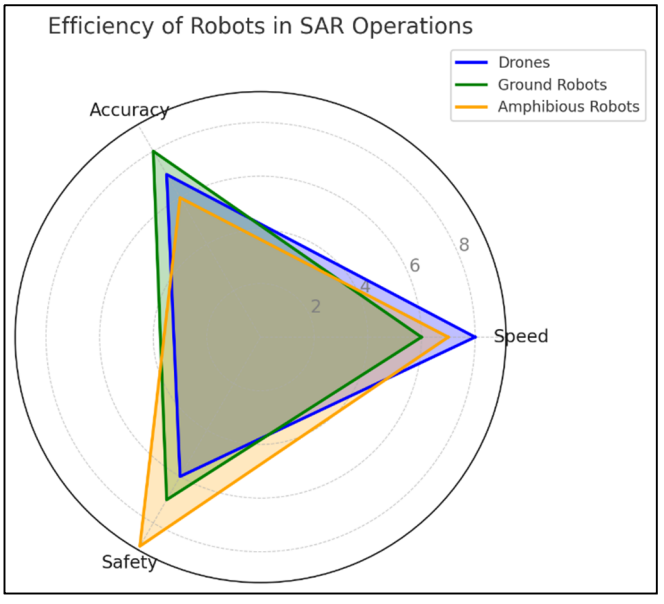
In a densely populated and earthquake-prone city like Dhaka, robotics could revolutionise disaster response and recovery. Search-and-rescue robots equipped with advanced sensors and cameras can navigate through rubble, identifying trapped individuals in areas inaccessible to human responders. Drones can provide real-time aerial assessments, helping to map damage zones and prioritise aid distribution. Robots designed for debris removal could clear pathways more efficiently, enabling quicker access for medical teams. Additionally, robotic exoskeletons could assist rescue workers in lifting heavy debris, reducing fatigue and injury risks. Autonomous systems can also play a critical role in restoring essential services, such as inspecting and repairing damaged infrastructure like bridges, pipelines, and electrical grids. By integrating robotics into disaster management strategies, Dhaka could significantly enhance its capacity to respond to and recover from earthquake-related emergencies.

a. **Urban Search and Rescue (USAR)**: Urban Search and Rescue (USAR) operations are often the most challenging aspect of disaster response due to collapsed structures and restricted access to survivors. Deploying robotics can overcome these barriers effectively.

(1) **Snake Robots for Narrow Spaces**: Snake-like robots, equipped with cameras and sensors, can manoeuvre through narrow crevices in collapsed buildings to locate trapped victims (Yim et al., 2012). These robots are designed to navigate complex terrains that are otherwise inaccessible to human responders. Given Dhaka's high population density and the likelihood of pancake-style building collapses during an earthquake, snake robots can significantly enhance search capabilities.

(2) **Drones for Zone Mapping**: Aerial drones can quickly map disaster zones, providing real-time data on affected areas and identifying priority locations for rescue operations. Studies have shown that drones equipped with thermal imaging can detect heat signatures of survivors buried under rubble, facilitating faster rescue efforts (Saska et al., 2016). For the Bangladesh Army, integrating drones into their disaster response toolkit can improve situational awareness and optimise resource allocation. Typically excel in speed due to their ability to bypass ground obstacles, but their accuracy and safety may be slightly lower due to limitations in payload and endurance.

**Figure-3: Comparative Effectiveness of Robotic Technologies in Earthquake Scenarios**




Source: Author's self-construct

b. **Communication Enhancement**: In the aftermath of an earthquake, traditional communication networks are often disrupted, complicating coordination efforts. Robotic communication relays can establish temporary networks to bridge this gap.

(1) **Robotic Communication Relays**: Autonomous robots can serve as mobile communication towers, establishing temporary networks in areas where infrastructure has been compromised (Meng et al., 2015). These robots can relay critical information between rescue teams, command centres, and survivors. These robots are often equipped with cameras, microphones, and speakers, allowing them to locate survivors and establish two-way communication between trapped individuals and rescue teams. In Dhaka, where earthquake-induced infrastructure failures are a significant risk, deploying such systems would ensure uninterrupted communication during rescue missions.

(2) **Use of Drones in Information Relay**: Drones play a vital role in communication enhancement after earthquakes. They can fly over inaccessible areas, carrying communication equipment to restore connectivity. Drones equipped with cameras and sensors can transmit real-time visuals and data to command centres, aiding decision-making.

c. **Medical Assistance**: Providing immediate medical assistance is crucial in disaster scenarios to reduce fatalities. Robotics can play a transformative role in delivering medical aid to survivors.

(1) **Robots Equipped with First Aid Supplies**: Medical robots can navigate hazardous environments, delivering first aid kits, water, and other essential supplies to trapped victims (Jung et al., 2020). Some advanced robots are also capable of performing basic medical procedures, such as administering injections or stabilising fractures. For the Bangladesh Army, equipping robots with medical supplies would enhance their ability to provide timely assistance, especially in inaccessible areas. Drones are effective in delivering medical supplies, such as first aid kits, medicines, and blood, to remote or inaccessible locations.

(2) **Autonomous Surgical Robots for Emergency Care**: In extreme scenarios where human surgeons are unavailable, autonomous or semi-autonomous surgical robots can perform basic emergency procedures. These robots use advanced AI to make precise incisions and manage critical injuries under the supervision of remote specialists.

d. **Structural Analysis**: Secondary collapses pose a significant threat to both survivors and responders during earthquake rescue operations. Robotics can mitigate this risk through real-time structural assessments.

(1) **Ground Robots for Stability Assessment**: Known for high accuracy in navigating and analysing environments, with moderate speed and safety, as they are designed to interact closely with structures and debris. Ground robots equipped with LiDAR and other sensors can analyse the structural integrity of buildings, identifying risks of further collapses (Murphy et al., 2014). These assessments can guide rescue teams, ensuring their safety while prioritising secure areas for operations. In Dhaka, where unplanned urbanisation has resulted in numerous poorly constructed buildings, structural analysis robots would be invaluable for disaster response teams.

**Challenges in Implementing Robotics for Disaster Management in Dhaka**

Despite the promise robotics holds for disaster management, Dhaka's unique socio-economic and infrastructural conditions present significant challenges. Key challenges include cost, training, technological limitations, and inadequate infrastructure. Each of these challenges is analysed in detail below.

a. **Cost: Financial Barriers to Implementation**: Robotics systems, particularly those designed for disaster management, are capital-intensive. The upfront cost of acquiring advanced robots and their associated technologies can range from hundreds of thousands to millions of dollars. For example, specialised robots like the "PackBot" for search and rescue missions cost approximately USD 150,000 per unit. These costs include:

(1) **Hardware acquisition**: Manufacturing and importing advanced robotic systems.

(2) **Software licensing**: High costs for proprietary software used to operate robots.

(3) **Maintenance and upgrades**: Ongoing expenses to keep robots operational and up-to-date.

Bangladesh's budget constraints in defence and disaster management further complicate the large-scale adoption of these technologies. According to a 2023 report on South Asian defence spending, less than 0.5% of Bangladesh's GDP is allocated to defence, limiting the scope for non-essential technology acquisition.

b. **Training: Skill Development for Robotics Operations**: Effective use of robotics requires skilled personnel capable of operating, troubleshooting, and maintaining these systems. The Bangladesh Army would need extensive training programs, encompassing:

(1) **Operational training**: Familiarisation with robotics controls, sensors, and functionalities.

(2) **Technical maintenance**: Skills in diagnostics, repairs, and software updates.

(3) **Emergency deployment**: Rapid deployment strategies for real-time disaster scenarios.

The lack of specialised robotics training centres in Bangladesh is a significant barrier. Establishing local training facilities or sending personnel abroad for training would incur additional costs and time. A 2021 study on disaster robotics emphasised that improper training can reduce the efficiency of robotic systems by up to 30% during emergencies.

c. **Technological Limitations: Local Expertise and Development Gaps**: Bangladesh's robotics industry is still in its infancy, with limited research and development capacity. Challenges include:

(1) **Scarce expertise**: Few universities or institutions in Bangladesh offer advanced robotics programs, resulting in a shortage of skilled engineers.

(2) **Dependency on imports**: The reliance on foreign technology increases costs and delays in acquiring essential components.

(3) **Limited customisation**: Imported robots may not be optimised for Dhaka's unique urban environment, requiring further adaptation.

For example, robots designed for flat, open spaces might struggle in Dhaka's densely packed neighbourhoods and narrow alleys. A report from the International Federation of Robotics highlights the importance of local customisation to ensure operational efficiency.

d. **Infrastructure: Barriers to Deployment in Dhaka**: Dhaka's infrastructure poses significant challenges to the effective deployment of robotics in disaster scenarios. Key issues include:

(1) **Urban density**: With over 20,000 people per square kilometre, Dhaka is one of the most densely populated cities globally. Navigating such crowded spaces can be challenging for robots.

(2) **Poor road conditions**: Roads damaged during an earthquake may hinder robot mobility.

(3) **Lack of communication networks**: Robots often rely on robust wireless networks for remote control and data transmission. However, Dhaka's network infrastructure may not withstand the impact of a major earthquake.

**Recommendations for the Bangladesh Army**

To enhance their earthquake response capabilities, the Bangladesh Army should consider the following strategies:

a. **Capacity Building**: To establish a robust foundation for robotics integration, the Bangladesh Army must invest in capacity-building initiatives. This involves collaboration, training, and fostering innovation within the armed forces.

(1) **Establish partnerships with universities and research institutions for robotics R&D**: Partnerships with local and global academic institutions can facilitate innovation in earthquake-resilient robotic systems. These collaborations can result in customised solutions for urban search-and-rescue (SAR) operations.

(2) **Conduct training programs for soldiers in robotic operations and maintenance**: Training soldiers in using and maintaining robots ensures operational readiness. Such programs could also include workshops on piloting drones, controlling ground robots, and understanding AI-driven disaster response mechanisms.

b. **Procurement and Deployment**: To operationalise robotics effectively, the Bangladesh Army must prioritise the procurement and deployment of diverse robotic technologies tailored for disaster scenarios.

(1) **Invest in a mix of drones, ground robots and amphibious robots**: Drones equipped with thermal imaging can locate survivors under rubble, while ground robots with manipulators can clear debris. Amphibious robots can navigate through flooded areas to provide critical assistance.

(2) **Establish dedicated robotic units within the disaster response teams**: Specialised units equipped with robotic systems would enhance the

Army's ability to respond quickly and systematically to earthquake-induced crises.

c. **Collaboration**: Global collaboration can open avenues for accessing cutting-edge technologies and adapting global best practices.

(1) **Partner with international organisations and private companies:** Partnerships with technology giants and humanitarian organisations can provide access to advanced robotic tools, fostering knowledge exchange and resource sharing.

(2) **Learn from global best practices in robotic disaster response**: Case studies from countries like Japan and the United States, which have successfully integrated robotics in disaster management, can offer valuable insights for Bangladesh.

d. **Policy and Funding**: Policy frameworks and funding play a pivotal role in sustaining the integration of robotics in disaster management.

(1) **Advocate for government funding to support robotics integration**: Dedicated budgets for acquiring, maintaining, and upgrading robotic systems would ensure long-term preparedness. Advocacy efforts should emphasise the cost-effectiveness and life-saving potential of such investments.

(2) **Develop policies for the ethical use of robots during disasters**: Guidelines should address issues like data privacy, autonomy, and human oversight in robotic operations to maintain public trust.

e. **Awareness and Drills**: Awareness campaigns and drills are essential to ensure that both civilians and responders are familiar with robotic systems.

(1) **Conduct public awareness campaigns**: Informing civilians about the capabilities and limitations of robotic systems can help reduce panic and misinformation during disasters.

(2) **Organise mock drills**: Regular drills involving robotic systems will enhance operational efficiency and identify potential areas for improvement.

## Conclusion

Robotics has revolutionised disaster response, offering innovative solutions to challenges posed by earthquakes. From search and rescue operations to damage assessment, logistics, and debris clearance, robots have proven to be indispensable tools in mitigating the impact of disasters. In Dhaka, where the risk of earthquakes is

compounded by unplanned urbanization and population density, integrating robotics into disaster response strategies could save lives and accelerate recovery.

The integration of robotics into the Bangladesh Army's disaster response framework has the potential to revolutionize earthquake management in Dhaka. By leveraging advanced technologies, the Army can enhance its efficiency, save lives, and reduce risks to human responders. However, realizing this vision requires addressing financial, technological, and logistical challenges through strategic planning, capacity building, and international collaboration. As Dhaka faces an uncertain seismic future, adopting robotics is not just an innovation but a necessity for safeguarding lives and ensuring resilience.

However, to fully harness the potential of robotics, investments in technology, training, and infrastructure are essential. By addressing these challenges and embracing advancements in robotics, Bangladesh can build a more resilient disaster response system, ensuring the safety and well-being of its citizens in the face of future earthquakes.

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## Biography

**Colonel Sarker Md Iqbal Hossain, psc** was born on June 24, 1975, in Dinajpur. He was commissioned into the Corps of Engineers of the Bangladesh Army on June 12, 1997, with the 36th BMA Long Course. A graduate of the Defence Services Command and Staff College, Mirpur, he also earned a Bachelor of Science degree in Civil Engineering from the Military Institute of Science and Technology (MIST), alongside completing other mandatory professional courses. Throughout his career, Colonel Iqbal has served in numerous units and institutions of the Bangladesh Army in various capacities. His key appointments include serving as the Director of Students' Welfare at MIST, Instructor Class "A" in the Engineering Faculty at the Bangladesh Military Academy, and Staff Officer-1 (Admin) at the Directorate of Works and Chief Engineer (Army) in the Army Headquarters. He has also contributed to international peacekeeping efforts significantly, participating in United Nations missions in Sudan for humanitarian demining and South Sudan with the Bangladesh Engineering Construction Contingent. Colonel Iqbal is happily married and is a proud father of two daughters.

# Critical Thinking: An Essential Attribute of Military Leadership

*Commander Md. Tasbir Hossain, (E), NPP, psc, BN*

**Abstract**

Critical thinking is the skilful analysis of facts to form a judgement. Critical thinking allows a human to judge between right and wrong. It is also a fundamental skill for military leadership. It enables military leaders to analyse situations, evaluate information, and make informed decisions. Critical thinking is not a new concept; rather, it has its roots in the mid-late 20th century. There are various critical thinking skills in military leadership. Analysis, communication, creativity, open-mindedness, extrapolation, and inquisitiveness are key critical thinking skills of military leadership. The importance of critical thinking in the military can be seen from the perspectives of decision-making, developing relationships, and better problem-solving. There are also barriers to critical thinking. Egocentric decision-making, group dependency, cultural conditioning, and resistance to change are some of the potential hindrances to critical thinking. In the progressing world of digital media and information warfare application and implications of critical thinking should be critically viewed in Bangladesh's military forces. Academic training, promoting open dialogue, creative tasking, and recognising talent can be some of the potential tools for fostering critical thinking in the Bangladeshi Armed Forces. Critical thinking is not just a cognitive talent but an essential habit. It must be embedded in military leadership to enrich decision-making and reach organisational goals.

## Introduction

A human's capacity for complex and refined thinking distinguishes a human from other species. Critical thinking allows a human to judge between right and wrong. In today's world, where data is like a limitless buffet of information to consume, fake news is basically the junk food of this information buffet, which seduces with its appealing appearance and taste. One can filter out authentic information from the abundance of misinformation only if he critically views it. In the field of studying human behaviour, critical thinking is one of the buzzwords in the present-day context. Critical thinking is defined as a disciplined process of competently conceptualising, analysing, applying, synthesising, and/or assessing information (Scriven & Paul, 1987). The information can be gathered from or generated by observation, experience, reflection, reasoning, or communication.[1] According to Dr. Richard Paul and Dr. Linda Elder, critical thinking

is the art of analysing and evaluating thinking with a view to improving it.[2] The simplest definition says critical thinking is the skilful analysis of facts to form a judgement.

Critical thinking is vital in the military since military professionals deal with a variety of difficulties. Whether in battle or peace, a military leader must make decisions quickly and decisively. A leader with this skill does not just make decisions; he makes the right ones fast. He can assess the prevailing situation and determine the best course of action. Historical leadership analyses illustrate how this skill helped commanders to achieve success and how its deficit caused disasters. Hence, acquiring this skill and practising it in the right form is of paramount importance for a military leader. However, the concept of critical thinking is a less-understood topic in military organisations of Bangladesh. Moreover, any organisational approach to promoting this skill amongst military leadership is also not very evident. In the current and future digital era, information warfare will undoubtedly dominate Bangladesh's military domain, whether at war or in peace. As a result, discussions on its idea, application, implications and eventual implementation in Bangladesh's military forces are extremely important.

This paper first provides a brief history of the concept. Then it analyses a recognised model for critical thinking skills for a better assimilation of this concept. Thereafter, some critical thinking skills have been highlighted from a military leadership perspective, followed by some important outcomes in the military. It also entails certain barriers to critical thinking. Gradually, the paper delves into Bangladesh Armed Forces perspectives and finally, it endorses some steps for the Bangladesh Armed Forces.

## A Brief History of Critical Thinking

The concept of critical thinking is not new. The concept dates back to the mid-to-late twentieth century. 2500 years ago, Socrates, the famous Greek philosopher, established this concept first.[3] The concept has an intellectual foundation. Socrates emphasised the need to ask probing questions. He believed that systematic questioning could lead to fruitful answers. His method of questioning is known as "Socratic Questioning" and even today, it is the most widely used critical thinking teaching tool.

