BANGLADESH ARMY JOURNAL

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DISCLAIMER

EDITORIAL

The Editorial Board is immensely happy to present the 76th Issue of *Bangladesh Army Journal* to the esteemed readers. This prestigious publication acts as a professional mouthpiece through which officers of Bangladesh Army share their views and thoughts with the valued readers. It also helps the officers to inculcate the habit of writing and to develop their intellectual faculties. It provides an open forum to present the innovative ideas and matured thoughts pertinent to national, regional, international security affairs, military strategy, military training, military leadership and management, military history and tradition, modern technology and equipment, unit affairs and other topics of significant and current interest co-related to Bangladesh Army. *Bangladesh Army Journal* also seeks to encourage further research on the core issues of defence, offers the latest perspectives, and serves as a platform for sharing research findings and opinions of military scholars which have greater impact for continuous improvement of Bangladesh Army.

The current issue of *Bangladesh Army Journal* contains articles on varied themes which include computer simulation platform at BIPSOT, interpersonal relationship, operational strategy in UN Peace Operations, internet media, enhancing communication strategies, Artificial Intelligence in logistics operations, counter drone warfare, Innovative Leadership, innovative military tactics, inclusive education in CHT, generation Z in national defence, the Three Zeros Theory and integration of Small Group Operations in Bangladesh Army. What is remarkable about these scholarly write-ups of the talented authors is the qualitative depth of its contents which bear food for thought for the readers, researchers and analysts.

The Editorial Board is profoundly indebted to **General Waker-Uz-Zaman, SBP, OSP, SGP, psc, the Chief of Army Staff, Bangladesh Army and Chief Patron of *Bangladesh Army Journal*** whose in-depth knowledge, wisdom, professional acumen and sheer dynamism have achieved the qualitative enrichment of the journal. We also express our sincere gratitude to the **Chief of General Staff** for his insight, guidance, invaluable advice and suggestions given to the Editorial Board to elevate the standard of the time-honoured *Bangladesh Army Journal*. We would like to thank all the writers who contributed immensely through their insightful writings. In spite of all the sincere efforts put in by the dedicated Editorial Team, lapses and omissions may be traced by the keen readers. Considering the invaluable suggestions Editorial board will be always committed for the qualitative improvement of *Bangladesh Army Journal*.

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Development of Computer Simulation Platform at BIPSOT: A Paradigm Shift in UN Peace Operation Training

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Abstract

The development of a computer simulation platform at the Bangladesh Institute of Peace Support Operation Training (BIPSOT) represents a significant shift in the training of UN peacekeepers. Simulation training emerges as an innovative solution as traditional training methods struggle to address the complexities of modern peace operations, which are characterized by asymmetric threats, hybrid warfare and rapidly changing scenarios. This article explores the need for enhanced training methods at BIPSOT, highlighting the limitations of conventional techniques and the advantages of simulation-based learning. Simulation training offers immersive, risk-free environments where peacekeepers can develop critical decision-making skills, adapt to diverse operational contexts, and receive immediate feedback. There is discussion on the technological tools and scenario designs that underpin this approach, emphasising its role in enhancing the realism and safety of training experiences. It outlines the potential for continued technological integration, including Artificial Intelligence (AI), Virtual Reality (VR) and Augmented Reality (AR), to enrich training modules further. International collaboration with other peacekeeping training centres will drive the development of global best practices, leading to improved mission outcomes and enhanced global peacekeeping standards. BIPSOT's adoption of simulation training marks a paradigm shift. It equips peacekeepers with the skills needed to navigate the evolving challenges of global security effectively. This advancement ensures better-prepared personnel and enhances the overall quality of peace operations globally.

Keywords: United Nations Peace Operation Simulation Training (UNPOST), peacekeeping training, simulation-based learning, Integrated War Game Simulation System (IWGSS), decision-making skills, Pre-Deployment Training (PDT), technological integration, operational readiness, crisis management, critical thinking, training innovations.

Introduction

The Bangladesh Institute of Peace Support Operation Training (BIPSOT) is a globally renowned institution that prepares peacekeepers for UN Peace Operations (UNPO) roles. BIPSOT complies with the UN Department of Peace Operations (DPO) mandate to prepare military personnel for deployment, as outlined in the General Assembly Resolution. The Institute's mission is to impart specialised multifaceted training to national and multinational military, police, and civilian participants on peace operations by current international standards through research, education, and professional programmes.[1]

BIPSOT has significantly contributed to Bangladesh's role in UN peacekeeping operations. Bangladesh has been a major troop contributor for nearly three decades and is today the world's third leading troop-contributing nation, with almost 6092 troops and police serving in eleven (11) UN Missions.[2] BIPSOT has provided pre-deployment training to these peacekeepers and contributed significantly to the cause of world peace.

The Institute has also taken on a leadership role in the region, serving as the Secretariat of the Association of Asia-Pacific Peace Operations Training Centres (AAPTC) since its inception in 2011. BIPSOT hosts the AAPTC's annual general meeting and workshop, bringing representatives from member countries to discuss challenges and best practices in peacekeeping training. The 12th Annual General Meeting (AGM) and Workshop, hosted by BIPSOT in 2024, focused on the "Development of multi-dimensional peacekeeping training modules with the use of new technologies to deal with the evolving asymmetric threats."[3]

BIPSOT's significance extends beyond Bangladesh's borders. The Institute has achieved Full Global Peace Operations Initiative (GPOI) Training Capability, demonstrating its ability to independently conduct core military peacekeeping training. The U.S. Pacific Command (PACOM) has partnered with BIPSOT through the GPOI to train multinational forces for UN peacekeeping operations.[4]

Modern peacekeeping missions involve complex and dynamic challenges that traditional training methods often need to address adequately. Peacekeepers must navigate various responsibilities, from managing asymmetric threats to maintaining ceasefires, engaging with local communities, and coordinating with multiple stakeholders.[5] Foundational, traditional classroom-based training and field exercises often need more realism and adaptability to prepare personnel for the unpredictable nature of peace operations. Furthermore, these methods do not fully simulate the diverse urban and rural environments and the cultural and political nuances peacekeepers will face. Therefore, there is a pressing need for enhanced training methods that provide immersive, realistic, and adaptable experiences, enabling peacekeepers to develop the critical decision-making skills, cultural sensitivity, and operational readiness essential for success in today's complex peace operations.[6]

Background

Traditional Training Methods at BIPSOT: BIPSOT conducts pre-deployment training (PDT) for all the Bangladeshi contingents deployed in the United Nations Peace Operation Mission. In the existing training system at BIPSOT, a selected group of Officers, Junior Commissioned Officers (JCOs) and Non-Commissioned Officers (NCOs) undergo Pre-Deployment Training (PDT) in the form of Train the Trainers (T3). This group is carefully chosen, with half comprising personnel from the most recently completed mission who serve as experienced Instructors. In contrast, the other half includes members from the contingent selected for deployment to the same UN mission. Upon completing their training at BIPSOT, these Instructors return to the lodger

formation, where the full contingent is concentrated in preparation for deployment. Over eight weeks of the course-divided into two sessions of four weeks each, these Instructors lead the contingent through comprehensive Pre-Deployment Training, focusing on the core competencies and mission-specific requirements. The entire contingent returns to BIPSOT for a final evaluation phase following this period. This assessment involves written examinations based on the Core Pre-Deployment Training Materials (CPTM), as well as rigorous Field Training Exercises (FTX) and Command Post Exercises (CPX) designed to simulate operational scenarios. Only after successfully qualifying this evaluation and receiving BIPSOT's certification, the contingent is cleared for deployment to their designated UN Peacekeeping Mission.[7]

Evolution of Peacekeepers' Training Worldwide: The evolution of peacekeeping training worldwide has transformed significantly from its early days in the mid-20th century, when training was often informal and unstructured, to the current emphasis on comprehensive, technology-driven methodologies. As conflicts become more complex, particularly post-Cold War, training programmes adapted to include advanced skills in negotiation, cultural awareness and civil-military coordination. Integrating simulation technologies and multinational exercises have enhanced realism and interoperability among diverse peacekeeping forces. Today, training also prioritises gender sensitivity and human rights, highlighting an expanded awareness of the intricate nature of peacekeeping efforts and the importance of being adaptable, well-prepared personnel in dynamic conflict environments.[8]

The Rationale for Introducing Simulation Training

Complexities of Modern Peacekeeping Missions: Various mission dynamics, including asymmetric threats, hybrid warfare, and the necessity for rapid decision-making in crises, characterize modern peace operations.[9] Existing training systems often need to adequately simulate these conditions, disconnecting training experiences and real-world operational demands.[10]

Furthermore, the specific terrains and environments where peace operations occur can vary dramatically from urban to remote rural areas. Traditional training methods may need the necessary exposure to these varying terrains, limiting personnel's ability to adapt their strategies and tactics accordingly. Effective training must include realistic simulations that reflect potential operational areas' geographical and cultural contexts, enabling personnel to develop the skills needed to navigate these environments successfully. In the words of A. Walter Dorna, "The decision-making in future peacekeeping simulations could help instruct conflict-resolution and critical thinking skills."

Limitations of Conventional Training Techniques: Traditional training methods, such as classroom instruction and basic simulations, must be revised to prepare commanders and staff officers for the multifaceted challenges encountered in modern peace operations. These methods often emphasise learning by rote and theoretical knowledge rather than practical application in complex scenarios. As peace operations evolve to encompass a broader array of tasks like

humanitarian assistance, conflict resolution and collaboration with civilian agencies, there is a pressing need for training that incorporates real-world complexities and unpredictability.