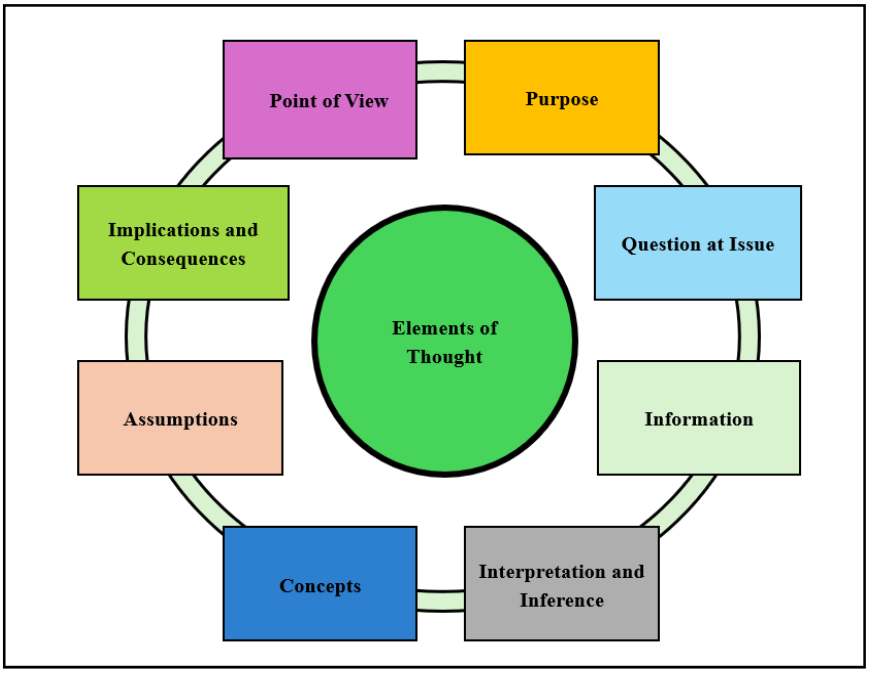
Plato, another Greek philosopher who was a student and admirer of Socrates, fully embraced his technique. He also emphasised that things aren't always as they seem. The requirement to think systematically stems from this ancient Greek culture.[4]

## Critical Thinking Model

There are several critical thinking models. While several models exist, the Paul-Elder model can be considered for its practical application in military leadership. It describes clear elements of thought, which consist of Purpose, Question at Issue, Information, Interpretation, Concepts, Assumptions, and finally, Implications and Consequences.[5]

These elements are not linear steps; rather, they are interconnected and interdependent elements. This research takes an endeavour to analyse the Paul-Elder model from a military point of view.

**Figure-1: Critical Thinking Model**



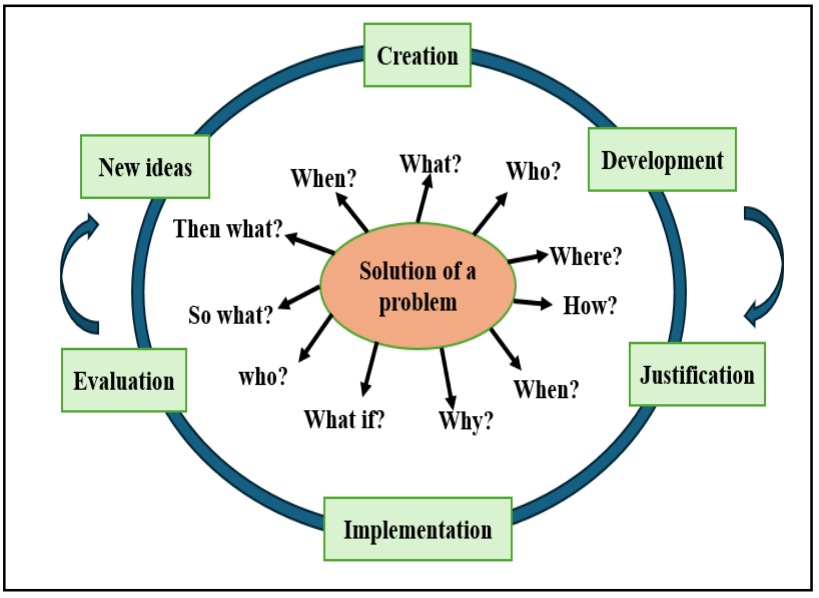

Source: Author's self-construct based on Richard Paul & Linda Elder (2010)

a. **Purpose**: Every argument has a purpose or goal. According to Paul & Elder, a critical thinker is to define the goal or purpose clearly and precisely.[6] Again, goals should be meaningful and attainable. A military commander must determine his clear objectives before commencing a mission. Operation Desert Storm (1991) can be brought here as an example. During this operation, coalition forces set clear strategic objectives, and the objectives were to liberate Kuwait and degrade Iraqi military capabilities.[7] The articulated objectives mobilised the coalition forces effectively and led to a decisive victory. That is how a clear purpose sets the stage for subsequent endeavour and the mission success.

b. **Question at Issue**: According to the Paul-Elder model, a critical thinker should raise questions about the issue to know the problem deeply to seek solutions. The question should be specific, critical and thought-provoking. For instance, instead of asking, "How can we defeat insurgents?", which is vague, a more refined question could be, "What kind of kinetic and non-kinetic means can be applied, taking the help of local support and avoiding collateral damage?"

Though not part of the Paul-Elder model, Joseph Allison of the University of Plymouth, United Kingdom, demonstrated how continued questioning leads to a solution to the problem.[8] The answers to the questions lead to the development of the problem, the solution, the execution of techniques, the evaluation of the solution, and finally the generation of new ideas. Here questioning is a dynamic process. Continuous questioning promotes deeper understanding of the problem and leads to more effective solutions.

**Figure-2: Questioning Framework**




Source: Author's self-construct, adapted from Joseph Allison (2010, p.550)

c. **Point of View**: According to the Paul-Elder model, a problem should be viewed from a variety of perspectives and directions before concluding. During the Inchon Landing (1950), initially, the U.S. and the South Korean forces were in a defensive posture against North Korean advances. On the other hand, the North Korean forces tried to push the coalition forces out of the Pusan Perimeter. The North Korean forces analysed the tidal conditions and the narrow approaches of Inchon and found it difficult for the coalition forces to make an amphibious landing. General Douglas MacArthur analysed the point of view of North Korean leadership and thereby found an opportunity to exploit their lack of defences in the region. General MacArthur changed his mind. He decided on a bold amphibious landing at Inchon.[9] The landing (September 15, 1950) achieved elements of surprise, and finally, it was a massive success. Hence, analysing points of view may open opportunities for a leader. However, the outcome of analysing a point of view also depends on the viewer who is judging.

d. **Information**: Data, information, and evidence are the foundations of all reasoning. One should stick to the data he has gathered to back up his claim. He should also look for evidence that challenges his proclamation or perspective. The example of Inchon Landing can be cited here again. Before executing the operation, MacArthur relied on detailed intelligence reports, hydrographic surveys, and enemy movement assessments. Despite being heavily opposed by a senior staff, the critical evaluation of intelligence allowed him to justify the amphibious landing.[10] A leader should use caution when filtering data to ensure that only correct and relevant information emerges.

e. **Interpretation and Inference**: Evaluation of data is important with correct and meticulous analysis. In the same context of Inchon Landing, MacArthur did not merely rely on raw intelligence data. He interpreted the available information to select the best course of action. MacArthur assessed that the North Korean army heavily focused on the Pusan Perimeter. He also inferred that North Korean leadership would not expect an attack from the West. Based on this interpretation, he argued that the element of surprise with superior naval and air support would overcome the geographical challenges.[11] His inference proved correct and led to a decisive victory. Thus, one must evaluate data and facts carefully to conclude.

f. **Concepts**: According to the Paul-Elder model, all reasoning must be justified in accordance with current laws and practices. In the same context of the Inchon Landing, General Douglas MacArthur adhered to military doctrines and operational concepts during the landing (1950). His operation followed the legal and procedural norms of warfare, including UN mandates and international military regulations.[12] By respecting these established strategic concepts, MacArthur could justify his plan and mission. Understandably, according to this model, there should be no conclusion that deviates significantly from prevailing rules, concepts, or laws.

g. **Assumptions**: A good argument should be based on good assumptions. However, each assumption must be justified critically. During World War II, Hitler assumed that the Soviet Union would collapse quickly under the pressure of a German invasion. Thereby, the Germans launched Operation Barbarossa in June 1941. Instead of collapsing, the Soviet Union mobilised quickly. The faulty assumption of the Soviet Union's strength led to a prolonged war on the eastern front. Finally, it contributed to Germany's costly defeat.[13] Hence, the said critical thinking model suggests setting correct assumptions before making a decision.

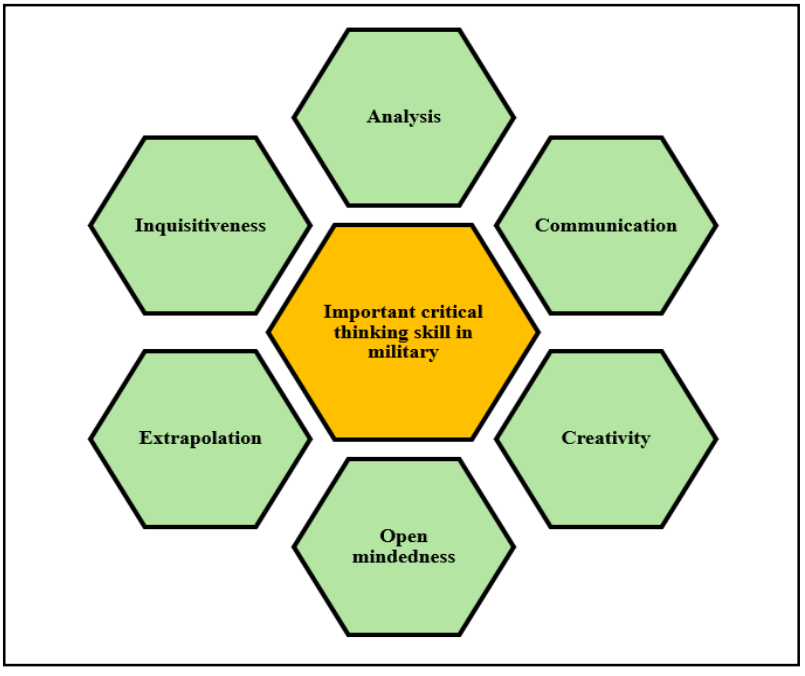
h. **Implications**: The Paul-Elder model relates it to the end outcome of all the efforts. It says that every decision leads to its consequences. The context of the

Vietnam War can be cited here, highlighting its enormous consequences. The U.S. leadership decided to escalate military involvement in Vietnam. Unfortunately, the executed decision led to a protracted guerrilla conflict. Moreover, it drew huge international condemnation. It also intensified anti-war sentiments within the U.S., and finally, it lost the public support for the war. Ultimately, the U.S. withdrew troops because of military escalation.[14] The example justifies that a good critical thinker should trace all good implications and avoid all bad consequences.

**Important Critical Thinking Skills Required in the Military**

The Paul-Elder model highlights some clear elements of thought for a critical thinker. Such elements can be generated by a military leader if he possesses the right skills to apply them. There is no single standard for the critical thinking process. Amongst many, analytical skills, communication, creativity, open-mindedness, extrapolation and inquisitiveness can be analysed as key critical thinking skills for military leadership. Concentrating on them, one may develop extraordinary critical thinking skills.

**Figure-3: Important Critical Thinking Skill for Military Leadership**




Source: Author's self-construct

a. **Analytical Skill**: It is the ability to break down complex information into smaller parts. A smart leader will always review and analyse accessible facts.

Before the Operation Overlord (D-Day), in 1944, General Dwight D. Eisenhower and his staffs carried out extensive analysis of Allied strengths and weaknesses. He assessed superior air power, vast logistical resources and the ability to deceive the Germans as the Allied strengths. On the other hand, the difficulty of coordinating a large multinational force and the vulnerability of troops during the initial amphibious landings were considered Allied weaknesses. Eisenhower exploited the opportunities, such as using intelligence to identify gaps in German defences. Furthermore, he considered adverse weather and heavily fortified German positions on the beaches as perceived threats. This thorough analysis steered effective planning and the accomplishment of the largest amphibious operation in history.[15] A good military leader should adopt such a systematic approach to assess the strengths, weaknesses, opportunities, and threats of any given problem. This is how, a conclusion can be reached by meticulous planning with in-depth analysis.

b. **Communication Skills**: It is the ability to convey ideas, plans, and decisions clearly and effectively to others. A military leader must communicate his views with his men and peers. He must be able to explain his ideas or share his thoughts with them successfully. It is not always as simple as it appears. It requires skill, which is nothing but communication skill. General Norman Schwarzkopf had this innate skill, and he used to practise it. During the Gulf War, he efficiently communicated the objectives and difficulties of Operation Desert Storm to his coalition partners. It ensured integrated action among various forces.[16] Communication is critical for propagating ideas and exchanging opinions. It aids in speedy problem-solving in all operating environments.

c. **Creativity**: Creativity is the ability to think outside the box and develop innovative solutions to problems. A solution might originate from several cognitive processes. A non-critical thinker will always seek a methodical or traditional solution. A critical thinker, on the other hand, will seek out new ideas. All of this necessitates a creative mind and vision. "Winners don't do different things; they do things differently", Shiv Khera wrote in one of his books, and this always goes true.[17] During the Falkland War, British forces transformed the civil trawlers into minesweepers to mitigate resource shortfalls. Flexibility and conceptualisation are two qualities that go hand in hand with creativity.

d. **Open-Mindedness**: Open-mindedness is the ability of a person to consider multiple perspectives and remain objective in decision-making. A critical thinker requires an open mind. When making a choice, a leader should have no predetermined ideas. It will surely disrupt the analysis process and lead to an error. Admiral Isoroku Yamamoto’s plan for the attack on Pearl Harbour showed

an open-minded assessment of possible counteractions.[18] Without an open mind, a leader cannot think of such an offensive, which is sometimes a prerequisite for achieving success.

e. **Extrapolation**: Extrapolation is the ability to draw conclusions and forecast outcomes from given data. Information is not always accompanied with implications. It is critical to develop deductions based on the information provided. Admiral Chester W. Nimitz and his intelligence team demonstrated exceptional extrapolation abilities during the Battle of Midway of World War II. He and his team analysed intercepted Japanese communications very efficiently.[19] Based on previous intelligence and careful inference, he could very well predict Japan's next move and prepare for a decisive battle, resulting in a pivotal victory in the Pacific. When analysing a scenario, the capacity to link various information and predict possible outcomes helps a commander to plan their further steps. It is also worth mentioning that not all conclusions are correct. Thus, a leader needs to adopt a careful extrapolation before making a decision.[20]

f. **Inquisitiveness**: Inquisitiveness means to ask probing questions and seek deeper understanding of problems. In the military, a commander should not judge based on his preconceived ideas. Inquisitiveness aids in determining the probabilities. General Dwight D. Eisenhower, the Allied supreme commander, is well-known for his inquisitive nature. His inquisitiveness was critical to the success of Operation Overlord (D-Day) during WW II. While D-Day preparations were underway, he frequently questioned various components of the plan to guarantee the best possible decision-making. His inquisitiveness regarding logistics, timing, and coordination ensured detailed planning of all facets meticulously. This resulted in an extraordinary decision-making process for the historic landing and led to great success.[21] Inquisitiveness is a paramount skill which provides a direct link to a leadership role.

g. The following table depicts the key critical thinking skills in military briefly highlighting its definition and significant attributes:

**Table-1: Important Critical Thinking Skills in Military Leadership**

| Skills | Definition | Attributes |
|---|---|---|
| **Analysis** | The ability to break down complex information into smaller parts. | • Conducting SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis for mission planning.<br>• Evaluating intelligence reports, terrain data, and enemy capabilities.<br>• Identifying patterns in enemy behavior to predict future actions. |
| **Communication** | The ability to clearly and effectively convey ideas, plans, and decisions to others. | • Delivering clear and concise mission briefings to subordinates.<br>• Facilitating open and transparent communication within the team.<br>• Coordinating effectively with coalition partners. |
| **Creativity** | The ability to think outside the box and develop innovative solutions to problems. | • Developing new tactics or technologies to counter enemy strategies. |
| **Open Mindedness** | The ability to consider multiple perspectives and remain objective in decision-making. | • Accepting perspective of others and opposing viewpoints.<br>• Being flexible to review plans based on new intelligence or changing circumstances. |
| **Extrapolation** | The ability to draw inferences and predict outcomes based on available information. | • Analyzing intelligence data on enemy to predict enemy movements.<br>• Using historical data and doctrines to anticipate future scenarios. |
| **Inquisitiveness** | The ability to ask probing questions and seek deeper understanding of problems. | • Challenging assumptions and traditional approaches to problem-solving.<br>• Asking "why" and "how" to uncover root causes of issues. |

Source: Author's self-construct

## Outcome of Critical Thinking in Military Leadership

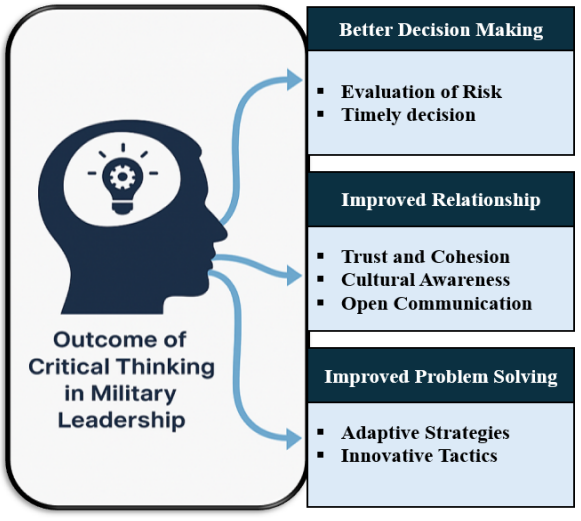
The culture, ethnicity, religion, command and operational environments of the military are all diverse. The implications or outcome of critical thinking in the military can be seen in the following ways:

a. **Better Decision Making**: One of the outcomes of critical thinking is better decision-making. It helps a commander to evaluate the risks quickly and make a timely decision. Making smart decisions is, undoubtedly, one of the most crucial attributes of military leadership. Crossing 8000 miles in the Atlantic to regain the Falkland Islands from Argentines – cannot it be a glorious example of decision-making? If the British Prime Minister Margaret Thatcher had not taken bold decisions that day, the British map could have been in a different shape. Only Margaret Thatcher's exceptional critical thinking abilities as a visionary strategic leader made it possible. Evidently, good and comprehensive decision-making is possible by judiciously applying critical thinking skills.

b. **Improved Relationship**: Critical thinking improves the relationship between a leader and his subordinates. A commander who is a critical thinker understands the perspectives of his subordinates and other team leaders. He tries to judge and analyse his subordinates' different points of view. General Stanley McChrystal emphasised establishing open communication. He also recognised cultural differences to foster trust and confidence amongst NATO and U.S. forces in Afghanistan (2009-10). Finally, this strategy improved coordination and resulted in mission success.[22] This is how commanders can create an environment where subordinates feel heard and appreciated. It also develops cultural awareness. Consequently, it builds trust and cohesion amongst the team members.

c. **Improves Problem-solving Abilities**: Critical thinking fosters the analytical mind set in a leader and thereby it improves the problem-solving abilities of a leader. In a critical scenario, failure to perform a small-scale investigation could result in disaster. By connecting all the dots, a commander can answer the problem. During the early stages of World War II, German military strategists adopted the Blitzkrieg manoeuvre to outsmart Allied forces. Faced with the challenges of prolonged trench warfare in World War I, Germany pursued a solution to break stalemates quickly by adopting quick manoeuvres, bypassing the enemy's main forces.[23] By solving the challenge of entrenched and static warfare, the Blitzkrieg strategy established a glorious example forever. In a military operation, critical thinking may promote creative thinking which generate adaptive strategies and innovative tactics for a mission success.

**Figure-4: Outcome of Critical Thinking in Military Leadership**




Source: Author's self-construct

**Hindrance to Critical Thinking**

There are several impediments to critical thinking. These impediments hinder an individual's distinctness and individuality. The following barriers can be considered in a military setting:

a. **Egocentric Thinking Patterns and Nature**: Ego is one of the significant impediments to critical thinking. Egocentric personality or behaviour is a difficult tendency to overcome. An egotistical individual believes he is superior to others and disregards their worth and opinions. A clear example of this in military history can be seen in the Vietnam War with General William Westmoreland. He had a persistent belief that the U.S. would win through sheer military might. His failure to contemplate opposite viewpoints led to a prolonged conflict with escalating costs. Ego makes it difficult for a decision-maker to empathise with and comprehend the issues of others.

b. **Group Dependency**: This is a pattern of a commander's or group leader's behavioural attributes. In such a situation, a person is unable to create their own opinions. He is always stuck in a decision issue and takes a long time to make a decision. The adage, "too many cooks spoil the soup", is valid when a lot of ideas are provided without any sort of filtering or prioritisation. Admiral Nelson's leadership during the Battle of Trafalgar can be cited as an example of decisive leadership. However, in this battle a groupthink situation developed when British naval officers were hesitant to pursue aggressive tactics against the French fleet. Nelson’s decision to break the conventional tactics during the prevailing circumstances led to the famous victory.[24] Hence, at times, an individual’s forward-looking decisiveness brings a decisive result.

c. **Cultural Conditioning**: The culture of a society or organisation has an impact on the climate within an organisation. It is no different with military organisations. Over time, a culture emerges, and traditions become deep-rooted. During World War II, the Japanese kamikaze tactics in the latter stages of the Pacific War can be cited as an example of cultural conditioning. Regardless of the wider consequences, Japanese pilots were expected to sacrifice their lives in suicide missions against Allied naval warships. Such a rigid and culturally conditioned mindset stifles innovative thinking. The scenario does not allow nurturing the critical thinking process, and leaders often feel shaky thinking outside of the box despite their ability.[25]

d. **Undesirability to Change**: Military organisations grow in a specific manner. It becomes challenging to alter when the current system succeeds.[26] Needless to say, as time passes, one must adjust to the changing conditions.

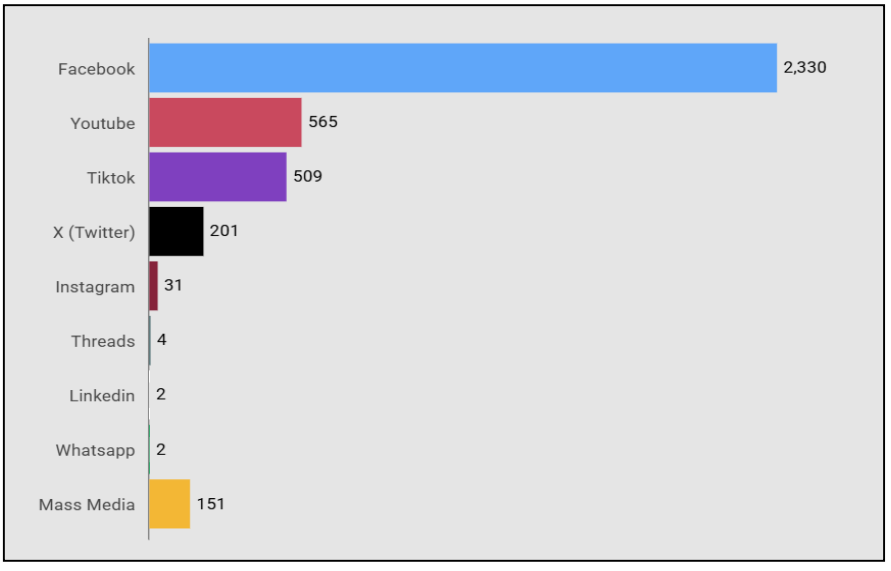
During the Vietnam War, the U.S. Army had to transform its mindset and strategy to counter unconventional threats. It included reassessing their leadership styles, modifying training plans, and reordering soldiers' daily routines.[27] People can only use critical thinking when they have a reliance on positive transformation. To break the undesirability, certain exposures and deliberate efforts, which take time, are required.

**Promulgation of Critical Thinking in the Bangladesh Armed Forces**

The following can be applied to promote critical thinking in the Bangladesh Armed Forces:

a. **Awareness of Misinformation**: The present digital age is full of information junk or misinformation. The statistical data shows the misinformation generated in Bangladesh during the year of 2024. A record-breaking 2,919 cases of misinformation were identified in that year, which were mostly generated from Facebook, YouTube, TikTok, and Twitter.[28]

**Figure-5: Misinformation Spread in Bangladesh (2024)**




Source: Reproduced from Rumour Scanner, https://rumorscanner.com/en/statistics-2/rumors-data-2024/134624

Military leaders must be watchful to counter this misinformation. General awareness is the key to countering such proliferation. Military organisations should promote awareness at unit levels. Such awareness shall generate inquisitiveness and foster extrapolation skills amongst the members.

b. **Discarding Ego**: The free flow of ideas is impeded due to egocentric or ethnocentric attitudes. Military commanders should abandon their ethnocentric views to foster a harmonious environment inside their organisation. Bangladesh's armed forces must develop an environment in which commanders and troops, regardless of rank, may openly express their thoughts. Few of the steps can be arranging leadership workshops, getting 360-degree feedback from subordinates, and arranging an open forum at the unit level. At all leadership levels, this will improve critical thinking and enable more cooperative decision-making.

c. **Encourage Queries**: A conducive environment helps to accept positive queries. A young leader, intuitive and who asks questions, deserves due respect. A smart query can frequently lead to a challenging opportunity. As a result, all military organisations of Bangladesh should encourage open dialogue and accept questions from juniors. An actionable measure can be arranging monthly addresses by commanding officers and promoting open and fear-free questions from junior officers. To create such fear-free environment, a reward system can also be incorporated for those who demonstrate their inquisitiveness. A simple query can assist a commander or policymaker in making a major decision.

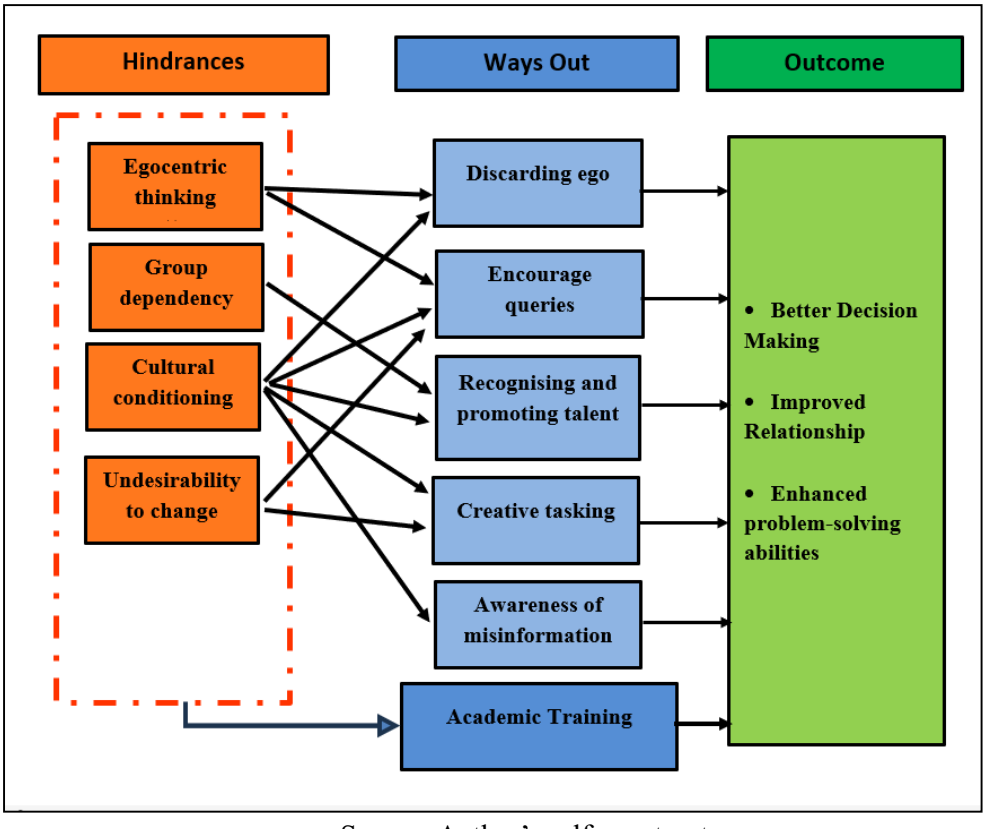
d. **Creative Tasking**: In peacetime, military leaders and personnel do regular or analogous activities or tasks. As a result, their thoughts are continuously looking for a way to accomplish things the way they are used to. Organisational leaders should encourage critical thinking by assigning their subordinates to tasks that are not within their comfort zones. They may be asked to perform a different task or perform a task differently. Arranging scenario-based exercises can be a good step where junior officers can solve a problem creatively.

e. **Recognise and Promote Talent**: Like other militaries, the Bangladesh Armed Forces is always in desperate need of professional future commanders. An organisation should make every attempt to identify its future leader by identifying a critical thinker among its officers. Clausewitz advocated for the early identification and development of temperamental and analytical brains. A subordinate officer or soldier with good critical thinking abilities should be identified and trained for future leadership roles. The Armed Forces of Bangladesh would be able to identify officers with high critical thinking abilities early on by including these characteristics in the Officers' Performance Report (OPR). This strategy will not only promote individual development but also help to build a pool of well-rounded leaders for the future.

f. **Academic Training**: Comprehensive academic training can promote critical thinking and overcome all hindrances. Critical thinking is not an innate ability. It

is to learn by training. Rather than memorising material, the training curriculum of the Bangladesh Armed Forces should include analytical and cognitive thinking exercises. Though courses for mid-level and senior-level officers include analytical approach training, it is not much evident in officers' basic courses and courses for soldiers. Emphasis should be given to all levels of training. The curricula should be designed to teach how to discard ego, create an environment for free discussions, design creative tasks and assess talents. The Australian Army uses Socratic Questioning in soldiers' basic training to foster critical thinking. Instructors encourage analysis by developing scenarios to question soldiers about how they make decisions.[29] At the basic training level, this kind of method may promote a culture of inquiry and critical thinking while enhancing comprehension and flexibility in real-time scenarios.

**Figure-6: Framework for Fostering Critical Thinking in the Bangladesh Armed Forces**




Source: Author's self-construct

## Conclusion

Critical thinking is the capacity to think clearly and logically. Critical thinking is an indispensable characteristic of military leadership. It may influence the decision-making, operational planning, and problem-solving abilities of a military leader. From the Socratic Questioning model to current critical thinking models, critical thinking is a crucial skill set for commanders at all levels. A military leader should be able to analyse complex situations and make educated judgements. The need for systematic thinking and intellectual rigour in military operations is paramount in the current and future unpredictability of military operations.

The Paul-Elder model is a recognised model for analytical reasoning, and it provides a logical framework for a critical thinker. The model applies to military commanders for better decision-making. Critical thinking is a talent that must be refined over time. Military commanders should encourage critical thinking skills, including analysis, communication, creativity, openness, and extrapolation. Promoting open conversation, discarding conventional knowledge, and encouraging innovation can all help to foster a culture of critical thinking.

Critical thinking in the military has critical barriers. Various hindrances include egocentric thinking patterns, group dependency, cultural conditioning, and unwillingness to change. Certain tools are essential to develop critical thinking. The study of critical thinking should be a part of the leadership training programme. It can be implemented in military training institutions to train the military learners. Critical thinking is, of course, a habit rather than a forced effort. People will not recognise the importance of critical thinking until they are ready to accept it. To create the right environment for it, cultural conditioning is essential, and individuals must be willing to embrace change. Senior leaders must set an example by displaying intellectual humility, accepting constructive criticism, and cultivating a learning-oriented command culture. Furthermore, recognising and praising critical thinking in performance assessments might encourage officers to develop and utilise these abilities in real-world scenarios.

Critical thinking is a desired quality in today's changing military world. It necessitates a leader to respond to unexpected situations. The Bangladesh Armed Forces must welcome this paradigm change by incorporating critical thinking into leadership training at all levels. Thereby, the Armed Forces will be better able to adapt to dynamic security challenges. This will help to form a more intellectually flexible force. The institutional change incorporating critical thinking can be an investment that will bring critical benefits to future military endeavours.

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**Biography**

**Commander Md. Tasbir Hossain, (E), NPP, psc, BN** was commissioned on 01 Jun 2004 in the Engineering branch of Bangladesh Navy. He has undergone several professional courses at home and abroad. He holds a bachelor's degree in Mechanical Engineering. Besides different courses at home, Cdr Tasbir completed his Air Engineer Officer Specialisation Course from Naval Institute of Aeronautical Technology (NIAT), India and Type Training on Dornier 228 aircraft from Aero Bildung, Germany. He is a graduate of the Defence Services Command and Staff College (DSCSC), Mirpur, and the Defence Services Staff College (DSSC), Wellington, India. He has two master's degrees in his credentials. Throughout his career, Commander Tasbir has served in various ships and establishments of the Bangladesh Navy in different capacities. In his sea appointments, he served in patrol craft, the missile boat squadron, and frigates including the flagship of the Bangladesh Navy. As part of his instructional duties, he was an instructor at the Engineering School. Commander Tasbir has also played a key role in Naval Aviation. Under the Blue Helmet, he served in Ivory Coast as a staff officer in the Sector Headquarters. His staff appointments also include serving as Deputy Director at Naval Headquarters. In recognition of his meritorious contributions to the service, he was awarded the 'Navy Efficiency Medal' (NPP). Presently, Commander Tasbir is serving as a Directing Staff at Defence Services Command and Staff College (DSCSC), Mirpur. He is happily married and blessed with two daughters.

# Operation Naf Juddho (2001): a Post-Independence Military Conflict Between Bangladesh and Myanmar

*Md. Samiur Rahman Bhuiyan, MIAB*

**Abstract**

Bangladesh, a sovereign country in Southeast Asia, shares a 4,095-kilometre land border with India and a 256-kilometre land and water border with Myanmar. Since gaining independence from Pakistan in 1971 through a bloody liberation war, Bangladesh has consistently faced military tensions with its neighbours, including Myanmar and India. One notable border conflict, known as Operation Naf Juddho, occurred in 2001 along the Naf River between the Bangladesh Rifles and Myanmar's NASAKA. This dispute arose when Myanmar attempted to construct a 9.6-kilometre cross-dam, a direct violation of a 1966 agreement, renewed in 1980, which prohibited altering the river's natural flow. The confrontation concluded after Myanmar agreed to halt construction and comply with the treaty. In recognition of their bravery, Bangladesh awarded the "Operation Naf Medal" to its officers. The battle itself was led by Major General ALM Fazlur Rahman for Bangladesh and Lieutenant General Wan Tuwa for Myanmar. This military standoff holds particular significance as it exemplified military resistance followed by diplomatic resolution in addressing border disputes. The paper further examines the aftermath, notably Myanmar's troop mobilisation in the same region in 2009, just days after the BDR Headquarters massacre, thereby underscoring the persistent border tensions between the two nations.

## Introduction

Bangladesh and Myanmar have a century-old traditional, financial, and cultural relationship; especially, the commercial relationship between the Chattogram region and the Arakan region (Rakhine State) can be traced back to the oldest known period (Ahamed et al., 2020; Mondal, 2016). After the end of the rule of the British Raj following World War II, a bilateral relationship was fostered between East Pakistan and Myanmar. Quite a number of treaties and Memoranda of Understanding (MoUs) have been signed between the two countries, both in the Pakistani period and the Bangladesh period, to increase bilateral relations and to resolve various mutual issue (Ahamed et al., 2020). Of these treaties, the "Naf Agreement 1966" is noteworthy, which states that neither side will construct any installation that may hinder the natural flow of the river or alter its natural course (Yesmin, 2016). Later, "Boundary Agreement on Demarcation

of the Land Section of the Boundary North of the Naf River" was signed in 1979, and "Treaty on Demarcation of the Land Section of the Boundary North of the Naf River" was signed in 1998 (Xinhua, 2017). The relation between the countries was considered cordial as Myanmar provided shelter to many Bangladeshi refugees during the period of Bangladesh's liberation war in 1971, and is one of the first countries to recognise Bangladesh (Biswas, 2023; Salimullah, 2025). Despite these agreements and initial displays of goodwill, the relationship between Bangladesh and Myanmar has not been very good diplomatically, which has prevented Bangladesh from fully benefiting from Myanmar's natural resources, strategic location, and trade and investments (Ahamed et al., 2020; Ahsan, 2002; Sultana, 2023).