Moreover, traditional training often needs more integration of cultural awareness and the socio-political context of the regions where peace operations are conducted. Understanding local dynamics is crucial for effective engagement and mission success, yet traditional training often overlooks these essential elements. Consequently, personnel may enter missions underprepared to navigate the intricate social fabrics and operational environments they will encounter.[11]

Implementation of Simulation Training

BIPSOT has established the United Nations Peace Operation Simulation Training (UNPOST) system. This initiative represents a significant leap forward in applying technology and innovation within peacekeeping training, addressing gaps in preparedness by offering an immersive, realistic and adaptable training environment. UNPOST is a cornerstone of BIPSOT's strategic approach to enhancing pre-deployment training (PDT) efficacy for United Nations contingents.[12]

Figure-1: Logical diagram of UNPOST
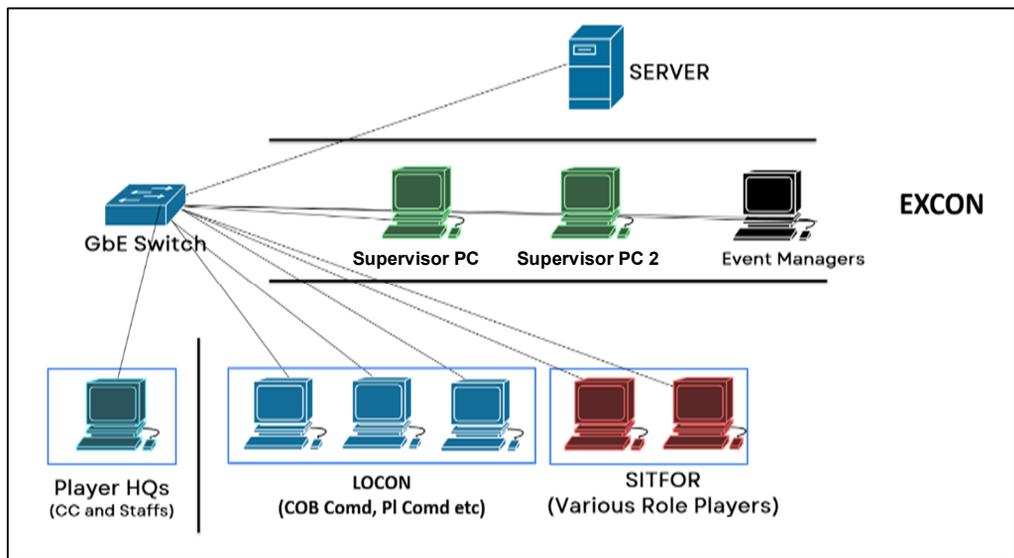
Source: Author's self-construct

Technological Tools and Innovations: BIPSOT integrates UNPOST into its comprehensive training programmes, particularly during the final stages of PDT. Before deployment, contingents participate in Computer-Assisted Exercises (CAX)[13] facilitated by the UNPOST system, which employs the Integrated War Game Simulation System (IWGSS) developed by the Army War Game Centre of the Bangladesh Army. This simulation platform enables BIPSOT to create highly detailed and interactive operational scenarios that accurately

reflect the diverse challenges peacekeepers are likely to encounter in the field, ranging from conflict management and crowd control to humanitarian assistance and interagency coordination.

Utilising IWGSS within the UNPOST framework, BIPSOT can simulate various operational environments, including urban, rural, and hybrid settings. The platform's advanced capabilities allow for modelling asymmetric threats, complex terrain, and dynamic civilian interactions. This level of sophistication goes beyond conventional training limitations by offering a multifaceted simulation encompassing military operations and the socio-political dynamics intrinsic to peacekeeping missions. For instance, trainees may be required to navigate complex scenarios involving coordination with non-governmental organisations (NGOs), managing large-scale humanitarian crises, or engaging in delicate negotiations with local stakeholders—all within a virtual setting that mirrors the unpredictability and fluidity of real-world operations.

a. **Computer Simulations**: The Integrated War Game Simulation System (IWGSS) offers a sophisticated and multifaceted simulation environment tailored to meet the demands of modern peacekeeping training. The system has six core modules—Database, Terrain, Server, Exercise Preparation, Play and Replay—that collectively provide a comprehensive platform for simulating various tactical and strategic scenarios. This flexibility allows BIPSOT to offer an immersive training experience, from individual peacekeeper activities to complex operations involving the entire Force Headquarters (FHQ).

Figure-2: Core Modules of IWGSS

Source: Author's self-construct

b. **Core Modules and Functionalities**: Various forms are as follows:-

(1) **Database**: This module forms the backbone of the IWGSS, storing extensive information related to the operational environment, including

personnel, equipment, and terrain data. It allows for real-time modifications, ensuring the simulated scenarios remain dynamic and reflective of evolving operational contexts.

(2)   **Terrain**:   The Terrain module supports the simulation of areas up to 300 x 300 kilometres, incorporating diverse geographical features ranging from urban landscapes to remote rural environments. This capacity to replicate various terrains enables trainees to practice operational strategies in settings that closely resemble their potential deployment locations. The system's terrain database can be adjusted during active exercises, ensuring that trainees face an ever-changing and challenging operational environment.

(3)   **Server**:   Serving as the hub for real-time processing and communication, the Server module ensures seamless integration and interaction among all participants in the simulation. Its robust message handling capability-processing up to 900,000 messages per second-facilitates complex, high-tempo operations, supporting communication and coordination across multiple command levels.

(4)   **Exercise preparation**:   This module is vital for designing and customising scenarios that mirror the complexities of real-world peace operations. Trainers can incorporate specific mission objectives, threats, and challenges into the exercise, providing a tailored training experience that addresses each contingent's unique operational requirements.

(5)   **Play**:   During the exercise, the Play module brings the simulation to life, allowing trainees to engage with the environment in real time. The system accommodates various levels of play, from individual peacekeepers to corps-level operations, thereby fostering an understanding of both micro-level tactics and macro-level strategy.

(6)   **Replay**:   After the exercise, the Replay module offers a detailed analysis and review capability, enabling participants to revisit key moments of the simulation. This after-action review process is crucial for identifying strengths and weaknesses in decision-making, communication, and tactical execution, providing invaluable insights for continuous improvement.

c.   **Simulation Capabilities**: IWGSS stands out for its extensive simulation capabilities, offering a highly detailed and realistic operational environment. The system can simulate terrain areas exceeding 300 x 300 kilometres, accommodating vast operational theatres. It allows for play levels ranging from individual soldiers to corps-level engagements, depicting up to 100,000 individual

elements in the simulation. This scalability ensures that peacekeepers can train in both small-unit tactics and large-scale operations, fostering a comprehensive understanding of peacekeeping dynamics.

The system's AI capabilities enhance the realism of the simulation by controlling terrain, perception, and behaviour of entities within the environment. For instance, AI-controlled civilians and hostile forces react to peacekeepers' actions, introducing unpredictability and requiring adaptive decision-making. This dynamic interplay creates an environment where trainees must continually assess, plan and execute strategies in response to changing conditions.

One of the standout features of IWGSS is its ability to simulate realistic fire effects, including bullet trajectories and explosions. This level of detail gives trainees a tangible sense of the consequences of tactical decisions, such as the deployment of lethal and non-lethal force. The system can also simultaneously assign missions at multiple command levels i.e. individual, section, platoon and company, promoting a layered and integrated approach to mission execution.

Furthermore, IWGSS allows real-time modifications to the database and terrain, even during an exercise. This feature ensures that the simulation remains dynamic, requiring trainees to adapt to evolving scenarios and unexpected challenges, much like the fluid nature of real-world peace operations.

Scenario Design and Development: The development of training scenarios within this simulation platform is collaborative and iterative, drawing on expertise from military professionals, peacekeeping veterans and regional specialists. Scenarios are meticulously crafted to encompass the full spectrum of challenges encountered in contemporary peacekeeping missions, including asymmetric threats, humanitarian crises and complex negotiation dynamics. These scenarios provide a realistic and nuanced training experience beyond theoretical knowledge by incorporating real-world data and lessons from previous peace operations.

The scenarios are stratified by complexity to address the training needs of diverse personnel. For junior personnel, scenarios focus on foundational operational tasks such as patrolling, checkpoint management and adherence to rules of engagement. The simulations present more sophisticated challenges for command-level officers, such as strategic decision-making, interagency coordination and crisis management in multi-dimensional operations. The dynamic nature of these scenarios necessitates real-time decision-making and situational adaptability, replicating the unpredictable nature of modern peacekeeping environments. This design approach ensures the holistic development of tactical and strategic competencies and essential soft skills such as cultural awareness and conflict resolution.

Integration into Existing Curriculum: Integrating simulation training into BIPSOT's existing curriculum is a carefully orchestrated process that enhances the overall training framework while maintaining coherence with established instructional methodologies. Simulation training is not isolated as a separate component but interwoven throughout the training continuum,

augmenting classroom instruction and field exercises. The initial training phases involve theoretical instruction on core peacekeeping principles, operational protocols, and international legal frameworks. These foundational concepts are subsequently reinforced through progressively complex simulation exercises, which serve as a bridge between theory and practice.

In practice, trainees initially engage in basic simulation exercises that complement their theoretical learning. For instance, after receiving instruction on checkpoint management, trainees participate in a virtual simulation where they are required to execute checkpoint procedures, interact with simulated civilians, and respond to evolving security threats in real time. These exercises offer immediate feedback through the platform's after-action review tools, allowing trainees to analyse their performance, comprehend the outcomes of their decisions, and iteratively improve their operational tactics.

Simulation training is further embedded into the final evaluation phase of the Pre-Deployment Training (PDT) at BIPSOT. During this phase, entire contingents undergo rigorous assessments through the simulation platform, which tests their operational readiness across various scenarios, including command and control, coordination with civilian entities, and crisis response. The platform's debriefing capabilities enable a comprehensive performance review, fostering continuous learning and improvement. This iterative evaluation ensures that trainees possess theoretical knowledge and the practical skills essential for effectively managing the complexities of modern peace operations.

By seamlessly integrating simulation training into the curriculum, BIPSOT provides a continuous, evolving training environment that incrementally builds and refines peacekeepers' capabilities. This holistic approach ensures that peacekeepers are fully prepared to confront the multifaceted challenges of modern peace operations upon certification and deployment to United Nations missions, thereby improving the impact and success of global peacekeeping missions.

Advantages of Simulation Training

Simulation training has evolved into a revolutionary technique in multiple sectors, including healthcare, aviation, military and corporate environments. Simulation training offers numerous advantages that enhance learning outcomes and skill development by creating realistic scenarios that mimic real-world challenges. This article delves into the key benefits of simulation training, highlighting its effectiveness in fostering a safer, more engaging and cost-efficient learning environment.

Enhanced Realism: Immersive learning experiences are crucial for the retention and application of knowledge. In simulation training, learners are fully engaged in the scenario, which enhances their focus and motivation. This immersive quality not only makes learning more enjoyable but also helps to solidify complex concepts. Trainees are more likely to retain what they've learned when actively engaging in training, resulting in improved long-term retention of skills and knowledge.