The relation started to decline between the countries because of various issues, of which the Rohynga refugee problem and armed separatist/militant issues are mentionable (J. Smith & Doe, 2020). In this regard, it can be mentioned that the natives of the neighbouring Rakhine state of Myanmar are mostly Muslim, and since the declaration of military dictatorship in Myanmar in 1962 (Fink, 2018; Tin, 2004), the Myanmar government has been accused of oppressing and depriving the Arakanese Rohynga Muslim population of human rights(N. Islam, 2020; M. Smith, 1995). For many years, thousands of Rohyngas have crossed the border and taken shelter in Bangladesh. In 1991, the situation deteriorated when the NASAKA attacked and looted the Rejupara Border Out-Post (BOP) of the Bangladesh Rifles, which left a few casualties (M. R. Islam & Wara, 2022; Sarder, 2018; Sik, 1992). In 1992, Myanmar pushed their Muslim citizens into Bangladesh to increase its power in this region and to strengthen its military dictatorship (Cheesman & Farrelly, 2016). Pushing of around 2,50,000 Myanmar-Muslims became another cause of economic disruption for this region (Kader & Choudhury, 2019; Schendel, 2004).

In addition, it can be mentioned that NASAKA forces had a practice of looting fishing boats, nets, fish and shooting and throwing fishermen into the river. In many cases, after looting and beating, they sent fishermen to a Myanmar jail. Even in some cases, they assaulted shrimp cultivators. In land borders, they made a routine of arresting Bangladeshi lumberjacks.

In summary, while Bangladesh and Myanmar historically maintained cordial bilateral relations, this dynamic began to shift during the latter half of the twentieth century.

**Geographical Context**

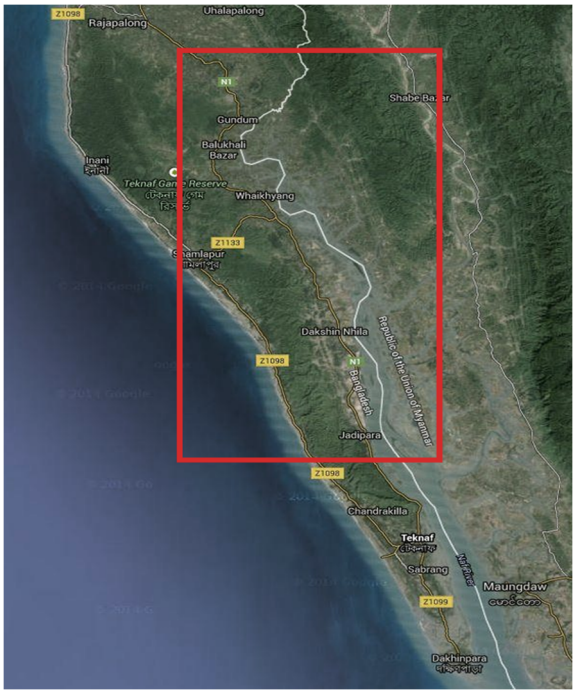
Bangladesh is bordered in the southeast by Myanmar. Of the 256 kilometres long border, around two-thirds is land border and one-third is water border (Haider, 2022). 70% of the land border is in deep hilly jungle areas, and the remaining 30% is accessible by general means (Alam & Uddin, 2025)

**Figure-1: Bangladesh-Myanmar in Map**


Source: https://upload.wikimedia.org/wikipedia/commons/f/f4/Bangladesh%2C_Myanmar_region.png

A battalion headquarters of Border Guards Bangladesh (Former Bangladesh Rifles) is situated at the Teknaf sub-district of Cox's Bazar (Border Guards Bangladesh, n.d.). The southernmost 60 kilometres of the 256-kilometre Bangladesh-Myanmar border is under the jurisdiction of this battalion, and the whole border is demarcated through the middle line of the mainstream of the Naf River.

**Figure-2: Bangladesh-Myanmar International Border where the Border Battle Primary Took Place**




Source: https://www.google.com/maps/

For communication purposes, the border forces of both countries have the right to use this river. Myanmar is on the eastern side of the river, whereas Bangladesh is on the western side of the river. Two kilometres north to the estuary where the Naf River meets the Bay of Bengal, the Shahporir-Dwip Border Outpost (B.O.P) of the Border Guard Bangladesh (B.G.B) battalion is situated. It is the southernmost B.O.P of Bangladesh. And the B.O.Ps towards the north are Sabrang, Teknaf, Dumdumia, Noapara, Leda, Nhila, Zimongkhali, Whaikhong, Palongkhali and Balukhali B.O.Ps. Poor people on both sides of the Naf River earn their living by catching fish from this river (I. Hossain et al., 2024; Khan, 2017). Moreover, using the Naf River Shrimp hatchery, fish hatchery, and salt collection fields have been built on both sides. Shrimp hatcheries even export the excess production after meeting the domestic demand. The Myanmar side on the west of the Naf River is lined along north-south with a continuous mountainous region (Cheesman & Farrelly, 2016). But, in some places, there are up to 100m of plain land. All the canals of the mountain valleys have met the Naf River. On the opposite side of the Sabrang B.O.P of Teknaf is the Maungdaw town of Myanmar. The headquarters of Myanmar's border security force (former-NASAKA), which is termed as BIHQ (Border Immigration Headquarters), was situated here. The former-NASAKA force was a coalition force of police, army, customs, intelligence branch and other similar departments (Human Rights Watch, 2009). On the northeast of Balukhali B.O.P, is the Gundum B.O.P of Bangladesh, which is under the Ukhia sub-district of Cox's Bazar. On the opposite side to Gundum B.O.P of Bangladesh, is Tambroo camp of Myanmar, which is situated in Debudunia. The linear distance between Gundum and Tambroo is around 500 yards. The width of the Naf River at this point is about 30 yards. The Cox's Bazar-Teknaf highway stretches up to the riverbank near Gundum B.O.P. Similarly, there is a narrow pucca road along Tambroo camp on the Myanmar side. Both roads are connected by a bridge known as the Myanmar-Bangladesh Border Bridge, which was built during the British period. The road connecting Tambroo and Maungdaw is so narrow that it is not feasible for heavy transportation. Moreover, that narrow road is not paved in many places, and there is no vehicular road connecting this road and the camps alongside the Naf River. And thus, in the Naf border area, the main communication medium for the NASAKA camps used to be the Naf River. On the other hand, almost all the B.O.Ps on Bangladesh side have vehicular access with the Cox's Bazar-Teknaf highway. And so, it is possible to reach all the B.O.Ps using all types of light and heavy transports.

**Figure-3: Totar Dwip Island on Naf River. A Strategic Location on Bangladesh-Myanmar Border**


Source: https://www.google.com/maps/

The Whaikhong B.O.P is 32 kilometres north of Teknaf Headquarters and 60 ki'ometres south of Cox's Bazaar B.G.B Headquarters. On the opposite to the designated duty area of this B.O.P, Naichadong camp and Totar Dwip camp of Myanmar are situated. The linear distance of these two camps from Whaikhong B.O.P is 4 kilometres and 1.5 kilometres, respectively. Naichadong camp is 1.2 kilometres east of the zero point of the Naf River. Two kilometres south of this camp, the Totar Dwip camp is situated at 800 yards from the zero line.

Totar Dwip, an island claimed by some to have historically belonged to Bangladesh, sits where the Naf River splits, creating a complex hydrological border (Mazumder, 2019). But during the Pakistani period, it became a part of Myanmar (Morshed, 2011). Totar Dwip is a boat-shaped tiny island which is 6 kilometres in length along the north-south axis and 2 kilometres in width along the east-west axis. The Naf River flows from

north through the front of Gundum, Balukhali and Palongkhali B.O.Ps and is divided into two branches on the north-west side of Totar Dwip. The riverbed is between 150 yards and 200 yards in width in these branches. The first river branch (known as Naichadong canal) flows towards the east by touching the north tip and then runs towards the southeast by taking a south turn. It is heard that during the Pakistan period, it was the mainstream of the Naf River through the middle of which the zero-line passed. The Myanmar Border Security Force headquarters is located in Maungdaw, opposite Sabrang B.O.P in Teknaf, while outposts such as Naichadong and Totar Dwip are strategically positioned near the zero line of the Naf River (Mazumder, 2019). The second stream runs 300 yards towards the south by touching the western tip and is again divided into two sub-branches. The mainstream flows from the southwest edge towards the east to reunite with the main river stream in the southeast. In this place, the river widens to 2 kilometres and, after flowing for more than 45 kilometres south, falls into the Bay of Bengal. The branch of the second stream has bisected Totar Dwip and meets the two main branches of the Naf River on the southeast tip. This bisecting stream is known as the Daabfari canal, which is around 150 yards wide.

**Operation Naf Juddho**

a. **Background of a Tense Border**: Lieutenant Colonel Md. Rafiqur Rahman Bhuiyan, Engr, assumed command as the Commanding Officer of the Teknaf Battalion of BDR from his predecessor, Major Jahir, on 11 November 2000. Due to Major Jahir's sudden departure for a UN Mission, he was unable to provide the standard command-transfer briefing regarding the border. However, before leaving, Major Jahir informed the new Commanding Officer about Myanmar's plan to construct a cross-dam within 100 yards of the zero line on the Naf River, near Ulubunia village, which is 3 kilometres north of Whaikhong Border Outpost.

Recognising the probable construction of this cross-dam as a violation of the Naf Agreement-1966, the new CO instructed the Whaikhong B.O.P to monitor the situation closely. On 26 November 2000, the CO, accompanied by a Junior Commissioned Officer and 3-4 armed soldiers, inspected the naval border on the Naf River by boat from Whaikhong B.O.P. While returning from inspection, at approximately 11 am, the BDR boat stopped near the entrance of the Daabfari canal, close to the zero-line, to measure the river's depth. As an officer from the Bangladesh Army's corps of engineers, he sought to assess the technical feasibility and motive behind the proposed cross-dam.

During the depth measurement, an armed NASAKA patrol boat approached the BDR boat from Naichadong camp. A brief conversation ensued between the forces of the two countries, during which the NASAKA warned the Bangladeshi

forces not to enter the Daabfari canal. This encounter heightened the Bangladeshi side's suspicion regarding the cross-dam's construction. If the cross-dam were built, waves from upstream would hit the dam, reverse course, and then impact the Bangladeshi bank, leading to soil erosion into the Naf River. Furthermore, during the rainy season, the immense water flow would be diverted towards the Bangladeshi side, potentially destroying existing shrimp/fish hatcheries, paddy fields, houses, and soil collection facilities. Shortly, this could even pose a risk to the Cox's Bazar-Teknaf highway.

After assessing the gravity of the situation, the BDR team proceeded to Ulubunia village, surveyed the border alongside the Naf, and tentatively identified probable defensive positions. The CO then briefed the accompanying JCOs on the defence plan and ordered them to prepare troops for rapid deployment (R.R. Bhuiyan, personal communication, January 5, 2015).

The primary reason behind the construction of the cross-dam was to develop fisheries and hatcheries on the Myanmar side (Islam & Hossain, 2018), but according to the Bangladesh side's assessment, it also had a military advantage for the Myanmar side (Pau, 2023). As the cross dam would alter the natural flow of Naf River, a flat land would be created on Myanmar's side through soil deposition (Crow & Lindquist, 2000), which in long-run would block the Naichadong canal and would allow the Myanmar side to construct direct vehicular road from Maungdaw town to Tambroo camp by which Myanmar could get the military advantage of deploying troops in Bangladesh-Myanmar border on short notice in near future (U. Rahman, 2010). At that time, the road connected to the Bangladesh-Myanmar Border Bridge was not suitable for the movement of heavy transports, and the Myanmar side was lined by tall mountains. Bangladesh was in a strategically better position from a military point of view. Thus, allowing the illegal construction of such dams could also alter the advantageous position of Bangladesh (Alam & Uddin, 2025).

b. **Commencement of Dam Construction**: On 4 January 2001, the Teknaf BDR Battalion Headquarters was informed that 70-80 labourers had started constructing the cross-dam under NASAKA's protection. The Bangladeshi border forces promptly sent a message to NASAKA to halt construction, but this request was refused. A second message, proposing a Company Commander-level flag-meeting, was also sent from the BDR side but similarly met with refusal. As a third attempt, following the "Border Agreement - 1980", a flag meeting proposal was again formally sent to the Myanmar side by raising the 'meet-flag,' but no response was received. Consequently, the CO of the Teknaf BDR Battalion informed the Chattogram BDR Sector Headquarters and Dhaka BDR

Headquarters about the situation, and a protest letter referencing the "Naf Agreement-1966" was sent to the Myanmar side through the Company Commander. By 5 January 2001, instead of abiding by the bilateral agreement, the Myanmar side had increased the number of NASAKA soldiers and continued the construction of the cross-dam. In response to the escalating situation, the Teknaf BDR Battalion informed the Chattogram BDR Sector Headquarters and proposed the usage of weapons.

c. **Attempts to Stop the Construction**: On 5 January, a letter addressing the issue was sent to Myanmar's Border Immigration Headquarters, proposing a Commanding Officer-level flag meeting for 7 January. However, with no response from the Myanmar side, BDR troops were deployed in defensive positions along the riverbank on 5 January itself. On 6 January, restrictions were imposed on unnecessary movement through the area. On that same day, the NASAKA Sector Commander agreed to a bilateral flag meeting on 7 January at their Tambroo camp. During this meeting, Myanmar demanded that Bangladesh remove its shore dams and sluice gates, leading to the meeting's failure. Consequently, under the direction of the BDR Sector Headquarters, additional troops and heavy weapons were brought from the BDR Battalion in Cox's Bazar and strategically positioned in the tense area. Furthermore, BDR Headquarters in Dhaka instructed the Rangamati Sector Headquarters to dispatch more officers, troops, and heavy weapons to the Teknaf Battalion. On 8 January, as construction continued under NASAKA supervision, the BDR Headquarters permitted the CO of Teknaf to commence the use of firearms.

d. **The Battle and The Following Situation**: By order of the Dhaka BDR Headquarters, at around noon, BDR started firing using light arms and heavy machine-guns from various defensive positions on the cross-dam area and the Totar Dwip NASAKA camp. After the start of the weapon assault, the construction workers and NASAKA soldiers fled from the area and the Totar Dwip camp.

After the first assault, NASAKA drove three scout boats full of soldiers towards BDR's defensive position, one of which capsized due to heavy fire and all the NASAKA soldiers were shot or injured. After the firing, the other two boats raised a white flag asking for a 'flag meeting', and then BDR stopped firing. Then the Commanding Officer, through the Battalion Adjutant, asked the NASAKA members to come to Bangladesh's territory for a flag meeting while ordering Bangladeshi troops to deploy secondary weapons (e.g., mortars).

In the afternoon, Bangladesh and Myanmar sides sat on a flag-meeting; the Bangladeshi side was led by the Adjutant of the Teknaf BDR Battalion, and the

Myanmar side was led by Ukya Sanla (Commander, NASAKA Sector No 3). But the flag meeting failed this time too, and, by evening, NASAKA deployed more soldiers on Totar Dwip. BDR also strengthened the defensive position by deploying more troops and heavy weapons. Dhaka BDR Headquarters monitored the situation throughout the time. To portray the gravity of the situation, it can be mentioned that on 8 January, BDR Chattogram Sector Commander shifted his operational Sector Headquarters from Chattogram to Cox's Bazar and had Commanding Officers of two other BDR Battalions with him. On the second day of the battle, Sector Commander, along with the two Commanding Officers and an intelligence officer (Name and Organisation Not Mentioned), went to the battlefield and had a planning meeting with the CO of the Teknaf BDR Battalion regarding the next steps.

After the firing on the first day, Myanmar started to deploy around 25000 alongside the Myanmar-Bangladesh border ('Bangladesh, Myanmar Shootout', 2001; 'Myanmar Clamps Curfew Along Border With Bangladesh as Tension Rises', 2001). In this situation, BDR Dhaka Headquarters ordered Dhaka, Comilla, Rangamati and Khagrachhari sectors to send and deploy more troops along the Teknaf and Naikhongchhari border. Starting from 9 January, by 15 January 2001, an additional 22 platoons of troops and weapons-ammunitions were brought to the battlefield from 12 other battalions.

BDR Headquarters got news through intelligence that more than 2000 labourers will be engaged by the Myanmar side for constructing the cross-dam by 17 January, and for this motion, three Light Infantry Battalions (LIBs) of the Myanmar Army had been deployed on the Eastern side of Totar Dwip. Also, Myanmar ordered 12 battalions of Buthidong cantonment (40 kilometres east of Mangdaw) to stay ready for quick massing of troops (Deja.com, 2001).

The situation deteriorated fast, and hence 5 BDR officers (deputed from army), one medical officer and two Deputy Assistant Directors (DAD) were attached to the Teknaf battalion along with more soldiers. An additional 600 soldiers were deployed along 60 60-kilometre border, whereas more soldiers were concentrated in the most heated area (between Balukhali BOP and Zimongkhali BOP). 19 kilometres of this heated area were divided into four zones, and heavy weapons were saturated in these four zones under respective BOPs. Among the heavy weapons, 82mm mortars, 60mm mortars, rocket launchers, and heavy machineguns are notable. On the frontline of the battlefield, the optimum number of soldiers was deployed, whereas the majority of the soldiers were prepared as a 'mobile reserve striking force'.

e. **Development of Situation**: As the situation intensified, the Myanmar side replied to Bangladesh's proposal for a flag meeting and invited the representatives

of Bangladeshi border forces to Maungdaw for the bilateral discussion. On 20 January 2001, a BDR delegation led by the CO of the Teknaf BDR Battalion went to Maungdaw. After a lengthy discussion, both sides agreed to form a "Joint Survey River Commission" (THE BURMANET NEWS, 2001).