Safe Learning Environment

a.   **Risk-Free Scenario Exploration**:   Simulation training provides a safe environment for learners to explore various scenarios free from the risk of real-world effects. This risk-free exploration is particularly beneficial in high-stakes fields such as aviation and healthcare, where mistakes can have serious repercussions. Trainees can experiment with different strategies and techniques, learning to navigate challenges without endangering themselves or others. This safety net encourages creativity and innovation, allowing learners to push boundaries and discover new solutions.

b.   **Learning from Mistakes**:   Mistakes are an integral part of the learning process, and simulation training allows individuals to make errors in a controlled setting. This opportunity to learn from mistakes is invaluable; trainees can analyse what went wrong, understand the implications of their decisions and apply this knowledge in future scenarios. By fostering a culture of learning from failure, simulation training helps develop resilience and adaptability, essential traits in any professional environment.

Improved Decision-Making Skills

a.   **Critical Thinking Development**:   Simulation training develops critical thinking skills by engaging learners with multifaceted challenges that require in-depth analysis and strategic decision-making. Trainees must assess situations, weigh options and make decisions based on the information available to them. This approach sharpens their analytical capabilities while preparing them for real-world situations that demand quick and informed decisions.

b.   **Real-Time Problem Solving**:   In a simulated environment, learners are often required to solve problems in real time, mirroring the pressures of actual job situations. This immediacy fosters quick thinking and adaptability, as trainees must respond to evolving scenarios and unexpected developments. Such experiences build confidence in their ability to handle pressure and make sound decisions under duress, skills vital in high-stakes professions.

Immediate Feedback Mechanisms

a.   **Understanding the Consequences of Actions**: One of the standout features of simulation training is the immediate feedback provided to learners. Unlike conventional classroom environments, where feedback is often delayed, simulation enables trainees to observe the real-time effects of their decisions. This instant feedback loop helps reinforce learning by clarifying what works and what doesn't, enabling learners to adjust their strategies.

b.   **Adaptive Learning**:   The adaptive nature of simulation training means that experiences can be tailored to the individual needs of each learner. As trainees progress, simulations can become more complex or introduce new challenges, ensuring they are continually engaged and learning appropriately. This versatility not only improves the learning experience but also ensures that trainees are adequately prepared for the particular challenges of their roles.

Cost-Effectiveness

a.   **Resource Optimization**:   Investing in simulation training can lead to significant resource optimisation. Traditional training methods often require extensive materials, facilities and time. In contrast, simulation training can reduce these costs by utilising technology to create virtual environments. This efficiency allows organisations to allocate resources more effectively, focusing on areas that yield the highest returns on investment.

b.   **Long-Term Savings**:   While the initial setup for simulation training may require a substantial investment, the long-term savings can be significant. By reducing the likelihood of errors and improving overall performance, organisations can save on costs associated with mistakes, accidents, and inefficiencies. Additionally, trainees' enhanced skills and confidence can increase productivity and job satisfaction, further contributing to the organisation's bottom line.

Future Prospects

Continued Technological Integration: Simulation training at BIPSOT represents a significant leap forward, but it is only the beginning. As technology continues to evolve, so will be the capabilities of simulation training platforms. The integration of cutting-edge technologies like AI, VR, and AR aims to enhance the realism and efficacy of training modules.

a.   **Advancements in Simulation Technology**:   The next generation of simulation technology will incorporate advanced AI to create more adaptive and responsive training scenarios. AI-driven simulations can generate complex scenarios based on real-time data, allowing trainees to interact with dynamic and unpredictable environments. These systems can simulate a wide range of potential situations, from negotiating with hostile factions to managing humanitarian crises, providing unprecedented preparation for peacekeepers.

VR and AR technologies will also play a vital role in future training. These technologies can immerse trainees in virtual environments closely replicating peacekeeping missions' physical and emotional stresses. For example, a VR

scenario could place a trainee in a simulated conflict zone with sensory inputs such as sight, sound and touch. This level of immersion helps trainees develop the necessary resilience and decision-making skills to operate effectively under pressure.[14]

b.   **Future Training Innovations**:   Beyond technological enhancements, the future of simulation training at BIPSOT will include innovations in instructional design and delivery. Adaptive learning systems can tailor training experiences to individual participants, ensuring each trainee progresses at a suitable pace. Personalised feedback and performance analytics will help identify areas of strength and weakness, guiding trainees toward continuous improvement.

Furthermore, the integration of interdisciplinary training will become increasingly important. Modern peacekeeping missions often require collaboration between military, police and civilian actors. Future training modules will foster joint exercises that mirror the complexity of real-world operations, promoting better coordination and understanding among diverse participants.

International Collaboration: BIPSOT's role as a regional leader in peacekeeping training provides extensive international collaboration opportunities. By forging partnerships with other peacekeeping training centres, BIPSOT can facilitate knowledge exchange and develop global best practices in simulation training.

a.   **Knowledge Exchange Programmes**: One avenue for collaboration is the establishment of knowledge exchange programmes with other peacekeeping training institutions worldwide. These programmes allow trainers and trainees from different countries to share experiences, insights and strategies related to simulation training. This cross-pollination of ideas can lead to the development of more comprehensive and effective training modules, drawing on the collective expertise of the global peacekeeping community.

b.   **Partnerships with Other Peacekeeping Training Centres**: BIPSOT can also work closely with other training centres to develop standardised simulation training protocols that align with UN peacekeeping standards. By coordinating efforts, these centres can create a unified approach to simulation training that addresses the evolving nature of peace operations. Joint training exercises and exchange programmes can enhance interoperability between peacekeepers from different nations, ensuring a more cohesive and effective response to international crises.

Long-Term Impact on Peacekeeping Effectiveness

Implementing simulation training at BIPSOT will profoundly impact peacekeeping missions' effectiveness. Enhanced training methods will lead to better-prepared personnel for navigating the complexities of modern peace operations.

a.   **Improved Mission Outcomes**:   Simulation platforms provide realistic and immersive training experiences and help peacekeepers develop critical skills such as decision-making, situational awareness and cultural sensitivity. This preparation translates into improved mission outcomes, as peacekeepers are better prepared to manage the various challenges that arise during their deployments. The capacity to react quickly and effectively to crises can determine success and failure in peacekeeping missions, significantly impacting the safety and security of conflict-affected areas.

b.   **Enhanced Global Peacekeeping Standards**:   As BIPSOT and its international partners continue to refine and advance simulation training, they will set new benchmarks for peacekeeping standards worldwide. The lessons learned and best practices developed through simulation training will inform policy and operational guidelines, raising the overall quality of peace operations. By championing innovation and excellence in training, BIPSOT will contribute to the ongoing evolution of peacekeeping practices, promoting more effective and humane conflict resolution on a global scale.

Recommendations

In view of the foregoing following are the recommendations:-

a.   All major contingents should undergo simulation-based peacekeeping training in the form of participating in UNCAX through UNPOST platform at BIPSOT before their deployment in UN mission area.

b.   BIPSOT should develop and implement biannual training courses incorporating at least 30% of participants from foreign countries, promoting global cooperation and knowledge exchange in peacekeeping practices.

c.   The Military Training Directorate, Army Headquarters should invite foreign participants, ensuring a diverse representation of nations involved in peacekeeping efforts.

Conclusion

Developing a computer simulation platform at BIPSOT marks a paradigm shift in UN peace operation training. Traditional training methods, while valuable, have struggled to keep pace with the complexities and demands of modern peacekeeping missions. Simulation training

overcomes these limitations by offering a safe, immersive, and adaptable learning environment where peacekeepers can cultivate and enhance the skills needed for success in the field.

Through continued technological integration, international collaboration and a commitment to excellence, BIPSOT is poised to lead the future of peacekeeping training. The advantages of simulation training-ranging from enhanced realism to improved decision-making-underscore its potential to revolutionise peacekeeper preparation. By embracing these innovations, BIPSOT and its partners will improve mission outcomes and contribute to establishing higher global peacekeeping standards.

In the long term, the adoption of simulation training will play a crucial role to ensure that peacekeepers are adequately prepared to meet the evolving challenges of global security. As peace operations become more complex and demanding, the need for advanced training methods will only grow. BIPSOT's pioneering efforts in this domain signify a forward-looking approach to peacekeeping, prioritising the safety, effectiveness and humanity of those who serve to pursue global peace and stability.

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Brief Biography

Major General Md Nasim Parvez, BSP, ndc, afwc, psc was commissioned in the Corps of Signals on 20 December 1991. He has served in different command, staff and instructional appointments in his illustrious career including Commanding Officer of a Division Signal Battalion, GSO-3 (Operations) at 86 Independent Signal Brigade, Grade-2 and Grade-1 Staff at Army Headquarters and Chief Instructor at the Signals Training Centre and School. As an expert of telecommunications sector he was Director General of the Bangladesh Telecommunication Regulatory Commission (BTRC). He has attended numerous international conferences and workshops, including those organized by the International Telecommunication Union (ITU), Asia Pacific Telecommunity (APT) and South Asian Telecommunication Regulators' Council (SATRC). He has served twice under UN peacekeeping missions, as a Computer Engineer in DR Congo and a Military Observer in Liberia. He has attended numerous military courses domestically and internationally. He has a number of publications in the *NDC Journal* and telecommunications magazines. Recently, he received the Post and Telecommunication Award for his contributions to the sector. The officer is a graduate of the Defence Services Command and Staff College, Mirpur and the National Defence College, Mirpur. He also topped the Officers Electronic Warfare Course (OEWC-14) in Pakistan. He has attained Bachelor of Science in Computer Science and Engineering (CSE) degree from Bangladesh University of Engineering and Technology (BUET), Bachelor of Science (pass) degree from Chittagong University, Masters of Science in Information and Communication Technology (MICT), Masters in Security and Development from Bangladesh University of Professionals (BUP) and Masters in Defence Studies from National University. He is pursuing PhD higher research study programme in BUP. Presently, he is serving as Commandant, Military Institute of Science and Technology (MIST) in Mirpur Cantonment. Before joining MIST, he served as Commandant of BIPSOT.