**Aftermath**

a. **Suspension of Construction and Formation of JSRC:** On 21 January, the Embassy of Myanmar in Dhaka handed over a list containing the names of 15 members of the joint river commission to Bangladeshi authorities, and in a similar fashion, Bangladesh handed over their list of members to Myanmar authorities. Bangladesh side of the "Joint Survey River Commission" was headed by Mr. Janibul Haque (Joint Secretary - Ministry of Home Affairs), and the Myanmar side was headed by their Director General of Foreign Affairs. On 1 February, members of both countries met in Naichadong camp and visited Totar Dwip. On 2 February, members of the JSRC inspected the area again and discussed based on "Naf Agreement 1966". In the meeting, though there were brief turns of the situation, when reminded that Bangladesh would resort to using force if necessary, Myanmar agreed with the Bangladesh side to solve the situation through cooperation. In this regard, the heads of teams of both countries joined in a closed-door meeting, and later it was decided that Myanmar will halt the construction of the cross-dam and both countries will form a 'Technical Committee" which will decide all issues regarding the Naf River in future. In 2023, Myanmar again fuelled tension by showing Saint Martin Island and surrounding lands as part of Myanmar map, but it did not receive in further traction due to on-going conflict in the Rakhine region (H. Rahman, 2024).

**Figure-4: Operation Naf Padak**

Operation Naf Padak

Source: https://bgb.portal.gov.bd/sites/default/files/files/bgb.portal.gov.bd/

b. **Casualties and Gallantry Award**: The number of casualties in the battle is unknown on the Myanmar side. According to the CO of Teknaf BDR Battalion, and as per different recorded interviews given by Major General ALM Fazlur Rahman, NDC, PSC, there was no casualty on the Bangladesh side. But, as per the CO of Teknaf BDR Battalion, there were some casualties on Myanmar's side because of heavy fire on NASAKA boats and the Totar Dwip camp by BDR. On the other hand, the Director General of BDR, Major General ALM Fazlur Rahman, NDC, PSC, has claimed in various interviews/articles that in that battle, the casualties of the Myanmar side were as high as 600 (Bdesh News, 2017; Habibur Rahman, 2020).

In recognition of the bravery of officers and soldiers, the Bangladesh government awarded "Operation Naf Medal" to all participating troops.

## Timeline of Operation Naf Juddho

**Figure-5: Timeline of Operation Naf Juddho (2001)**

| | |
|---|---|
| **11 November 2000** | • Lt. Col. Rafiqur assumes command as CO of Teknaf BDR Bn; briefed on Myanmar's cross-dam plan. |
| **Mid-November 2000** | • CO instructs Whaikhong B.O.P. to monitor cross-dam (violation of Naf Agreement-1966). |
| **26 November 2000** | • CO inspects Naf border; NASAKA warns BDR, increasing cross-dam suspicion. CO assesses impacts, identifies defensive positions, orders troop prep. |
| **Before 9 January 2001** | • BDR HQ intelligence: Myanmar plans cross-dam by 17 Jan (2,000 labourers, 3 L.I. Battalions at Totar Dwip, 12 battalions on standby). |
| **9 – 15 January 2001** | • BDR deploys 22 platoons (soldiers, heavy weapons) to Teknaf/Naikhongchhari border; establishes 'mobile reserve striking force'. |
| **Mid-January 2001** | • BDR engages NASAKA boats/camp on Totar Dwip with heavy fire; significant Myanmar casualties. |
| **20 January 2001** | • BDR delegation holds talks in Maungdaw; agrees to form 'Joint Survey River Commission'. |
| **21 January 2001** | • Myanmar and Bangladesh exchange JSRC member lists. |
| **1 February 2001** | • JSRC members meet at Naichadong camp, visit Totar Dwip. |
| **2 February 2001** | • JSRC inspects area, discusses Naf Agreement 1966. Myanmar agrees to suspend cross-dam, form 'Technical Committee' (after Bangladesh warning). |
| **Post-Conflict** | • Bangladesh awards 'Operation Naf Medal' for bravery. |

## The Tense Border, 2009

In 2009, after the massacre in the BDR headquarters in Dhaka, Myanmar started building barbed-wire fences and a road within 150 meters of the zero line, violating the international and bilateral border laws and treaties (Haque, 2009a, 2009b). According to a Key Person whose interview was taken in 2015, and who was Commanding Officer of Cox's Bazar Battalion of BDR in 2009, BDR took full-fledge defensive position along the tensed zone during the volatile border situation of 2009, and on the other hand, diplomatic wing of the Bangladesh government conversed with Myanmar and successively came to a solution (S. Hossain, personal communication, 2015). The defensive presence of troops resembling 2001 acted like a pressure catalyst, which accelerated the mutual agreement at the diplomatic level.

## Conclusion

In summary, the 2001 border battle demonstrated Bangladesh's unwavering commitment to defending its sovereignty, as Bangladeshi forces successfully prevented the construction of a cross-dam on the Naf River, an act that would have directly violated the "Naf Agreement 1966." This decisive military action underscores the effectiveness of a proactive defence posture. In stark contrast, while BDR troops adopted a full combat posture in 2009, issues with Myanmar were ultimately resolved through diplomacy rather than direct military conflict. As articulated by the former Commanding Officer of the Cox's Bazar BDR Battalion in 2009, such tense situations necessitate a dual approach: while diplomacy is paramount, maintaining a robust military presence is indispensable as a pressure catalyst, facilitating and accelerating diplomatic resolutions. Regional former COs emphatically concur that any meaningful improvement in the relationship between Myanmar and Bangladesh hinges critically on the prioritisation of Rohingya refugee repatriation. Beyond this humanitarian imperative, the strengthening of comprehensive diplomatic, trade, and communication ties with Myanmar is not merely advisable but essential for long-term stability. Furthermore, proactively developing communication routes with key regional players like China and other ASEAN countries would strategically bolster Bangladesh's diplomatic leverage and regional influence (Bian, 2025). Beyond fostering warm bilateral relations, Operation Naf Juddho unequivocally underscores a fundamental lesson: Bangladesh must vigilantly prioritise and robustly defend its sovereignty and national security from the very onset of any potential threat. The border battle of Naf serves as a compelling testament to how such conflicts can be effectively managed and de-escalated through meticulously planned and systematically executed military measures. Moreover, the insights derived from this conflict can be profoundly enriched by a thorough evaluation of analogous border-related micro-clashes across the South Asian and Southeast Asian regions. Examining land border disputes such as those

between Thailand and Cambodia, India and China, India and Pakistan, and Nepal and India—where all nations strive to maintain the status quo without ceding territorial claims—offers valuable comparative lessons for strategic planning (Avis, 2020). In the current, rapidly evolving global context, marked by increasingly complex regional power dynamics, further recommendations for Bangladesh's strategic posture include:

a. **Separate Joint River Survey Commission**: Formation of a separate, dedicated Joint River Survey Commission to exclusively address the three shared rivers with Myanmar, distinct from the existing commission primarily focused on rivers shared with India. This ensures specialised attention and conflict resolution.

b. **Incentivising Geographical Context**: Strategic development and maximisation of military deterrence capabilities within the region, leveraging Bangladesh's geographic advantages of accessibility to fortify its defensive posture.

c. **Communication with State and Non-State Factors**: Establishment and maintenance of resilient diplomatic and strategic communication channels with all relevant state and non-state actors across the region, ensuring comprehensive engagement and intelligence gathering.

d. **Further Research Scopes Involving Multi-stakeholder**: Conducting continuous and in-depth research to develop comprehensive, adaptive policies that integrate both civil and military stakeholders, preparing the nation to effectively address any future circumstances of a similar nature.

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## Biography

**Md. Samiur Rahman Bhuiyan, MIAB,** is a Senior Lecturer in the School of Architecture and Design at BRAC University, where he has been teaching since 2017. A registered architect and built-environment researcher, he is also a dedicated sustainability professional. Mr. Bhuiyan holds a professional Bachelor's degree in architecture from BRAC University and a Master of Science degree in Environmental Management from the National University of Singapore. His academic excellence has been recognised with the "Vice Chancellor's Medal" from BRAC University and the "Kimberly-Clark Scholarship" from the National University of Singapore. His extensive professional portfolio showcases a diverse range of architectural and allied design projects across various scales. Committed to fostering industry-academia collaboration, he is currently engaged in developing affordable and sustainable housing solutions. Beyond his core professional expertise, Mr. Bhuiyan maintains keen interests in disaster management, military history, and the contemporary geopolitics of the global south.

# Assessing the Impact of Civilian Joint Task Force in Counterinsurgency Operations against Boko Haram in Nigeria

*Major Abdurrasheed Muhammad Sani (Nigerian Army)*

**Abstract**

The objective of the study is to assess the impact of the CJTF on CIOs against BH in Nigeria. Accordingly, the research examined how CJTF is employed in the CIO against BH. Additionally, it identified the impact of CJTF roles, challenges militating against the CJTF's performance, as well as strategies for better utilisation of the group. A survey was conducted to collect primary data using questionnaires through electronic means. Additionally, unstructured interviews were conducted through telephone calls with key informants. Data collected was analysed qualitatively and quantitatively using logical and critical thinking and the use of IBM SPSS, from which deductions were made.

Moreover, a test for a relationship between CJTF and CIO against BH was performed using Pearson Correlation. The results were presented in tables of frequencies and graphs. The sign of the Pearson correlation indicates the direction of association between the variables. The roles of CJTF include intelligence gathering, conducting operations with the Nigerian Army (NA), patrols and manning checkpoints, community mobilisation and security, and humanitarian assistance and support for displaced persons. The impacts identified during the study, include a reduction in BH attacks, improved intelligence gathering, capture of the BH members and informants, reduction in BH recruitment, enhanced civil-military relations, and territorial reclamation and resettlement of displaced persons.

Accordingly, the challenges of the group include limited training and resources, security risks, human rights abuses, and the possibility of questionable/divided loyalty among its members. Some strategies for better utilisation of the group include improved training and capacity building, effective vetting, monitoring and evaluation, humanitarian and legal compliance, and psychosocial support. The NA should conduct periodic training for CJTF members in the Theatre and Sectors Training Wing.

## Introduction

Addressing terrorism using kinetic means such as Counter-insurgency operations (CIO) is often challenging to conventional security forces. Hence, states with such threats like

Somalia utilised locals for intelligence gathering through non-traditional volunteer community security apparatus or adopting militia groups like Harti to augment the efforts of their conventional security forces. In similar regards, the Civilian Joint Task Force (CJTF) emerged as a community-led initiative to assist in identifying the Boko Haram (BH) terrorists and for protection from the terrorist attacks. It subsequently turned into a collaborative initiative involving the security forces to combating the terrorists. The CJTF, comprising of local youths and hunters, has been actively involved in identifying and capturing BH members in their communities and surrounding areas, working closely with the Armed Forces of Nigeria (AFN) particularly the Nigerian Army (NA) (Gana M. , 2019).

CJTF's participation in the CIO against BH was significant in diminishing the conflicts in the majority of neighbourhood (Gana M. , 2020a). However, despite its contributions, the CJTF was frequently depicted as an ineffective and superfluous organisation. Concerns have been raised in certain quarters about the potential transformation of the group into an ethnic militia (Bamidele, 2016). Hence, calling for its abolishment. Consequently, the impact of CJTF in countering the BH insurgency remains unclear. Thus, their role in the CIO warrants scrutiny and analysis. Accordingly, this research aims to address this gap by examining the impact of CJTF in addressing the BH insurgency in Nigeria to utilise or abolish the group.

## History and Roles of the CJTF in the Counterinsurgency Operation Against Boko Haram

According to Ademola (2018), as faceless BH unleashed several attacks on civilians and security personnel within and outside the Maiduguri metropolis and the campaign against BH deepened, youth in their hundreds found themselves in detention camps of various security forces in Maiduguri and its surroundings, in addition to the arrest of actual suspects. These factors extended the hardship of the affected communities. Thus, it prompted some patriotic youths to take a bold step by providing the security personnel with intelligence on BH suspects and securing their neighbourhood. The volunteer youths, mostly between 18 and 40 years old and about 50 in number, assisted the military in conducting house-to-house searches within the communities under the leadership of Mallam Jafar Lawan. As civilians working proudly to assist the JTF ORO security personnel, they were tagged "*Civilian Joint Task Force*".

## Roles of CJTF in the Counterinsurgency Operations Against Boko Haram

The study unravels several roles of CJTF in CIO against BH. However, the key roles include intelligence gathering, conducting operations with the NA, patrols and manning checkpoints, community mobilisation and security, and humanitarian assistance and support for displaced persons. This was substantiated by experts and survey results.

**Intelligence Gathering**

One of the significant roles of the CJTF is intelligence gathering. Owing to its membership in local communities, the CJTF possesses a profound understanding of the social dynamics in affected areas, enabling it to identify and track BH suspects and activities efficiently (Babagana, 2024). This intelligence has been crucial in helping the NA target BH's strongholds, disrupt the group's operations and capture the sect's members.

**Conducting Operations with the Nigerian Army**

Another role the CJTF plays is conducting operations with the NA. The group has conducted several operations with the NA, using its knowledge of the terrain to guide troops to BH enclaves and hideouts. Jubrilla (2023) verified this assertion when he mentioned that collaborative operations of the N A with the CJTF in infested communities forced the BH terrorist to relocate their bases and change their mode of operation.

**Patrols and Manning Checkpoints**

Security patrols and checkpoints are parts of the roles adopted by the CJTF to support the counter-insurgency efforts against the BH. Accordingly, the CJTF has conducted patrols and often established temporary checkpoints which have enabled them to screen individuals, search vehicles, and prevent the infiltration of BH operatives into the local communities, thereby contributing to the overall counter-insurgency efforts in the region (Babagana, 2024). Babagana (2024) added that the group have been able to monitor and patrol areas that are difficult to access due to weather and the nature of the terrain, thereby strengthening the security presence in the region.

**Community Mobilization and Security**

Another role of CJTF is community mobilisation and security. According to Babagana (2024), the CJTF has been instrumental in mobilising local communities to participate in the counter-insurgency effort, encouraging civilians to provide information, support, and assistance to the military. This community engagement has been crucial in building trust and fostering a sense of ownership over the security of their neighbourhoods, bolstering the effectiveness of the NA's operations.

**Humanitarian Assistance and Support for Displaced Persons**

Humanitarian assistance and IDP support are another role of the CJTF in the efforts against the BH. The CJTF, made up of farmers and businesspeople, has provided humanitarian aid during the BH crisis in areas like Konduga, Limankara, Gajiram, Gajigana, and Gudumbale, (Babagana, 2024). Babagana added that the IDP camps in Borno State are currently protected by the CJTF. The support involved distributing

food, water, and vital supplies and contributing to the rehabilitation and resettlement of displaced individuals.

**Impacts of CJTF in the Counterinsurgency Operations**

The key impacts include a reduction in BH attacks, improved intelligence gathering, capture of the BH members and informants, reduction in the BH recruitment, enhanced civil-military relations and territorial reclamation and resettlement of displaced persons.

**Reduction in Boko Haram Attacks**

One of the impacts of CJTF is a reduction in BH attacks. According to Soba (2024), the CJTF's active participation in security operations made it increasingly challenging for the BH to operate freely and carry out attacks. This led to a substantial decrease in BH attacks in Maiduguri and other affected areas. Bamidele (2016) also argued that BH's activities in the northeast region of Nigeria have been significantly lessened due to CJTF's joint effort with the NA. Similarly, M.L.G. (2020b) stated that an investigation of the occurrence of BH attacks before and after the CJTF's involvement shows that the group's participation led to a decrease in BH attack rates by almost 50%.

**Improved Intelligence Gathering**

The vital impact of the CJTF is improved intelligence gathering. According to Saminu (2024), the CJTF's deep ties with the local community enabled it to gather valuable intelligence to inform the NA's counterinsurgency strategy. This intelligence has helped the military better understand BH's tactics, movements, areas of operation, and camp locations, allowing for more effective and targeted operations against the insurgents. The utilisation of the CJTF in intelligence gathering resulted in numerous effective ambushes against the terrorists, leading to a reduction in their supplies (Ademola, 2018).

**Capture of Boko Haram Members**

Capturing the BH is another impact of the CJTF discovered in the study. Saminu (2024) supported this, mentioning that, severally, the NA tracked BH members and informants and tasked the CJTF to arrest the terrorists. He added that the CJTF have captured and arrested several BH terrorists in markets when they come out of their camps for administrative reasons. Furthermore, he stated that CJTF's traditional fetish capabilities surpassed those of the BH which in addition to the joint effort of the military, gave them an edge over the BH thereby capturing several members of the sect.

**Reduction in Boko Haram Recruitment**

Another impact of CJTF in the counter-insurgency efforts is the reduction in BH recruitment. This was supported by Babagana (2024), revealing that effective monitoring of the communities by the CJTF deterred BH and their sympathisers from

recruiting new members from communities. He added that CJTF's community engagement and humanitarian assistance efforts made it easier to win the support of the locals thereby reducing BH's ability to recruit new members from the local population, further weakening its capacity to sustain the insurgency.

**Enhanced Civil-Military Relationship**

Saminu (2024) mentioned that the contribution of CJTF to the CIO has further strengthened the bond between the military and the civilian populace. By collaborating closely with the CJTF, the AFN have developed a deeper comprehension of the surrounding environment and the requirements of the impacted populations. This has helped to build trust and improve the overall civil-military relationship in the region.

**Territorial Reclamation and Resettlement of Displaced Persons**

According to Saminu (2024), CJTF has a thorough understanding of the local landscape and can offer effective intelligence on BH's strategies, movement, and logistics. This understanding has enabled the military to launch more targeted and effective operations against the insurgents, leading to the liberation of several communities from terrorists' grip. These contributed to the stabilisation and recovery of the region.

## Challenges of the Civilian Joint Task Force and Weaknesses in its Employment and Strategies for Optimising its Utilisation in Combating Boko Haram

The roles and impact of the CJTF have been discussed in the previous chapter. Therefore, this chapter will highlight the challenges of CJTF and the weaknesses in its employment and suggest approaches to maximise its utilisation in the CIO against BH. Data was collected through interviews and surveys and analysed using Microsoft Excel and SPSS.