Forging Interpersonal Relationship in Bangladesh Army: An Effective Psychosocial Support Measures Towards Organisational Excellence

Brigadier General Humayun Quyum, ndc, afwc, psc

Abstract

The study introduces the evolving dynamics of interpersonal relationships (IPR) as an effective psychosocial support measure within the Bangladesh Army (BA) against societal and technological changes. The paper highlights the enduring significance of IPR in forging unit cohesion, effective communication, and overall mission success, leading towards organisational excellence. It explores the challenges of e-addiction, changing societal values, and organisational shifts impacting the traditional bonds between soldiers and leaders. The Chief of Army Staff's Command Philosophy underscores the need for enhanced communication to bridge interpersonal gaps. Moreover, in an age where emotional intelligence gets priority over intellectual intelligence, better IPR can act as an effective psychosocial support measure and develop comradeship. The research proposes a comprehensive set of measures, from leadership development and family integration to leveraging technology, aiming to preserve the essence of strong IPR in modern complexities. The paper recommends continuous monitoring and adaptation strategies, emphasising the importance of sustaining a healthy organisational culture to navigate contemporary challenges while upholding the time-honoured values of military service.

Keywords*: Interpersonal relationships, psychosocial support, leader, Bangladesh Army.*

Introduction

The military is fundamentally different, in that it is not merely a job; in fact, it is a way of life. Its members derive their strength from organisational values, culture, and traditions. Soldiering, as the oldest profession in the world, stands on its members' strong structure of impervious relationships. The nature of military service allows members to have a strong bond with each other. However, the approach to soldiering is changing rapidly in today's world due to changing and progressing society with modernity, where societal values are being modified rapidly because of openness to globalization. Whatever the case, the most endorsed leadership framework encompasses the dynamics of interpersonal relationships (IPR) between leaders and followers and always remains valid.[1]

In the Army, understanding IPR is essential since it is all about the relationship between and within leaders and led.[2] IPR helps in reducing communication gaps and leads to a conducive work environment. It helps cognitive and social development because the attachments formed within members provide security and present opportunities for learning and socialization. It encompasses its members' physical and emotional happiness, fighting loneliness and stress and giving members a sense of purpose. Moreover, IPR involves active participation and face-to-face

communication providing effective psychosocial support and counselling. Hence, commanders at all levels should utilize the scope of both formal and informal means of communication with under commands (UCs).

The history of the Liberation War in 1971 highlights the importance of IPR between soldiers and officers in the Bangladesh Army (BA).[3] Recently, the operational responsibility vested on BA in aid to civil power to control the law-and-order situation arising from Quota Reform Movement in July-August 2024, suggests that soldiers demonstrated high morale and patience while performing their duties. This positivity in mindset comes from the formal and informal IPR between officers and soldiers. However, progressively society has experienced collectivism and individualism, which are linked to addiction. The Army is not immune to societal effects and reduced direct human interaction contributes to negative consequences on IPR. The disproportionate indulgence of men in uniform in reduced IPR creates concerns in personal management, discipline and commitment to the organisation and hampers professionalism concerning operational efficacy. As such, it is crucial to address these issues to improve the Army's operational efficacy.

This write-up suggests a few ways to develop IPR in the Army. In doing so, the paper will first describe its importance and benefits in military life. Then, it will highlight the present state of practices that enhance IPR, including the causes of declining trends and measures to enhance IPR. The study has been conducted through mixed method research design using content analysis and empirical study. In doing so, a Survey in the Rangpur Area, Focused Group Discussions (FGD) of varied participants, Key Informant Interviews[4] (KII) and case studies were conducted. The study was conducted among 30 officers and 100 JCO/ORs of various units in the area. Content analysis revealed that addiction to the e-world is detrimental to IPR, and the amplified usage of various e-gadgets in contemporary ecosystems has a solid bearing on officers and soldiers.

IPR and Its Significance in the Army

Concept: In social psychology, IPR is a social association, connection, or affiliation between two or more persons. In the military, IPR refers to the interactions and connections between individuals within the armed forces. Moreover, IPR is foundational to the success of military operations.[5] Similarly, support offered by loved ones, friends, peers, and instructors is called psychosocial support, and it includes the level of care an individual receives from the social environment in which they live.[6] Both of these cognitive relationships are crucial for maintaining effective teamwork, communication, and morale within a military unit.

Dynamics and Importance of IPR

Enhancement of Operational Capability: A strong focus on IPR acts as a powerful morale booster for soldiers deployed on operational duties. By fostering trust, communication, and mutual understanding, these relationships bridge the gap between perceived expectations and the realities on the ground. This connection ensures that soldiers feel supported and aligned with their mission objectives. Interviews with some senior officers reveal that better IPR among officers and

soldiers significantly enhanced their motivation and effectiveness, driving them to perform their duties with increased confidence and determination during deployment of BA in aid of civil power in July-August 2024 amid the Quota Reform Movement.[7]

Psychosocial Support for a Prolonged Deployment: The deployment in aid of civil power was initially planned for just a week but was extended to a month. Despite the prolonged duration, there were no issues among the soldiers due to the strong IPR between officers and their men. This solid IPR ensured that the soldiers remained disciplined and focused and commanding officers (COs) opined during interviews that they did not receive any reports of irrational behavior from soldiers during their deployment.[8] The effective communication and mutual respect fostered through better IPR played a crucial role in maintaining high morale and a cooperative spirit throughout the extended operation.

Effective Command Climate: Military organizations have a clear hierarchical structure and the chain of command shapes IPR. Respect and adherence to authority are essential for maintaining discipline and order. Leadership within the military also relies on positive IPR. Sound IPR amongst the leader and the led not only creates trust but also contributes towards a sound command climate. Leaders inspire confidence, motivate subordinates and establish a rapport that encourages loyalty and commitment. Leaders must know their men in the unit to enhance IPR and optimize operational and administrative tasks.[9] Moreover, the engagement of the BA in aid of civil power to manage the law-and-order situation during the July-August 2024 Quota Reform Movement highlights the crucial role of IPR within military ranks and files. Command Climate Factors set for U.S. Army Leadership are shown in Figure-1:-

Figure-1: Command Climate Factors by Center for Army Leadership U.S. Army
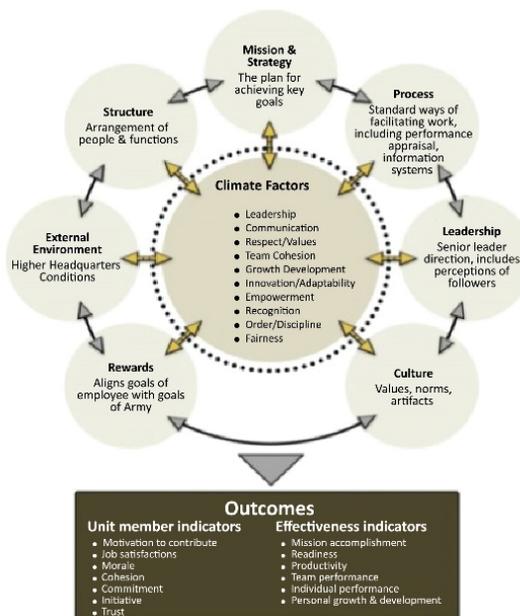
Source: Center for Army Leadership U.S Army, 2023[10]

Effective Psychosocial Support Measures for Character Development: The provision of psychosocial support in units can assist soldiers in building resilience, coping skills, and emotional intelligence. The BA must adopt psychosocial support measures that are culturally sensitive and respect the traditional values, customs, and traditions of its people. Moreover, for the growth of an organization, in the above-mentioned climate factors (designed by the U.S. Army), communication, team cohesion, and recognition are over-emphasized which can be generated only by IPR. Furthermore, IPR acts as an effective psychosocial support measure for a better leader-led relationship. For these measures to be effective and adhere to ethical standards, mental health specialists and experts must be involved in formulating and implementing them.[11]

Teamwork and Effective Communication: Military operations often require collaboration, seamless teamwork, and comradeship.[12] IPR within a unit is critical for fostering trust, cooperation, and effective coordination among the team members. The unique nature of military service often leads to strong bonds among service members. Shared experiences, hardships, and a sense of belonging contribute to a strong sense of camaraderie, fostering positive IPR. Moreover, clear and concise communication is vital in the military. Effective IPR facilitates open and honest communication, ensuring that information is conveyed accurately and promptly by reducing the likelihood of misunderstandings. The recent deployment in aid to civil power is an example of seamless execution of all the duties and portrays the result of effective communication which is the outcome of better IPR.

Morale, Motivation, and Mentorship: Positive IPR is crucial in military life, as it enhances resilience and helps military personnel cope with high-stress situations. This support network, facilitated by experienced military personnel as mentors, facilitates the transfer of knowledge, skills, and values essential for professional development. Strong IPR boosts morale and motivation within a military unit, as team members feel connected, supported, and belonged, which motivates them to perform at their best even in challenging circumstances.

Effects of Positive IPR

BA's Operational Success During In-Aid to Civil Power Duty 2024: The BA's operational success during the 2024 deployment In-Aid of Civil Power can be largely attributed to the strong IPR within the ranks. FGD highlighted that these robust relationships played a crucial role in maintaining unity, order, and discipline, especially in Rangpur, which is close to the border. Despite the region's potential for unrest, no clashes involving minority communities occurred due to direct supervision and cohesion fostered by better IPR. This effective communication and mutual trust among officers and soldiers were key factors in ensuring a smooth and successful operation.

Develop and Maintain Unit Cohesion: The success of military missions depends on the ability of a unit to work together effectively. One of the essential characteristics of military units is effective cohesion among all members. To develop fellow feelings and foster regimentation and cohesion, army units live closely within cantonments, so that, strong cohesion is developed through

day-to-day activities. Strong bonds among service members contribute to a cohesive team that can trust and rely on each other, enhancing overall unit effectiveness.

Solving Problems of UCs: A soldier would be ready to give his maximum when his commander pays due attention to his problems and, if possible, solves those within his authority. US General Colin Powell rightly remarked, "The day the soldiers stop bringing you their problems is the day you stopped leading them. They have either lost confidence that you can help them or concluded that you do not care. Either case is a failure of leadership."

Basic Soldiering and Core Ethos and Values: Unit activities, ethos, and IPR are crucial for military organizations. Young Officers (YOs) are vital in teaching UCs about basic soldiering, focusing on weaknesses and improving skills through correction, modification, and guidance. Effective IPR enhances soldiering in the unit. Values and ethos are instilled through day-to-day activities, training, operational duties, and interactions. Increased interactions among YOs and men can improve the core values and ethos of the organization.[13]

Increases Trust and Comradeship: In military organisations, comradeship is an inevitable part. As a young Captain Bir Uttam Salahuddin Mumtaz led his troops in the Battle of Kamalpur (12 June - 4 December 1971), radiating confidence among freedom fighters. Bir Sreshtho Captain Mohiuddin Jahangir exemplified leadership by capturing the enemy position in Chapai Nawabgonj, enhancing trust and courage. Bir Uttam Shaheed Lieutenant Mushfique led his troops in Chittagong Hill Tracts (CHT) with extreme bravery, ultimately defeating the Shanti Bahini and capturing their position. These officers maintained strong IPR, inspiring soldiers to sacrifice their lives for the organisation's cause. As illustrated in Figure-1, effective psychosocial support systems can enhance troops motivation, job commitment, trust, initiative and ultimately significantly raise the level of IPR.

IPR in Bangladesh Army- A Reality Check

State of IPR in BD Army

IPR During Liberation War (LW) 1971:   With the declaration of LW, the Muktibahini was formed to fight against strong Pakistani forces. Officers of the BA demonstrated a high sense of leadership and courage, which influenced the rest of the outfits. Thus, strong bonding existed among all types of fighters, which enabled them to perform their best during the war and win over a conventional Army.

IPR During Counter Insurgency Operation (CIO):   At the outbreak of the insurgency, the government deployed the Army to more than 500 camps for the CIO. As units were deployed in remote camps and they remained in close touch by sharing joys and sorrows, camp life enabled strong bonding among the officers and soldiers in CHT. This helped BA to conduct a successful CIO.

IPR During the 1990s: While part of the Army remained deployed in CHT, the rest of the Army was deployed all over the country. In the 1990s, there were few distractions from

e-gadgets. The YOs had been the lives in the unit, remained closer to bonding in the training grounds, in operations, in the playgrounds and spent their leisure time together in the unit recreation room, having maintained strong IPR.

IPR - 2000 Onwards: BA still has a strong IPR amongst all ranks. However, recently, some signs of decline in IPR have been observed.[14] Intrusion of the e-gadgets has started taking away the time from the officers and the soldiers. During an interview, many senior officers of BA opined, "Compared with their time, IPR between the YOs and the soldiers have reduced significantly."[15] In the survey, 40% of officers and 44% of JCOs and ORs opined that IPR must be improved among the YOs and soldiers. This leads us to revisit the use of e-gadgets by all ranks and to recheck whether enough is being done to maintain the desired IPR.[16] Furthermore, it's essential to move beyond outdated norms and embrace a more individualistic approach to enhance IPR. By recognizing and leveraging the unique strengths of each soldier, more effective and responsive operations can be achieved. Opinions of Officers and JCOs/ORs regarding the improvement of IPR among the YOs and soldiers are shown in Figure-2:-

Figure-2: Opinions of Officers and JCOs/ORs
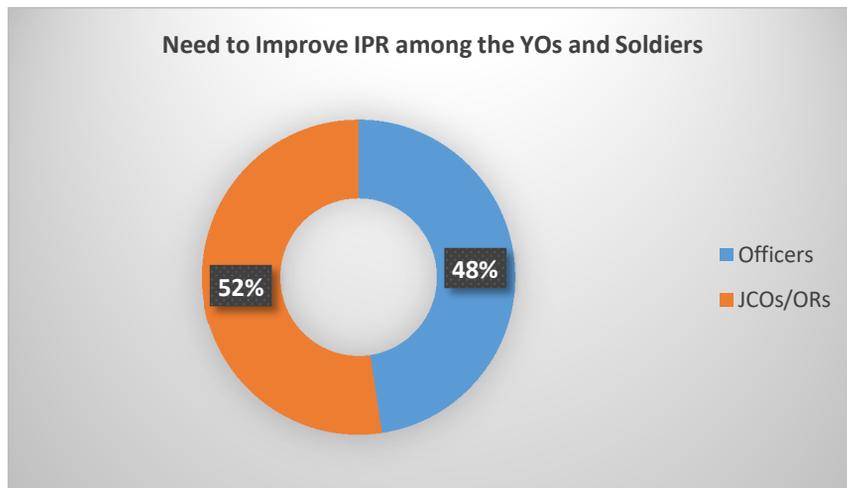
Source: Author's self-construct

Organisational Arrangements for Developing IPR

Training, Operation, and Administrative Activities as per Unit/ Subunit: The BA invests in training programmes emphasizing teamwork, leadership, and interpersonal skills. These programmes aim to enhance the ability of its personnel to work cohesively in different environments. Army training is conducted according to organisational grouping. According to the survey, 75% of respondents opined that group training enhances IPR. For example, during the 2024 quota reform movement, soldiers assisting the civil administration demonstrated exceptional coordination and support for one another, a testament to the strong IPR nurtured within their units.

Darbar, Roll-calls, and Other Informal Arrangements: Darbar, one of the oldest interaction media, is a formal gathering that effectively strengthens IPR. A survey found that 75% of respondents believe company-level Darbar would enhance IPR. Roll call, an essential practice in the Army, allows for clear instructions and problem-solving. However, the presence of officers in daily roll calls has reduced, and 71% of respondents believe that all members' presence would enhance IPR.[17] The culture of raising day celebration, visiting soldiers' barrack, visiting recreation room, playing indoor games, spending time other than mandatory fall in, tasting food in Sainik Mess, looking after soldiers' administrative aspects, Pritibhoj, picnics, visiting family, etc. develops strong fellow-feelings among all ranks. Various arrangements at organisational level for developing IPR are shown in Figure-3:-

Figure-3: Organisational Arrangements for Developing IPR
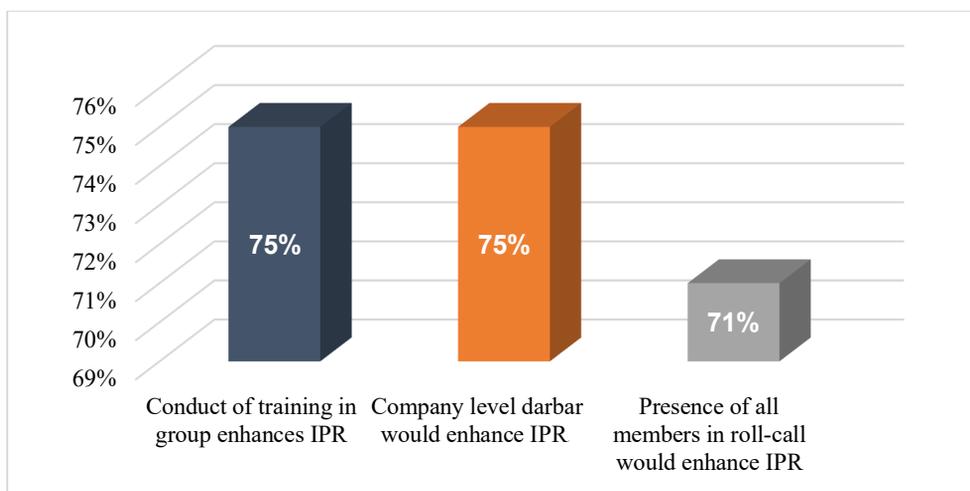
Source: Author's self-construct

Formal and Informal Interviews and Counselling: The interview is a traditional face-to-face communication system where confidence and IPR are built. Recently, face-to-face communication has been reduced, which is impacting IPR negatively. Informal interviews also play a significant role in developing IPR, which has recently been reduced. Counselling is an essential aspect of organisational life. Leaders at various levels use appropriate motivational tools as a psychosocial support measure for their UCs.[18]

Causes of Declining Trends of IPR

Individual Factors

Desire of Fulfilling Higher Needs Resulting in Job Stress: Maslow's 'Need Hierarchy Theory' can explain this natural phenomenon. While few entertainment opportunities and e-gadgets are cheap, people tend to apply the 'Self Determination' theory to surf in cyberspace. As such, the

YOs and soldiers continuously look for entertainment in the virtual world, overlooking the importance of IPR.[19] Responses during FGD reveal that IPR between soldiers are becoming weak. Soldiers of BA are keeping themselves isolated from their comrades as they are busy with social media watching the entertaining videos.[20] This practice creates job stress and a rough environment against IPR.[21]

Perceptual Gap Between YOs and Men: There seems to be a perceptual gap between officers and men. As some soldiers do not feel confident performing, while others feel that their efforts do not get due appreciation from the officers. Despite the advancement of society, some officers still feel that soldiers lack credible cognitive skills. Better perception among all is essential for a well-orchestrated unit. Therefore, a leader must know his men, including their names, backgrounds, and characteristics.[22] Causes of declining trends of IPR are shown in Figure-4:-

Figure-4: Causes of Declining Trends of IPR
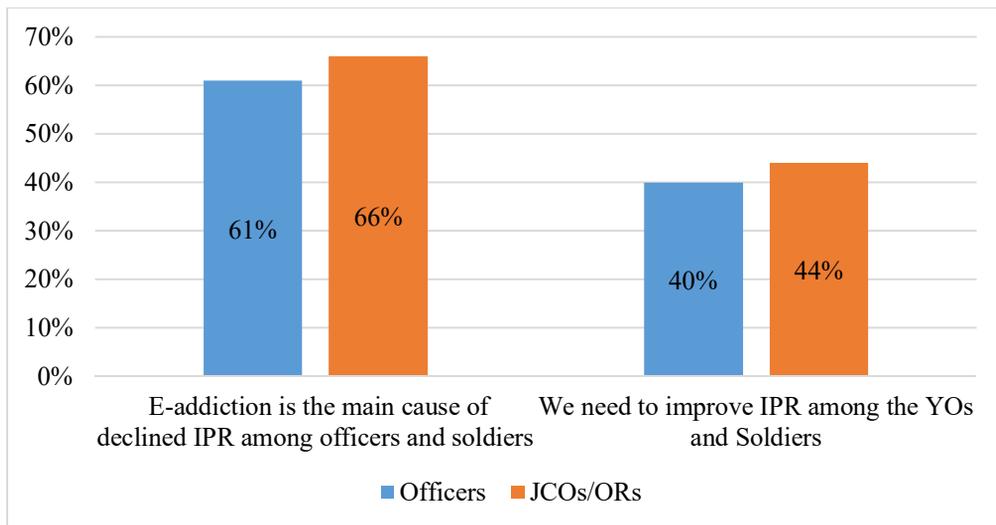
Source: Author's self-construct

Lack of Emotional Intelligence among Leaders of All Tiers: Mutual sharing is crucial for forming and maintaining strong bonds with UCs and leaders. Some leaders do not allow their UCs to share details about their experiences, emotions, and opinions. This process hinders self-disclosure and simple understanding between members. A leader must not humiliate, abuse or break his men.[23] Moreover, leaders cannot achieve trust from the UCs unless they foster a more harmonious and supportive environment.