### Challenges of Civilian Joint Task Force and the Weaknesses in Its Employment in the Fight Against BH

In discharging its role, the CJTF encountered some challenges, including limited training and resources, and security risk. Furthermore, the study revealed human rights abuse and the possibility of questionable/divided loyalty among its members as challenges to its employment. Accordingly, respondents' views on these challenges are shown in Table 4.1, where a combined 82.4% agree (12.8% neutral), and 4.8% disagree with the challenges. Subsequent paragraphs have discussed them in detail.

**Limited Training and Resources**

Limited training and resources are one of the challenges of CJTF. Jafaru (2024) revealed that the Theatre Training School commenced basic and refresher training for CJTF in 2021 to improve their skills and check their excesses. However, most have not trained

due to their large numbers and operational commitment. Hence, tactical skills, mental appreciation of situations, and basic weapon handling are lacking among its members. Therefore, limited training and resources are one of CJTF's challenges found in this study.

**Security Risk**

According to Bamidele (2016), the achievements of CJTF prompted retaliatory assaults from the BH, resulting in significant loss of life and, in certain instances, property damage. This made its members and their families vulnerable to retaliatory attacks by BH insurgents Babagana (2024) cited that such attacks demoralise and discourage participation in the militia especially when it leads to loss of lives. He gave an instance of the killing of a CJTF commander in Buni Yadi in May 2022. Similarly, survey data in Figure 4.3 corroborated the above claims. Hence, such security risks negatively affect the morale of CJTF members.

**Human Rights Abuse**

According to Soba (2024), CJTF often harasses innocent individuals or attaches personal grudges and sentiments to profile their presumed enemies. Furthermore, there have been reports of CJTF members committing acts of violence, looting, and extortion against civilians. Consequently, this raised concerns amongst the affected communities and eroded the trust and support of the locals. Thus, undermining the legitimacy of the counterinsurgency.

**Possibilities of Divided Loyalty**

The possibility of divided loyalty is another challenge to CJTF's employment. Jubrilla (2023) revealed that the lack of proper vetting in the recruitment of the CJTF creates room for the infiltration of BH sympathisers into the group. Hence, CJTF's involvement in the CIO raised concerns about the potential for some members to engage in double-agent activities, providing intelligence or assistance to BH insurgents. Thus, compromising the CIO puts security operatives and CJTF at risk.

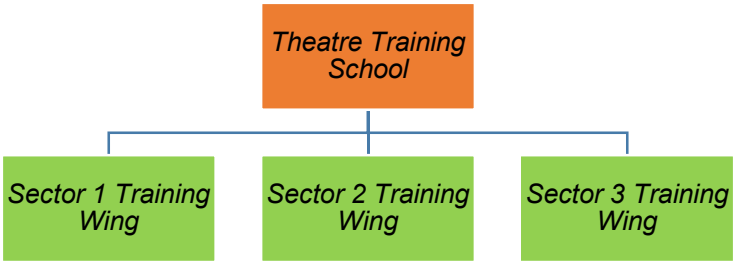
**Strategies for Optimising the Utilization of the Civilian Joint Task Force in the Counterinsurgency Operation against Boko Haram**

**Training and Capacity Building**

Training and capacity building are important means of CJTF's maximum utilisation. The effort of the NA to train the CJTF in the Theatre Training School could be augmented by decentralised training at the 3 sectors headquarters of the Theatre in which CJTF operates. The Theatre Training School could thus, give initial/basic training, after which the volunteers will move to the sectors for completion and subsequent refresher training. The sector training wings required some upgrade for this

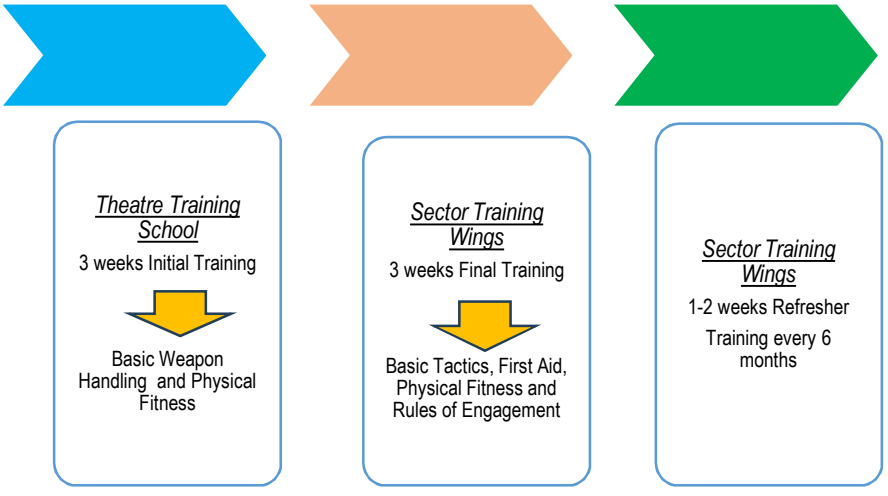
purpose. Figure 4.1 shows an organisation of the Theatre Training School with proposed upgraded sector training wings while Figure 4.2 shows a suggested plan for the training of CJTF.

**Figure-1: (Theatre Training School with Proposed Upgrade of the Sector Training Wings as Part of the School)**




Source: Researcher's Construct

**Figure-2: (Proposal for Enhanced CJTF Training)**




Source: Author's self-construct

**Effective Vetting, Monitoring and Evaluation**

Effective vetting during the recruitment of volunteers and implementing robust monitoring and evaluation mechanisms to track the CJTF's activities are good strategies for better utilisation of the group. Through vetting in the recruitment process, Theatre and Sector training, and payroll, a comprehensive database of the CJTF members can be maintained for effective monitoring and security purposes. Additionally, establishing independent oversight bodies, implementing grievance redressal mechanisms, and

developing/enforcement of clear guidelines and protocols for CJTF operations would ensure effective supervision of the group's activities.

**Humanitarian and Legal Compliance**

Integrating the CJTF more closely with the provision of humanitarian assistance and legal support to affected communities has helped to build the existing trust and improve the overall civil-military relationship in the region (Babagana (2024). Additionally, the security role of the CJTF in the IDP camps within the Theatre has further developed the trust and confidence of the vulnerable host communities in the group. Hence, the NA and Government could utilise the CJTF more in their humanitarian and non-kinetic approach to the counter-insurgency efforts. This could involve the CJTF playing a more active role in distributing aid and promoting reconciliation and peacebuilding efforts.

**Psychosocial Support**

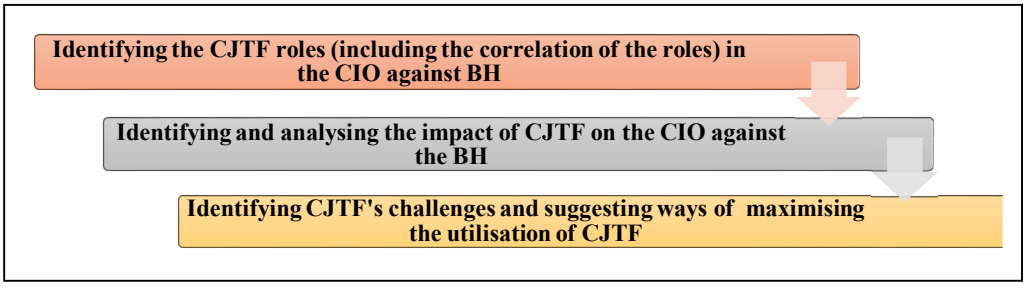
According to Babagana (2024), CJFT members often suffer casualties and severe injuries in operations or attacks from BH, leaving them or their families with trauma or PTSD in some cases. Though Saminu (2024) mentioned that the NA often provide the CJTF with necessary medical support, survey data in serial 4c and 4d of Table 4.2 indicated that the CJTF requires psychosocial support. Therefore, providing better and more effective psychosocial support and trauma-informed care to CJTF members and their families would help to address the physical and mental health challenges they face, ultimately enhancing their resilience and commitment to the counterinsurgency efforts. This could be achieved by establishing special care centres under the Northeast Development Commission (NEDC) as part of its mandate to develop the region.

**Conclusion**

This research appraised the impact of the CJTF on the CIO against BH in Nigeria. Data was collected from primary sources through interviews and survey questionnaires, while literature was the secondary source. Accordingly, the opinions of 146 respondents comprising military personnel, CJTF members, NGO staff, and civilians were obtained. Data was analysed using Microsoft Excel and SPSS 25.0 through T-Test, regression analysis and Bivariant Pearson correlation as tools. The study revealed that operational CJTF increased the effectiveness of CIO against BH, hence rejecting the null hypothesis.

BH insurgency has ravaged north-eastern Nigeria since 2009, leading to the creation of CJTF by volunteer youths in 2013 to protect their communities and assist in fighting BH. The objective of the research was to assess the impact of the CJTF on the CIO against BH. A hybrid method was used in the research to determine the relationship between CJTF and CIO against BH in Nigeria. The research was unfolded in the steps shown in Figure 5.1, which acted as a roadmap in confirming the hypothesis.

**Figure-4: Sequence Followed to test the Research Hypotheses**




Source: Author's self-construct

The historical background of the CJTF and its roles in the CIO against the BH were identified and discussed. The roles include intelligence gathering, conducting operations with the NA, patrols and manning checkpoints, community mobilisation and security, and humanitarian assistance and support for displaced persons. Analysis of the roles using Pearson correlation shows consistent positive correlations, indicating that the roles complement each other rather than operating in isolation.

## Recommendations

Based on the findings of this study, it is recommended that:

a. The NA should continue to utilise the CJTF in the CIO against BH.

b. The HQ TC should upgrade the sector training wings to accommodate CJTF training by Fourth Quarter 2025.

c. AFN and the Borno State Government should utilise the CJTF in a more humanitarian role with immediate effect.

d. NEDC should enrol CJTF in its welfare programme and establish special healthcare centres for the group by First Quarter 2026.

e. The NA should monitor the CJTF's recruitment process and activities with immediate effect.

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## Biography

**Major Abdurrasheed Muhammad Sani** was born on 16 June 1988 in Kaduna, Nigeria. He joined the Nigerian Defence Academy in July 2007 and was commissioned in 2012. He graduated with a Bachelor's Degree in Political Science and Defence Studies and was posted to the Nigerian Army Infantry Corp. He served in the Presidential Guards as a Battalion Adjutant, Operations Officer, and later Officer Commanding. He also served at the Nigerian Army Special Forces School as an instructor and Military Assistance to the Commandant, and later as ADC/Security Officer to a former Army Chief. Apart from his mandatory courses, he has attended the Strategic Leadership Course at King's College London. He also attended the Anti-Terrorism course in Pakistan, Critical Thinking and Adaptive Leadership course, Human Resource Development Course, UN MILOB course and a post-graduate diploma in Disaster Management, all in Nigeria. Additionally, he attended the Covert Terrorist Detention Course in Pakistan. His hobbies include horse riding, watching historical documentaries and travelling. He is happily married to Mrs Asiya and blessed with twins (Boy and Girl).

# Overcoming Cognitive Errors and Biases for Better Decision-Making Ability Among Mid-Level Officers of the Bangladesh Army

*Major Md Majharul Islam Nowshad, Infantry*

**Abstract**

This research investigates the impact of cognitive errors and biases on decision-making within the military domain, focusing on mid-level officers of the Bangladesh Army. The study examines how these biases undermine decision quality, often leading to inefficiency. Its primary objective is to identify the most common cognitive errors and biases and propose practical strategies to mitigate them. A mixed-method approach was employed, including surveys, senior officer interviews, and focus group discussions (FGDs), to assess both awareness of cognitive biases and their influence on decisions. Findings confirm that cognitive biases are prevalent, with officers acknowledging their impact on both administrative and operational decision-making. To address this challenge, the study proposes individual-level strategies as well as organisational measures such as formal training, open feedback mechanisms, and fostering a fear-free environment. Together, these approaches can significantly enhance the decision-making ability of mid-level officers.

## Introduction

Military leaders need to think critically and clearly for efficient decision-making. However, clear and unbiased thinking often remains outside the intellectual horizon of many. As the supreme creation of Allah, humans take their ability to rational thinking for granted; however, thinking is not as simple as often perceived (Rahman, 2020). Historically, humanity has evolved through a hostile environment where quick decision-making is a prerequisite for survival. Cognitive errors and biases influence decision-making; mid-level officers of the Bangladesh Army (BA) are no exception. While prevalent cognitive errors and biases limit critical thinking ability, mid-level officers fail to think clearly, often leading to inaccurate decisions.

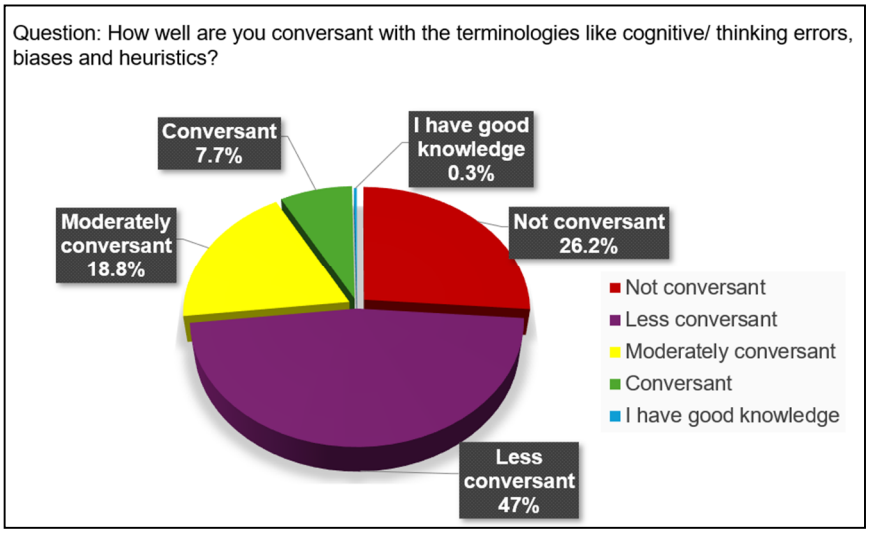
While the BA focuses on leadership training for its officers at every level, mid-level officers receive limited knowledge of cognitive errors and biases. Many armies have been studying cognitive biases to improve decision-making ability; even the Central Intelligence Agency (CIA) devotes several chapters in its manual to cognitive biases (Friedman, 2023). Lack of proper knowledge of these errors and biases often limits the critical thinking ability of mid-level officers of the BA. As a result, their decisions are

often subject to wrong direction, which affects the well-being of the subordinates and creates an ambiguous working environment (33 Inf Div, 2023). Thus, for better analysis of any problem and better decision-making ability, mid-level officers must be equipped with proper knowledge of these cognitive errors and biases.

## Understanding Cognitive Errors, Biases, and Heuristics and their Relation to Decision Making

Despite being a miracle of evolution, the human mind may conflict when making decisions. Cognitive errors are systematic mistakes in thinking, causing deviation from logical pathways (Neal et al., 2022). Knowledge of these errors and biases will help someone understand how the decisions are negatively affected (Norman et al., 2017). During the survey, mid-level officers' lack of knowledge on this aspect was vivid (Figure-1).

**Figure-1: Mid-Level Officers' Knowledge of Cognitive Errors and Biases**



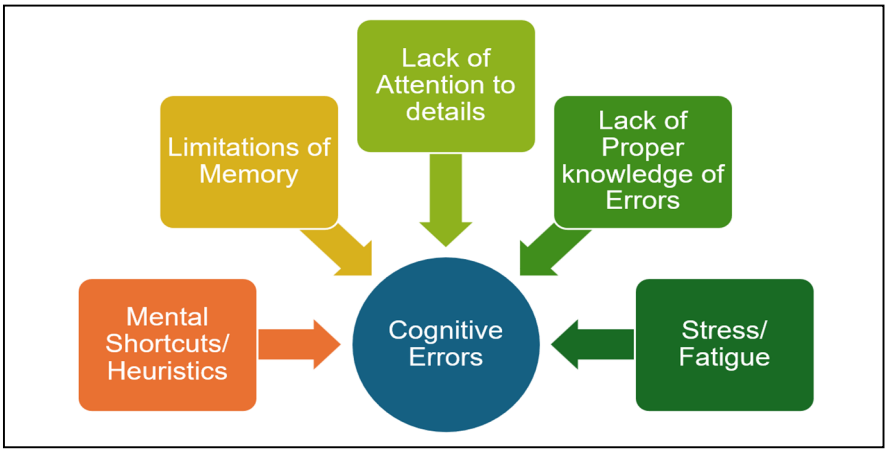

Source: Author's self-construct based on survey results

## Defining Cognitive Errors, Biases, and Heuristics

### Cognitive/ Thinking Errors

Cognitive errors are systematic mistakes in thinking that lead people to deviate from logical pathways and arrive at misinterpretations, flawed judgments, and incorrect conclusions (Beck & Haigh, 2014). These errors are not random slips of the mind, but rather recurrent patterns influenced by the limitations of cognitive processes (Kahneman, 2011). These negative reasoning patterns can commonly be termed as thinking errors.

**Figure-2: Common Causes of Cognitive Errors**

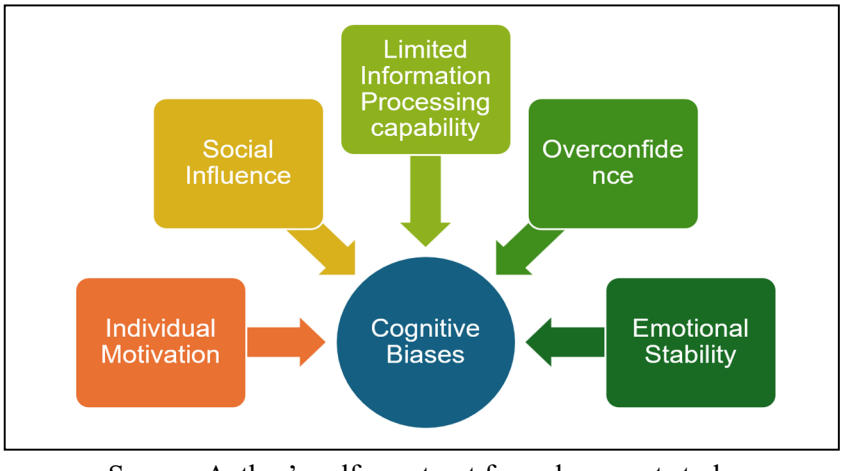



Source: Author's self-construct from document study

**Biases**

Biases refer to a systematic pattern of thinking that unfairly prejudices someone's judgment towards or against a particular idea, person, or situation (Tversky & Kahneman, 1974). Think of bias as a tinted lens through which people view the world, which can subtly distort incoming information, amplifying certain details while diminishing others (Kahneman, 2011). A few common causes of cognitive biases are as follows:

**Figure-3: Common Causes of Cognitive Biases**




Source: Author's self-construct from document study

**Heuristics**

Heuristics are mental shortcuts, rules of thumb, that allow people to make judgments and decisions efficiently without engaging in lengthy analysis (Tversky & Kahneman, 1974). These can be termed as cognitive hacks – simplified approaches that help people navigate through available information. A heuristic is a strategy that ignores part of the information to make decisions more quickly (Gigerenzer & Gaissmaier, 2011). Heuristics, while convenient for quick decisions, can sometimes lead to incorrect decisions due to biased focus.

**Understanding Limitations of Cognitive Process**

**Perception Based on Circumstances**

Kahneman, (2011) in his book Thinking, Fast and Slow described two models of thinking processes to illustrate the limitations of thinking. System 1 is the fast, automatic, and intuitive mode of thinking. System 2 is the slower, deliberate, and analytical mode responsible for complex reasoning. Limitations of both systems often lead to biases and errors (Facione, 2015).

**Manipulation of the Thinking Process**

Human thinking can be easily manipulated. According to Don Airily, the human brain tends to concentrate on comparing objects or concepts that are easily comparable. An online advertisement for the subscription to 'The Economist' magazine shown to MBA students at MIT was as follows:

**The Economist Subscription**

- Online access for 1 year: $ 59 – **68 Students**
- Print and online access for 1 year: $ 125 – **32 Students**

Of 100 students, 68 chose the online option, but when the same advertisement was offered differently, as below, only 16 opted for the online option, while 84 chose the combination.

**The Economist Subscription**

- Online access for 1 year: $ 59 – **16 Students**
- Print Subscription for 1 year: $ 125 – **00 Students**
- Print and online access for 1 year: $ 125 – **84 Students**

According to Ariely (2011) the change happened not because of an irrational decision, but because of a decoy option deliberately given to manipulate the choice of students.

It exploits the human thinking process to compare objects or concepts with readily available options. Similar types of manipulations are done in shops.

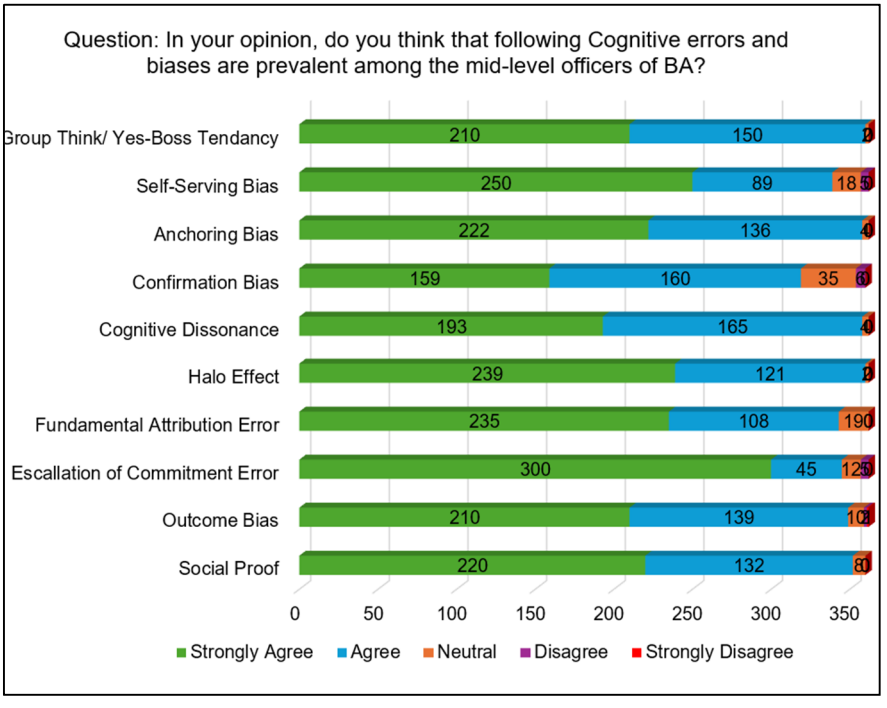
### Common Cognitive Errors and Biases Prevalent Among Mid-Level Officers of the Bangladesh Army and Their Effects

A mid-level officer of the Bangladesh Army (BA), whether serving as a staff officer or commander, plays a vital role in the army's decision-making chain. If their decisions are flawed or biased, organisational efficiency may be adversely affected. Prevalent cognitive errors and biases among mid-level officers of the BA have been identified through document study and survey data analysis. Additionally, Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs), analysed using NVivo software, were also taken into consideration.

### Identified Common Cognitive Errors and Biases

Qualitative and quantitative analyses have identified the 10 most common cognitive errors and biases that are prevalent among the mid-level officers of the BA. As per the survey report, officers have agreed upon the prevalence of all these errors and biases among mid-level officers.

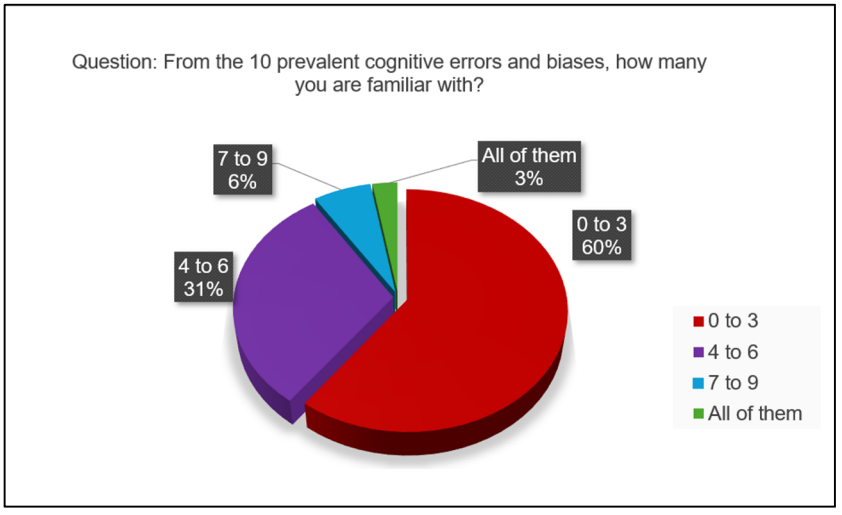
**Figure-4: Mid-level officers' Perception of Prevalent Cognitive Errors and Biases**




Source: Author's self-construct Based on Survey Result

However, once asked, 84% of the mid-level officers were not familiar with more than 3 errors. It shows that most mid-level officers had been making decisions without knowing that many of their decisions could have been flawed because of cognitive errors, biases, and heuristics.

**Figure-5: Mid-level Officers' Knowledge of Prevalent Errors and Biases**




Source: Author's self-construct Based on Survey Result

**Prevalent Errors and Biases among Mid-Level Officers and Their Effect**

**Social Proof and Its Effect**

Social proof, often known as the herd instinct, is the idea that people feel comfortable and think they are acting appropriately when they behave in the same way as others (Dobelli, 2013). In other words, People tend to think that an idea is better if more people follow it, like in the fashion industry. In the BA, social proof can be identified at every level, particularly among mid-level officers. For example, for a training visit of GOC, the staff officers will inquire how other units have conducted such visits to be in the same line. Despite having some benefits, social proof creates impediments to innovation and deliberate thinking.

**Outcome Bias and Its Effect**

It is the tendency to judge a decision based on its outcome/ result rather than the quality of the decision or external factors that play an important role (Dobelli, 2013). Before starting any course, officers look for the previous course materials (PCK) of the senior officers who achieved good results without being aware of the circumstances when that

PCK were made. The outcome bias may discourage the innovation or risk-taking attitude of mid-level officers, only focusing on the outcome (Cohen et al., 1996).

**Escalation of Commitment Error and Its Effect**

Intuitively, one should abandon any planned project or change a habit in case of negative consequences; nevertheless, decision-makers allocate more resources (Staw, 1976). This is known as the escalation of commitment error, also known as the sunk cost fallacy. Once a decision is made, officers are often reluctant to reverse it for fear of losing credibility in front of their subordinates. This error has as serious consequences as blurred judgment to identify a more efficient plan or strategy, incurring financial and human resource loss.

**Fundamental Attribution Error and Its Effect**

Fundamental Attribution Error often overemphasises the personality trait of a person, based on action, overlooking other factors that compelled him to such behaviour (Ross, 1977). As a coy commander, an officer may consider a soldier ill-disciplined if he is late to return from leave or is late in an event, but that individual could have a perfect reason behind it (Rahman, 2020). As a result of a fundamental attribution error, there might be misunderstanding and interpersonal conflict (Dobelli, 2013). This error may impede efficient team building by creating mistrust among closely connected people or a sub-unit, leading to unfair evaluation (FGD-1).

**Halo Effect and Its Effect**

The halo effect occurs when a single favourable attribute influences the general perception of a person, organisation, or product. During the basic courses or junior command and staff courses, officers who held a good appointment in the Bangladesh Military Academy often get the advantage of the halo effect. The halo effect may give rise to incorrect or flawed decisions and inaccurate evaluations in the case of promotion or posting, creating a feeling of deprivation among subordinates (33 Inf Div, 2023).

**Cognitive Dissonance and Its Effect**

There is an old saying that ‘the grass is always greener on the other side of the fence’, which closely relates to cognitive dissonance, which is a mental state of discomfort resulting from two conflicting beliefs, values or attributes (Festinger, 1957). It also happens that even if someone does not like an instruction or an idea, he or she must follow it. Cognitive dissonance is embedded in day-to-day military life, especially among mid-level officers. As a result of cognitive dissonance, mid-level officers often try to justify their actions, leading to wrong decisions (FGD-2). It gives rise to disrespect for the superior officers.

### Confirmation Bias and Its Effect

Confirmation bias is the tendency to look for information or evidence that confirms a pre-existing belief while disregarding information that contradicts it (Nickerson, 1998). Confirmation bias in the military is like situating the appreciation. For example, during a tactical exercise without troops, staff college participants considered the Kapotaksho River a major obstacle while planning defensive operations, but treated it as a minor obstacle when planning offensive operations—rationalising both choices to suit their preconceived plans. Confirmation bias hinders the ability to learn new information or adapt to changing circumstances (Klayman & Ha, 1987). It promotes decisions on incomplete information, leading to weak analytical ability.

### Anchoring Bias and Its Effect

Due to anchoring bias, the observer or listener heavily relies on the first piece of information, known as the anchor, when making a decision (Tversky & Kahneman, 1974). The same thing may happen during operational planning as well, while estimating threats solely based on initial information without verifying it. As a result of anchoring bias, decisions made might not be the most efficient, often leading to unfair negotiation (Tversky & Kahneman, 1974). In military planning, it may lead to inaccurate operational estimates or biased plans (Roanghesi, 2019).

### Self-Serving Bias and Its Effect

Due to self-serving bias, people love to give credit to themselves for any success or positive outcome while attributing the negative events or failure to external factors not related to them (Dobelli, 2013). This is most frequently seen among the mid-level officers. The most damaging thing self-serving bias does is that people fail to acknowledge their own mistakes and miss the opportunity to learn and improve (Ashley, 2022). It ultimately leads to taking undue credit and blaming others for own mistakes.

### Groupthink/Yes-Boss Tendency and Its Effect

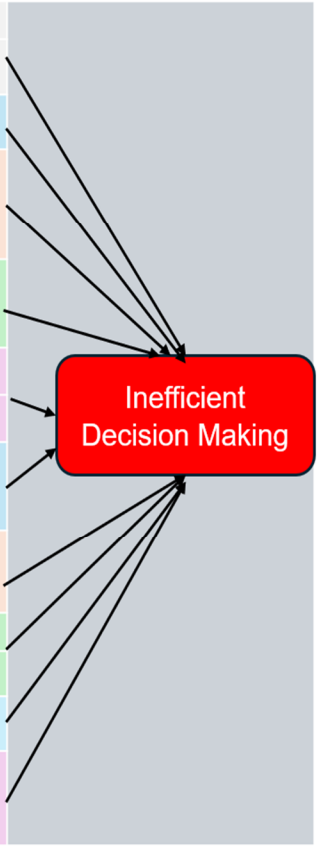
Groupthink and yes-boss tendency are two closely related cognitive errors prevalent among mid-level officers of the BA. Groupthink means avoiding any argument or analysis while deciding in a group, just to maintain harmony, knowing fully well that the decision taken may not be correct (Dobelli, 2013). The yes-boss tendency also refers to the tendency to avoid disagreeing with superiors (Breitsohl et al., 2015). Groupthink or yes-boss tendency may lead to wrong decisions, threatening the success of any event or operation. It has a direct impact on innovation, initiative and unit cohesion.

**Effect of Errors on Deliberate/Critical Thinking and Decision-Making**

Prevalent cognitive errors and biases among the mid-level officers of the BA limit their ability to think critically and exhaustively. Table 1 shows such a relationship between prevalent cognitive errors and biases and decision-making.

**Table-1: Cognitive Biases Impact Matrix for Military Decision-Making**

| Ser | Cognitive Errors and Biases | Effects related to Decision Making | Outcome |
|---|---|---|---|
| 1 | Social proof | Impediments in deliberate thinking | |
| | | Missing more prudent decisions | |
| 2 | Outcome Bias | Weakened the analytical ability | |
| 3 | Escalation of Commitment Errors | Blurred judgment | |
| 4 | Fundamental Attribution Error | Unfair evaluation/judgment | |
| 5 | Halo Effect | Incorrect or flawed judgment | |
| | | Inaccurate evaluation | |
| 6 | Cognitive Dissonance | Overlooking the counter logic | |
| 7 | Confirmation Bias | Decisions based on incomplete information | |
| 8 | Anchoring Bias | Unfair negation | |
| | | Inaccurate operational estimate | |
| 9 | Self-Serving Bias | Flawed analytical ability | |
| 10 | Group Think/ Yes-boss tendency | Lack of Innovation | |




Source: Author's self-construct

The Cognitive Biases Impact Matrix (Table 1) illustrates a direct relation between the prevalent errors and biases with the decision-making ability of mid-level officers of the BA. To ensure accuracy, additional survey results concerning the related effects were analysed using the Statistical Package for the Social Sciences (SPSS) and were found to be valid.

## Plausible Strategies to Overcome Cognitive Errors and Biases to Develop Decision-Making Ability

### General

Prevalent cognitive errors and biases among mid-level officers of the BA adversely affect their decision-making capabilities. To mitigate these challenges, it is essential to identify plausible measures for addressing such biases. This chapter explores both individual and organisational approaches required to overcome these cognitive errors and enhance decision-making effectiveness. The identified strategies were further validated through survey result and interviews.

### Ways and Means to Address Each of the Prevalent Errors and Biases

### Avoiding the Social Proof

To avoid social proof, one must develop Independent analysis and critical thinking skills (Facione, 2015). Thereafter, seeking diverse inputs while making any decision and promoting decision autonomy might reduce the effect of such errors in decision-making (Hackman, 1986). Lastly, one must practice/ exercise their judgment from a neutral point of view.

### Overcoming the Outcome Bias

To avoid outcome bias, people should evaluate the quality of the decisions not by outcome, but rather on prevalent circumstances (Russo & Schoemaker, 2002). Conducting an after-action review and an efficient feedback mechanism can help people avoid this error (M. London & Smither, 2002).

### Avoiding the Escalation of Commitment Error

Regular cost-benefit analysis and formulation of an exit strategy are required at all stages of a decision/ project (Boardman et al., 2018). Flexibility should be encouraged at all levels, and the practice of open communication and a mindset to accept criticism (Staw, 1976) reduces the chances of escalation of commitment error.

### Ways to Avoid Fundamental Attribution Error

To avoid a fundamental attribution error, one should develop and cultivate empathy to see things from the perspective of others (Batson, 2009). One should avoid being judgmental/perspective-taking. Nevertheless, seeking honest opinions or inviting criticism will help the mid-level officers identify such errors and overcome them (Galinsky & Moskowitz, 2000).

**Overcoming the Halo Effect**

To avoid being in the trap of the halo effect, multifaceted evaluation tools need to be developed (Borman, 1991). Additionally, blind assessment is to be avoided; individuals should resist being dazzled by one aspect of anything and instead consider the entire picture. Furthermore, structured evaluation criteria should be followed.

**Overcoming the Cognitive Dissonance**

Recognising the existence of cognitive dissonance within the unit/ institution is the first step to overcoming this error. In doing so, mid-level officers should try to lead by example and receive feedback from under their commands to identify and overcome this error (Men, 2014).

**Getting Rid of the Confirmation Bias**

To overcome the confirmation bias, one should develop a 'devil's advocate mentality to question one's own beliefs or knowledge (Rogers et al., 2006). Additionally, diverse sources of information and opposing viewpoints to be looked into before making any decision (Tetlock, 2005).

**Negating the Effect of Anchoring Bias**

Mid-level officers should try gathering multiple sources of information, followed by fact-checking to make efficient decisions (Ariely, 2011). Furthermore, awareness should be developed about the prevalence of such errors (Kahneman, 2011).