Social and Technological Factors

Entry to Army from Better-off Families: Nowadays, soldiers from better-off families are joining the army. In the 1990s, 85% of soldiers were from weak financial backgrounds and 65% were in 2019.[24] Some soldiers do not have any crucial need for livelihood from soldiering. Besides,

there are many opportunities for young men in society to earn a livelihood. Some soldiers during FGD stated, "The soldiers come from families that are different from each other by their economic, educational and social background."[25] These have created a psychological state of mind for avoiding hardship and reducing IPR. Figure-5 portrays the state of soldiers from weak financial background in 1990 and 2019:-

Figure-5: Soldiers from Weak Financial Background
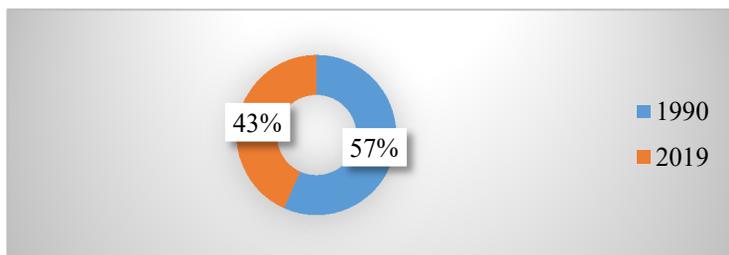
Source: Author's self-construct

Addiction to E-Gadgets and E-Based Entertainment: Modern science has led to a rise in e-based entertainment and gadgets, causing decreased IPR among soldiers. On average, soldiers spend over 2 hours daily in the cyber world, leading to addiction and a preference for confined interactions. Surveys show that 61% of officers and 66% of JCOs/ORs believe addiction is the leading cause of declined IPR among officers and soldiers. Senior officers also believe e-addiction is the prime cause for reduced IPR among YOs and soldiers.[26] The decline in IPR between soldiers has impacted their ability to share problems and discuss personal and professional matters.[27]

Excessive Use of Technologies Resulting in Inactive Recreation Rooms: Excessive use of digital technologies consumes the valuable leisure time of officers and soldiers. Most of the time, unit recreation rooms remain vacant, which, on the other hand, can make the presence of officers and soldiers vibrant to enhance informal interactions and strong bonding. Salient causes found from FGD are shown in Figure-6:-

Figure-6: Salient Causes Found from FGD
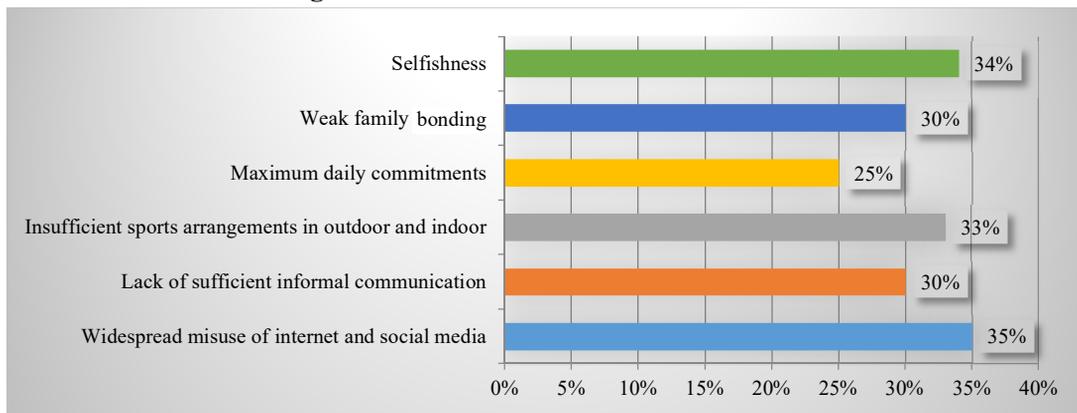
Source: Author's self-construct

Organisational Factors

Lack of Sufficient Formal and Informal Communication with UCs: Sound communication between leaders and UCs has been decreasing. Some soldiers during FGD also opined that there is insufficient informal communication between officers and men. They also opined that in most of the units rarely present YOs interact informally, visit sainik line in leisure time, play indoor games and sports, and asks about the wellbeing of their families. In most cases, officers do not utilize these interactions to develop solid bonds and IPR. Moreover, further breakdown in interaction weakens the group bonding, which may result in failure.[27]

Poor Team Spirit Resulting in Lack of Cultural and Traditional Practice: The soldiers give less emphasis on various team activities such as games, sports, training and competitions. As a result, mutual understanding and loyalty are hampered. Recently, people have focused more on individual needs; hence, cooperation, especially during difficult times, and bonding is deteriorating among team members. Moreover, there is a lack of practice of traditions and culture in a few units. Some of the in-garrison responsibilities, which units used to do with zeal, enthusiasm and pride are being done by event management companies or outsourced.

Lack of Adequate Professional Training: Recognizing and rewarding outstanding performance through awards and commendations can boost morale and foster a sense of camaraderie and appreciation within the military community. Failure to recognize and appreciate the contributions of military personnel can contribute to a lack of morale and motivation, negatively impacting IPR. Moreover, no institutionalized and formal leadership and professional training based on emotional intelligence and psychosocial support requirements are provided to the officers and soldiers in the unit, which may hinder their professional excellence and IPR.

Lack of Work-Life Balance: There is a debate about whether work-life balance is properly ensured in the BA. Due to excessive workload and extra working hours, soldiers find difficulties spending quality time with their families. This creates several family problems, which eventually affect job satisfaction. Moreover, most of the YOs opined those excessive commitments in the units hinder their urges for informal interactions. Hence, a better work-life balance among the YOs and soldiers is required for developing better IPR.

Measures to Enhance IPR

Trust and Confidence Building through Operational and Administrative Duties: During recent in aid to civil power duty, troops operated under the direct supervision of their commanders, which significantly enhanced trust and confidence within the ranks. COs during the interview said that this type of operation not only strengthens the bond between officers and soldiers but also sustains effective IPR in the long run, ensuring a cohesive and resilient team.[28]

Bridging Perceptual Gap: To maintain IPR, officers should respect others and mix up properly to reduce perceptual gaps in understanding. This does not mean one must agree with

everything others say or do what they want. However, it does mean that a leader should show that he values subordinates' feelings, opinions, values, and interests. Keeping commitments as the leader, showing up on time and being mindful of soldiers' feelings are the marks of showing respect to them.

Lead with Emotional Intelligence to Foster IPR: Emotional intelligence involves putting oneself in another person's shoes and feeling what they feel. This means that leaders should see things from UC's perspective and feel their pain as if it were theirs. When leaders show that they feel what UCs are feeling, it helps them gain a sense of belonging. Research also suggests that in addition to strengthening good IPR, empathy fosters kindness, cooperation and helping behaviours and improves members' mental health.

Creation of Harmonious Environment: Findings show that 37% of respondents felt that the current state of IPR needs improvement, whereas 63% recommended that the prevalence of a harmonious environment would enhance IPR. Hence, officers should always remain the source of inspiration for junior leaders. Units need to promote a tension-free environment to develop UCs, where they would interact more freely, work more happily and share joys and sorrows.[29] BA can take lessons from other armies of the world such as U.S. Army arranges formal and informal programmes where they visit various historical places with the troops for enhancing interactions and bonding. The BA can arrange more tours, family picnics, visits to family quarters of soldiers, and games and sports events to enhance IPR. Measures to Enhance IPR Found from FGD are shown in Figure-7:-

Figure-7: Measures to Enhance IPR Found from FGD
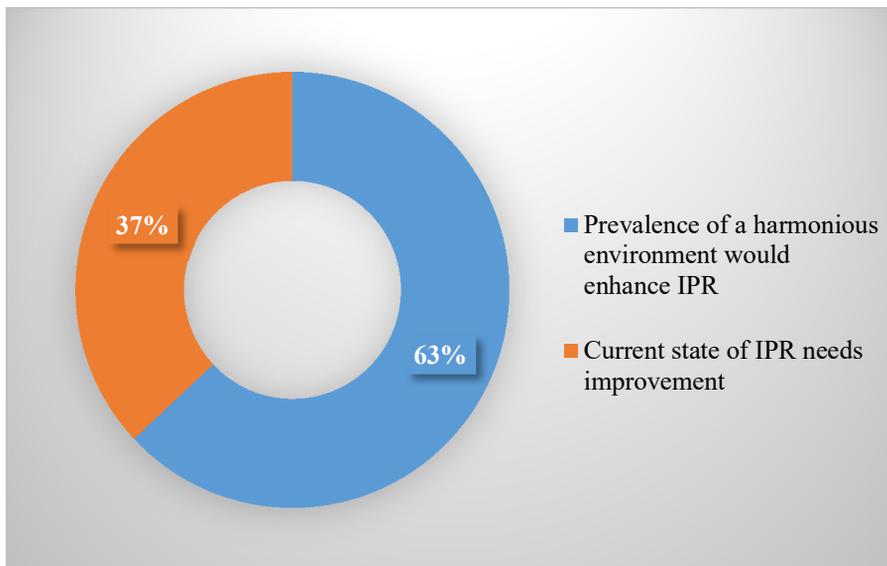
Source: Author's self-construct

Making Recreation Room Active by Spending Less Time on Social Media: Compulsory stay at the unit recreation room may be provisioned for soldiers.[30] Officers can also spend quality time playing and watching movies with soldiers in unit recreation rooms, strengthening IPR. Moreover, BA has specific guidelines and policies for using social media by its members. The use of social media and digital technologies should be minimal, and these innovations should not be misused. According to the findings from FGD, around 40% of the respondents opined that proper and minimum utilization of social media should be ensured.