**Overcoming the Self-Serving Bias**

Self-serving bias can be overcome by seeking honest opinions from peers and superiors to identify the areas of improvement (London & Smither, 1995). Additionally, one needs to practice self-compassion and avoid quick judgment (Meyer, 1980). Additionally, after-action review will allow shared views and learning opportunities (Larrivee, 2000).

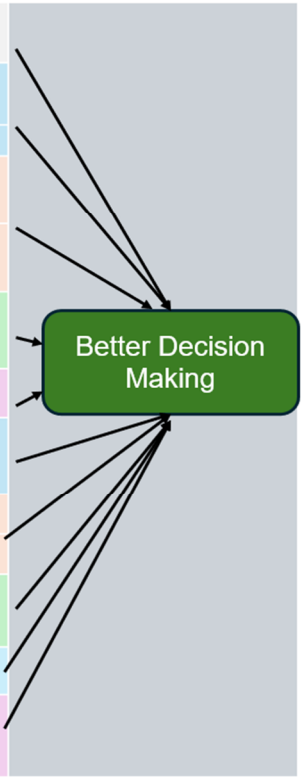
**Measures to Avoid Groupthink/ Yes-Boss Tendency**

To avoid groupthink/ yes-boss tendencies, mid-level officers must create a fear-free environment in the unit they command and encourage all members to express opposing views (FGD-1). Simultaneously, an anonymous feedback system can augment the process of overcoming the yes-boss tendency (Edwards & Ewen, 1996).

### Cognitive Bias Mitigation Framework

Table 2 illustrates how applying mitigation strategies for common cognitive errors and biases can greatly enhance the decision-making of mid-level BA officers.

**Table-2: Cognitive Bias Mitigation Framework for Enhanced Military Decision-Making**

| Ser | Cognitive Errors and Biases | Mitigation Strategies Influencing Decision Making | Outcome |
|---|---|---|---|
| 1 | Social proof | Developing Independent Analysis and critical thinking Skills |  |
| 2 | Outcome Bias | Evaluating the Decisions Based on Circumstances | |
| | | Conducting After Action Review | |
| 3 | Escalation of Commitment Errors | Regular Cost Benefit Analysis and Exit Strategy | |
| | | Encourage Flexibility and Scenario Based Training | |
| 4 | Fundamental Attribution Error | Consider Situational Factors | |
| 5 | Halo Effect | Multi-Faceted Evaluation Tools | |
| 6 | Cognitive Dissonance | Accepting Feedback from under commands | |
| 7 | Confirmation Bias | "Devil's Advocate" Mentality | |
| | | Always Plan for Contingency | |
| 8 | Anchoring Bias | Fact-Checking before Decision-making | |
| 9 | Self-Serving Bias | Avoiding quick judgments | |
| 10 | Group Think/ Yes-boss tendency | Creating a Fear-Free Environment | |



Source: Author's self-construct

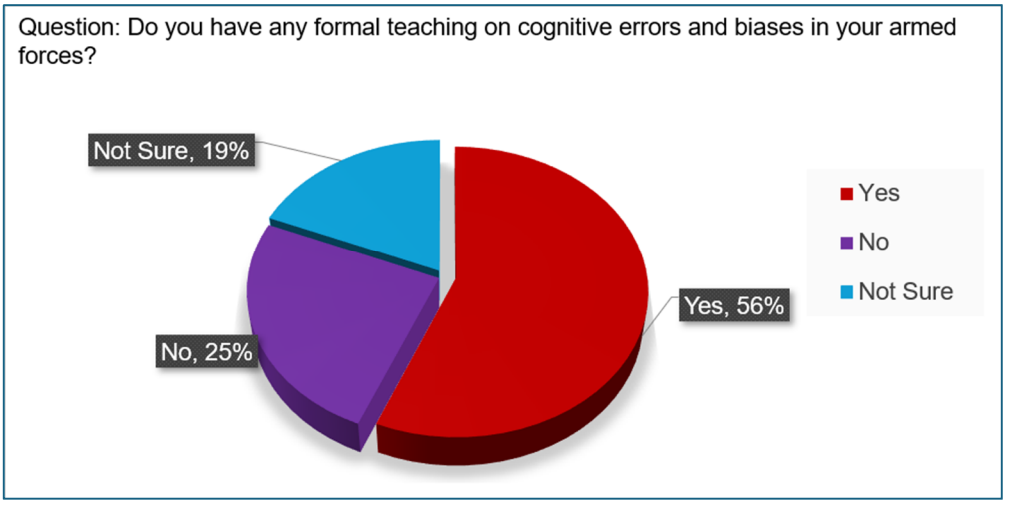
### Organisational Approaches for Empowering Mid-level Officers to Overcome the Errors and Biases

While the individual approach is the primary step to overcoming cognitive errors and biases, the organisation cannot deny its role in creating a conducive environment where unbiased and efficient decision-making can thrive.

In many armies, formal teachings on these errors and biases are given to develop the decision-making ability of mid-level officers. While surveying the OCPs of the staff

college, 16 officers from 15 different countries participated, and 56% confirmed the prevalence of such teachings in their armed forces.

**Figure-6: Formal Teaching on Cognitive Errors in Other Armed Forces**




Source: Author's self-construct based on a survey among OCPs

The researcher identified a few plausible options the BA can take as an organisational approach. While asking the mid-level officers of the BA during the survey, the following options received positive feedback.

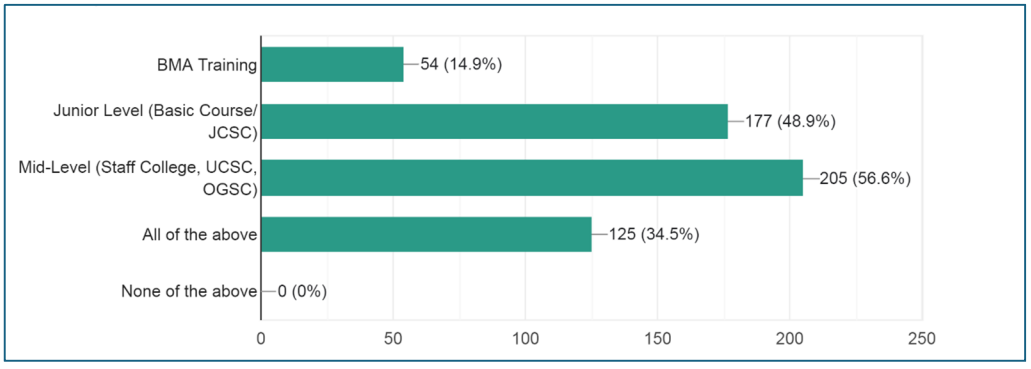
**Figure-7: Officers' Preferred Organisational Approaches**


Source: Author's self-construct based on survey results

### Training and Educating Officers on the Errors and Decision-Making

Formal teachings of these errors and biases should be integrated within the overall professional training system of officers.

**Figure-8: Officers' Response to Training and Educating Officers on these Errors**

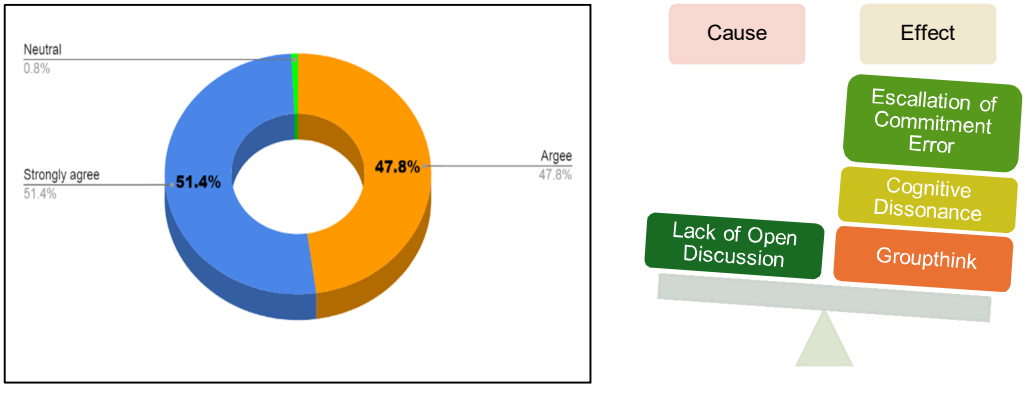



Source: Author's self-construct based on survey results

### Encouraging Open Discussion

As identified in the individual approach, promoting open discussion is linked to the mitigation measures of most of the prevalent cognitive errors. However, organisational effort will be required to promote a culture of open discussion where mid-level officers will be able to overcome many errors and biases.

**Figure-9: Encouraging Open Discussion to Avoid Cognitive Errors and Biases**

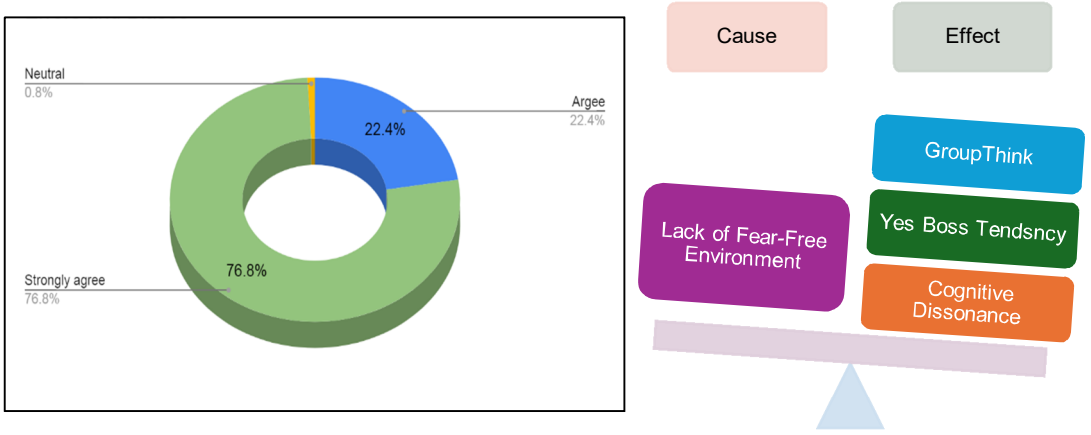



Source: Author's self-construct based on survey results

### Creating a Fear-Free Environment

As many of the biases have the common cause of social pressure and stress, it is important to create a fear-free environment within the organisation. However, creating such an environment requires an organisational approach.

**Figure-10: Fear-free Environment for Eradicating Cognitive Errors and Biases**

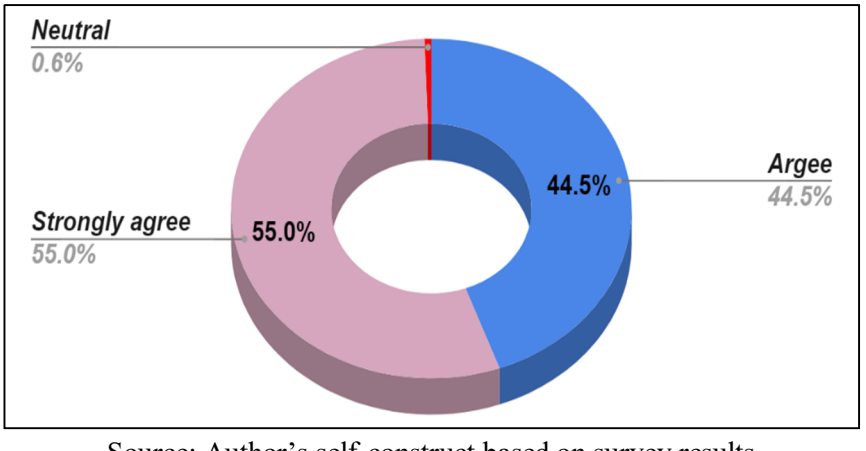



Source: Author's self-construct based on survey results

### Promoting Ethical Decision Making

Ethical decision-making typically requires critical thinking, empathy, and a commitment to upholding ethical norms even in challenging situations (33 Inf Div, 2023). It is said that 'An ethical decision may not be a popular one'. Considering this, mid-level officers will not be biased if ethical decision-making is practised (FGD).

**Figure-11: Promoting Ethical Decision Making for Unbiased Decisions**

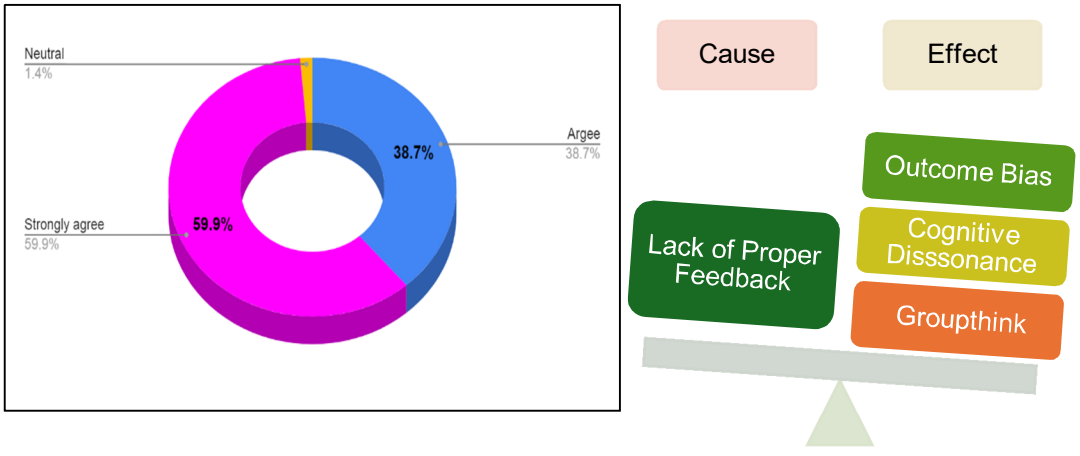



Source: Author's self-construct based on survey results

### Developing a System of Feedback

Lack of proper feedback also gives rise to many cognitive errors, like outcome bias, cognitive dissonance, and groupthink. An efficient feedback method will be able to eradicate such errors and biases.

**Figure-12: Errors and Biases Due to the Absence of Proper Feedback**




Source: Author's self-construct based on survey results

### Seminar/ Workshops at Division Level

Apart from all these measures. Regular seminars and workshops may be conducted in the formations to familiarise officers with the prevalent cognitive errors and biases as well as their effects (Interview).

### Conclusion

The research confirms the widespread presence of cognitive errors and biases among mid-level officers of the BA and their tangible impact on critical thinking and decision-making. Through a rigorous mixed-method approach—comprising surveys, interviews, focus group discussions, and document analysis—ten core cognitive distortions were identified as significantly influencing operational and administrative decisions.

The study validated its central hypothesis: cognitive biases are deeply embedded in everyday military decisions and can undermine judgment unless consciously mitigated. Both qualitative and quantitative analyses consistently revealed that a lack of awareness and structured training has allowed these biases to persist. Survey results further demonstrated that while officers frequently encounter these biases, they remain largely unfamiliar with their cognitive underpinnings and implications.

To address this gap, the research emphasises the importance of integrating both individual-level interventions—such as critical reflection, diverse perspective-seeking, and structured feedback—and organisational initiatives, including formal training, culture of open discussion, and ethical decision-making environments. Ultimately, overcoming cognitive biases is not just a matter of individual insight—it is a command responsibility as well. A structured framework combining cognitive awareness with institutional support mechanisms can significantly enhance the decision-making ability of the officers of the BA in both peace and conflict environments.

## Recommendations

Based on the findings from the research conducted, a few recommendations are proposed as follows:-

a. Army Headquarters (AHQ), Military Training (MT) Directorate may incorporate formal lessons on cognitive errors and biases within the training/ course curriculum of mid-level officers by 2027.

b. Formations may conduct regular workshops and seminars on leadership and decision-making, which should provide mid-level officers with the necessary knowledge on cognitive errors and biases to improve their decision-making capability. Initial workshops may be introduced quarterly from 2027 onward, with an annual review for feedback and refinement.

c. Through regular command directives, senior military leaders can foster a fear-free environment in the BA, encouraging healthy debate and criticism, which will help mid-level officers enhance their decision-making ability by overcoming cognitive errors and biases.

d. AHQ, Military Secretariat Branch (MS Br) may study the feasibility of incorporating a 360-degree feedback system for the commanders at all levels. The feasibility study may be conducted for one year, and a pilot program may be initiated in selected formations. Such feedback from the under-command officers will help the commanders identify their limitations in thinking and decision-making ability.

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## Biography

**Major Md Majharul Islam Nowshad, psc, Infantry** was commissioned on 26 December 2012 with 67 BMA Long Course. He has the experience of serving in various staff, Instructional and regimental appointments. His regimental service includes 1 East Bengal Regiment, 18 East Bengal Regiment, and 27 Bangladesh Infantry Regiment. As an instructor, he served at the Bangladesh Military Academy (BMA) as Instructor Class 'C' and at the School of Infantry and Tactics (SI&T) as Instructor Class 'B' in the Tactics Wing. His staff experience includes serving as GSO-2 at Army Headquarters, Military Training Directorate. He also served in the United Nations Peacekeeping Mission in South Sudan with BANBAT-4 (60 East Bengal Regiment). A graduate of Defence Services Command and Staff College, Mirpur, he is currently attending the Defence Services Staff College, Wellington, India.

# Photos of Guest Speakers DSCSC 2025

Mr. Muhammad Fozlul Kabir, Hon'ble Advisor to Bangladesh Government

Sayeda Rizwana Hasan, Hon'ble Advisor to Bangladesh Government

H.E. Alexander Grigoryevich KHOZIN, Russian Ambassador to Bangladesh

Dr. Niaz Ahmed Khan, Vice Chancellor, Dhaka University

Mr. Yasir Azman, CEO, Grameenphone

Professor Dr. Lallufar Yasmin, Deptarment of International Relations, Dhaka University

# Photos of Training Activities DSCSC 2025

Tactical Excercise Without Troops (Army Wing)

Indoor Exercise (Air Wing)

Indoor Exercise (Navy Wing)

Training Visit

Outdoor Exercise (Army Wing)

Joint (Army, Navy and Air Wing) Indoor Exercise