Figure-8: Measures to Enhance IPR Found from FGD
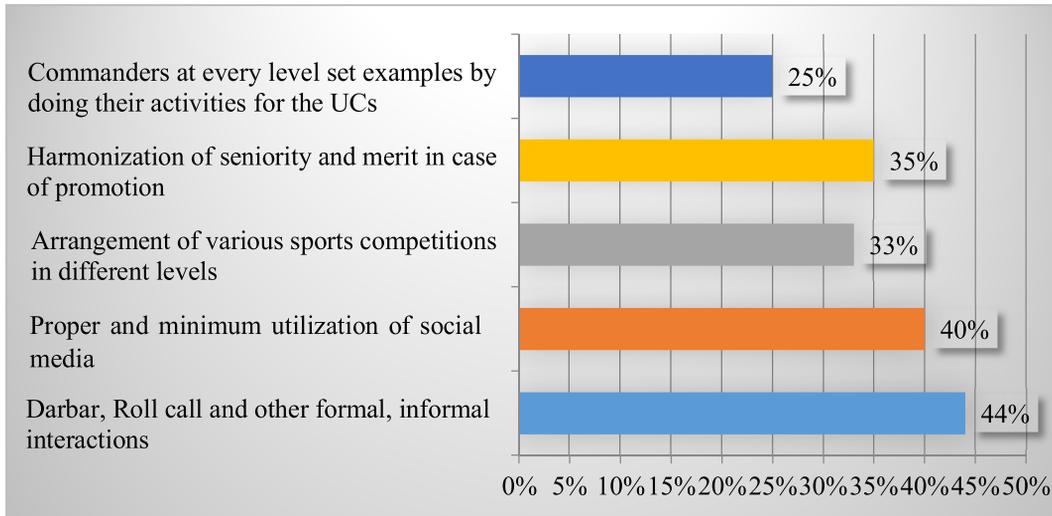
Source: Author's self-construct

Enhance Effective Communication by Fostering Team Spirit: To form the correct perception, it is essential to communicate regularly during roll calls, give personal touches by visiting barracks, CMH, and houses with family, and participate in games and sports. Regular interviews can also help reduce the gap between leaders and led. Regular participation in games and sports helps establish a good rapport with the soldiers. Moreover, effective communication reduces gaps, provides direct feedback, resolves misunderstandings, and allows commanders to handle challenging situations effectively.[31] Regular activities like interacting with troops, spending time in recreation rooms, and visiting cookhouses can also increase the level of belongingness between officers and men.

Reinforce Culture and Tradition with Formal and Informal Interactions: Observance of culture is also a matter of urge and practice. To enhance IPR, regimental culture, tradition, and best practices must be emphasized. COs and senior officers must be the bearers of the unit's culture and tradition. Moreover, the presence of mid-level officers in the units may be increased and regimentation for YOs and soldiers should be ensured sincerely. Company-level Darbar may be re-emphasized. Daily routine instructions should only be passed face-to-face at the roll call. The

frequency of formal interviews should be increased and maintained at all levels. All officers should spare time, even after routine office hours for conducting informal talks/interviews to get to know their men.[32]

Professional Development and Merit-Based Promotion System: A merit-based promotion and reward system ensures that individuals are recognized and rewarded for their contributions, fostering a sense of fairness and motivation among the personnel. Some soldiers during FGD proposed arranging competitions such as book reviews, general knowledge and debate, and rewarding the best performers at unit and sub-unit levels.[33] Continuous professional development must also be emphasized, encouraging individuals to improve their skills and knowledge. This can include military and non-military skills contributing to personal and professional growth and human resource development.[34] Interpersonal skill development courses can also be incorporated for officers.[35]

Family Support and Use of Non-Therapeutic Intervention: Recognizing the importance of family support, military organisations often have programmes to assist and support the families of service members. Strong family ties can positively impact military personnel's mental and emotional well-being. Moreover, psychosocial support is a type of non-therapeutic intervention that assists an individual in managing stressors at home.[36] Non-therapeutic intervention includes therapies that do not use medicine rather individual counselling by building trust and confidence based relationship. The more an individual interacts with their families and near and dear ones it is more likely to grow trust amongst the individual and their family members.[37]

Conclusion

Human beings are social by natural instinct and shaped by their experiences with others. According to Maslow's hierarchy of needs, humans need to feel love and acceptance from social groups like family, peers and society. The need to belong is so ingrained that it may be strong enough to overcome physiological and safety needs. The e-world and the lack of professional approach and empathy towards UCs hamper IPR. We need to re-emphasize and improve IPR- the sooner, the better. Army must embrace the blessings of modern technology and at the same time, it must be able to insulate itself from the impurities of e-gadgets. Implementing relevant policies and setting an example through leadership, motivation and awareness are the keys to addressing addiction and the need for IPR.

Military operations require a cohesive team characterized by positive IPR and effective coordination. The history of the BA and CHT demonstrates the glorified IPR between soldiers and officers, which was further strengthened during the CIO in CHT. In July-August 2024, better IPR - this strong bond was evident during the BA's disposition in aid of civil power to control the law-and-order situation arising from the Quota Reform Movement, where soldiers demonstrated high morale and patience while performing their duties. However, society is changing due to globalization, leading to collectivism and individualism and the global trend of e-addiction. The

army as an organisation is not immune to these challenges and to address these issues, structured guidelines and policies on e-gadgets and social media are in place. This approach helps to maintain a solid and cohesive team in military operations.

The declining trend of IPR in the military is attributed to increased time spent on cyberspace, which negatively impacts face-to-face communication and IPR core values. Leaders should foster trust and motivation among unit members through openness, empathy, merit-based promotion, unit cohesion programmes, family support and rewarding outstanding performance. Leadership styles that emphasize collaboration, motivation, and team cohesion can contribute to a positive organisational culture. The objective of providing psychosocial support will be to design a comprehensive and continuous learning path that facilitates psychosocial growth and development through progressive workshops, training sessions and seminars.

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Brief Biography

Brigadier General Humayun Quyum, ndc, afwc, psc, was commissioned in the Regiment of Infantry in June 1993. He attended a good number of courses both at home and abroad. He is a graduate from the Defence Services Command and Staff College, and National Defence College Mirpur and attained Masters of Defence Studies Degree from the National University, Dhaka. Besides serving in three Infantry Regiments he also served as General Staff Officer-3 (Operations), General Staff Officer-2 (Intelligence) and Brigade Major in Infantry Brigade Headquarters and General Staff Officer-1 (Operations) in an Infantry Division Headquarters. He served as Instructor Class B in Tactics Wing, as Instructor Class A in UCSC Wing and as Chief Instructor in Weapon Wing of School of Infantry and Tactics. He has commanded the Ideal Twenty-One and 403 Battle Group. He served as Deputy President at Inter Services Selection Board. He also served as Deputy Commandant, School of Infantry and Tactics. Under blue helmet, he has served as Platoon Commander in UNAMSIL, Sierra Leone; Operations Officer of a contingent and Chief of Staff at Ituri Brigade Headquarters in DRC. He has a number of articles published in the *Armed Forces Journal*, *International Day of UN Peacekeepers Journal*, *Bangladesh Army Journal* and *The Bayonet*. From the academic year 2022-23 he is pursuing PhD higher research study programme in BUP. He is the incumbent Commander, 72 Infantry Brigade, Rangpur Cantonment.

Paradigm Shift in United Nations Peace Operations: Operational Strategy for Bangladesh Army

Brigadier General Md Mostafizur Rahman, ndc, hdmc, afwc, psc, PhD

Abstract

UN peacekeeping missions through the ages have won the confidence of many people, citing the success of many such missions in Sierra Leone, Liberia, Ivory Coast, etc. However, failures like those in Rwanda, Somalia, etc. also need to be noted. The success of the UN Mission depends on the achievement of the mandates given to it by the Security Council. A UN Mission is deployed when the conflicting parties agree and accept the presence of a UN Mission willingly and voluntarily to stop the violence. Currently, the UN Peace Operations are fully integrated with all mission pillars under the common thread of civilian domination, with one pillar being the Force and the other being the Police. Bangladesh began its role as a peacekeeper in 1988 with a group of only fifteen officers deployed in UNIMOG. Even since the environments have changed drastically, means and methods of belligerent operations and communication in every field have changed. Since its first military deployment UNSC Resolutions, Bangladesh has footprints in most UN Peacekeeping missions and fulfilled the complex tasks of building and maintaining peace. UN Peacekeeping mission refers to the change in the UN's objectives, strategies, and approaches in conducting peace operations. Suppose we want to retrospect to see how Bangladesh Peacekeeper is doing in the changed scenario to continue holding its flag as high as it is now. In this context, having studied the evolution of the UN Peace operation, challenges of the mission and paradigm shift, this article explores and proposes an operational realignment tailored for Bangladesh peacekeepers to leverage the Bangladesh Army's unique capabilities. It is said that peacekeeping is not the job of soldiers, but only soldiers can do it. Bangladesh Armed Forces and Police have become a trademark of peacekeeping by topping the list of TCC for highest contribution for most of the time in recent decades. It has gone through sequential evolution and reached third-generation peacekeeping. Though Bangladeshi peacekeepers have done their best so far, the future days will be challenging since they will face more competition from aspiring countries. Even advanced countries like China, Japan, Russia, and the USA will likely have a larger footprint in missions to hold their influence. Bangladesh Army also has to face more conflicting situations beyond their defence deployment, where they need to engage in increased combat in the future. Many factors are discussed under the broad heads of the Host Country, TCC, Regional dynamics, primary power interests and the Mission itself. We have our scope for improvement as the room for improvement is the largest room in the world. It requires adequate training, a mindset for operations and equipping with modern technology-based armament and equipment. The strategic, operational, and tactical decision-makers will be required to plan and execute the tasks as suggested above. These measures collectively contribute to the success of UN peacekeeping missions and reflect Bangladesh's commitment to global peace and stability.

Keywords: UN Peace Operations, environments, third-generation peacekeeping, primary power.

Introduction

Consecutive lay-down of United Nations (UN) Missions in Mali, followed by DRC at the request of the host governments before achieving complete peace, indicated that UN Peacekeeping missions had not been able to achieve their objectives as expected. UN peacekeeping missions through the ages have won the confidence of many people, citing the success of many such missions in Sierra Leone, Liberia, Ivory Coast, etc. However, it's important to take note of failures like those in Rwanda, Somalia, etc. are common. The success of the UN Mission depends on the achievement of the mandates given to it by the Security Council. A UN Mission is deployed when the conflicting parties agree and accept the presence of a UN Mission willingly and voluntarily to stop the violence. Bangladesh, since its liberation in 1971, has constitutional obligations for the victims of social and political rage and repression. Bangladesh debuted as a peacekeeper in 1988 with a group of fifteen officers deployed in Namibia. Even since the environments have changed drastically, means and methods of belligerent operations and communication in every field have changed. Bangladesh has footprints in most UN Peacekeeping missions and has fulfilled the complex tasks of building and maintaining peace. UN Peacekeeping mission refers to the change in the UN's objectives, strategies, and approaches in conducting peace operations. Suppose we want to retrospect to see how Bangladesh Peacekeeper is doing in the changed scenario to continue holding its flag as high as it is now. In that case, we need to conduct an unbiased, thorough study as Bangladesh will be challenged in the coming days by many other countries of Asia and Africa to top the list of Troops Contributing Countries (TCC). In this context, having studied the evolution of the UN Peace operation, challenges of the mission, and paradigm shift, this article explores and proposes an operational realignment tailored for Bangladesh peacekeepers to leverage the Bangladesh Army's unique capabilities.

Genesis of United Nations (UN) Peace Operations

Although peacekeeping was not included in the UN Charter at first, subsequently it has become an essential part of the UNSC's efforts to preserve peace in certain conflict zones. The UN was established on 24 October 1945 to save the world from the scourge of war, achieve world peace and security. The first-ever UN peacekeeping mission was sent to the Centre East to unwind the debate between Israel and the Middle Eastern states and so far, it has authorized over 70 peacekeeping missions with volunteers from around 120 nations as peacekeepers. Initially, the missions were fair observational bodies sent to states to guarantee cease-fires. Be that as it may, over a long time, peacekeeping missions have advanced into something more.

First Generation Peacekeeping

The first-generation peacekeeping missions commenced amid the Cold War (1946-90). The peacekeepers essentially observed with the countries' consent, mainly around the international borders. In its beginning, peacekeeping was constrained to actuating a ceasefire and supporting peace. It focused on giving the state parties an amplified time to resolve their issues. The most important part of the first-generation peacekeeping missions was to watch, report and offer

mediation through specific confidence-building measures. The UN Operation in the Congo (ONUC) was the primary of its kind since it consolidated numerous equipped military staff to help the DRC in its freedom from Belgium. In the first generation of peacekeeping, any party to the peace agreement could withdraw its consent at any time. This did not prove very useful in peacekeeping and sustaining a ceasefire. Repeatedly, a party or rebel group in the civil war would abuse agreements and attack the UN troops or civilians, challenging the peace process. The UN rejected using force, even for self-defence, resulting in the death of 245 peacekeepers in DRC and the death of its Secretary-General, Dag Hammarskjold, in 1961. Then came a modification in the peacekeeping conduct.

Second Generation Peacekeeping

During the US-led unipolar world, the UN peacekeeping mission changed from an observatory to a more multidimensional role. It was more about creating the environment than maintaining the status quo. The UN peacekeeping missions chiefly handled inter-state conflicts before but were gradually met with intra-state disputes and civil wars. The Peacekeeping advanced from monitoring the Comprehensive Peace Agreement (CPA) to involving other events like rendering technical assistance for building civil institutes of good governance, monitoring and safeguarding human rights, and the Disarmament, Demobilization and Reintegration (DDR) process. Besides military personnel, UN missions incorporated civilians like judiciaries, law enforcement agencies, human rights watch, civil affairs specialists, etc. In the mid-90s, the UN faced severe criticism for failing to protect its troops and civilian population, let alone establish meaningful peace in Rwanda, Somalia, Bosnia, and a few others. The number of troops deployed was drastically reduced, and budgets were cut significantly. The UNSC to re-look at whether its basic working principles of impartiality, neutrality and non-use of force were effective. Due to the power struggle, the UNSC failed to find a solution for the War in Gaza imposed by Israel. UN peacekeeping missions were featured by massive criticism for this. This led to further modifications to peacekeeping operations.

The Third Generation Peacekeeping: Struggling with Blames

Greater military strength and commitment to international legal, political, territorial, and humanitarian norms and laws were essential to ensure peace, protect the people's lives and counter criticism from the UN. The Brahimi report of 2000 was notably critical of the UN peacekeeping missions. The report served as a valued document for understanding the nature and workings of contemporary peace missions. The 2017 Santos Cruz Report[1] emphasized the current security-related challenges that peacekeeping civilian, military and police personnel face. It also included a strategy and recommendations on how to tackle those challenges.

Impediments for the Success of the Peace Operations

There could be many reasons for a UN Peace Mission not achieving its mandates. It involves several stakeholders who are not mutually exclusive but need synchronization for a

common goal of peace. Major stakeholders are the host country, troops-supplying countries, and the UN Mission deployed in the conflict zones. Besides, neighbours and regional powers also influence the conflict zones. Those are broadly discussed in the subsequent paragraphs:-

Host Country Perspective: While the host country and its people are the mission's primary beneficiaries and target groups, an expectation gap often remains. While the host country's government welcomes the UN, the Government becomes indifferent to the mission and may not support it to the expected level. Besides, there are many issues in the host country, as also have been highlighted by respondents of different experiences of the UN Mission for which difficulties faced are as follows:-

Figure-1: A survey result on the probable issues on Host Country
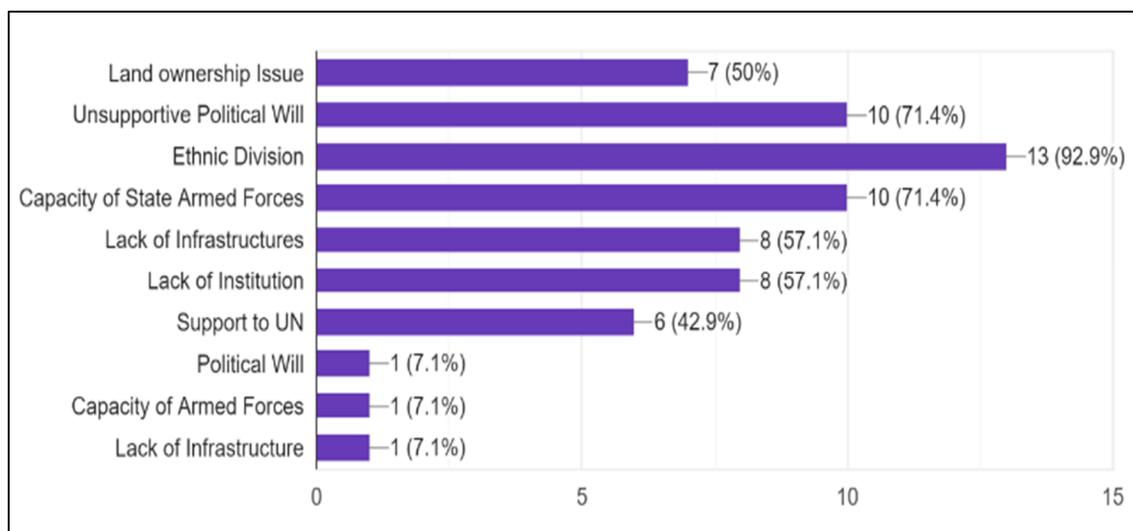
Source: Author's self-construct

Land Ownership Issues: Tensions over control over land and access to resources, including fisheries management, remain acute across the conflict zones like in MONUSCO. In DRC these include customary conflicts over land ownership in and between Lendus, Hema and Bira clans, demographic changes amidst the influx of migrant workers and illegal taxation by non-state Armed Groups (AG) and state actors. Bunia is the capital town of Ituri Province. The Lendu communities claim themselves as the children of the soil. In contrast, the Hema community dominates its business hub. The Bira community claims that Bunia means a shelter for them in their language. So, there is a triangular clash between the three communities with their stubborn claims over the land.[2]

Political Will: Though the UN Mission is mandated in host countries like DRC or Sudan, it is commonplace that the members of the UN Mission face resistance directly or indirectly in the form of noncooperation, restriction on movements, or even physical obstruction to the members of

the mission.[3] Increased numbers of physical assaults, killing of peacekeepers and attaining the UN Camps are also not uncommon.

Ethnic Division: Over 81 million, with as many as 250 ethnic groups, have been identified in DRC. The DRC's political crisis has galvanized and revived many of the estimated 100 AGs and militias currently active in the country.[4]

Capacity of Armed Forces

After years of war and underfunding, the FARDC units have faced significant challenges in terms of effectiveness.[5] FARDC was restructured patchily following the end of the Second Congo War in July 2003.[6]

Photo-1: Gen Fall the Land Force Comd meeting with NS Comd and Discussing for the Training of FARDC

Source: Author's self collection

Most FARDC members are land forces, with a small air force and a smaller navy.[7] It is also seen that the DRC government regularly recruits a mix of officers and men. While were absorbed from the AGs with their corresponding ranks. There is a rift between the groups beside the public reservation. MONUSCO assists the government by providing security in key areas in Eastern DRC. The UN provides logistics and other support based on the UN's Human Rights Due Diligence Policy (HRDDP).[8] FARDC often expects MONUSCO to join the military operations side by side with FARDC.

Photo-2: Commencement Ceremony attended by the FC, Local Governor and HoO

Source: Author's self-collection

Lack of Institution and Infrastructure

The countries that are generally in trouble to deploy UN Mission are generally devoid of any credible infrastructure to promote justice, democracy, or the human rights of its citizens. Even after the years of the presence of the UN and other agencies, the warring and political factions failed to develop the required institutions and infrastructure. Election commissions are not strong and bold enough to hold credible elections. Even if the elections are held periodically, at the least, the parliament is not functional in many cases. The judiciary is not effective. The police is not capable enough to maintain internal order and security. Consequently, the situation is not created to transfer the responsibility with the hope and guarantee of sustainable peace and protection of the civil population.[9]

Host Country's Support to UN

In many missions, in recent past anti-mission sentiments prevail on a large scale in the host country. This is a vicious cycle. The mission doesn't get success as the host country population, in many cases, doesn't provide adequate support. Again, as the mission doesn't succeed, the people lose hope and trust in the UN Peace mission. One thing prevalent among the high officials of the Host Government was the rumors driven by myths. People were apprehensive that MONUSCO provided weapons supply to AGs by UN Helicopters due to which it was impossible to fly a helicopter without the knowledge of the host government. Even though the senior officials were half convinced, the local elites could hardly accept this fact.

Troops Contributing Countries (TCC) Perspective

The contributions of the peacekeepers can never be underestimated. Since the founding of the United Nations, over 3,500 brave men and women have made the ultimate sacrifice while serving in the cause of peace.[10] These dedicated peacekeepers risk their lives in challenging conditions to protect civilians and maintain stability in conflict zones.[11] Their commitment to

advancing the UN's vision and values is commendable. However, it is also true that it is a peacekeeping operation, not a war of independence for the TCCs. Though the troops contributing countries compete among themselves to increase their participation, some dynamics put some limitations in giving their best efforts in Mission Areas risking lives.[12]

Figure-2: Different Issues pertaining to underperformance of the Contingents
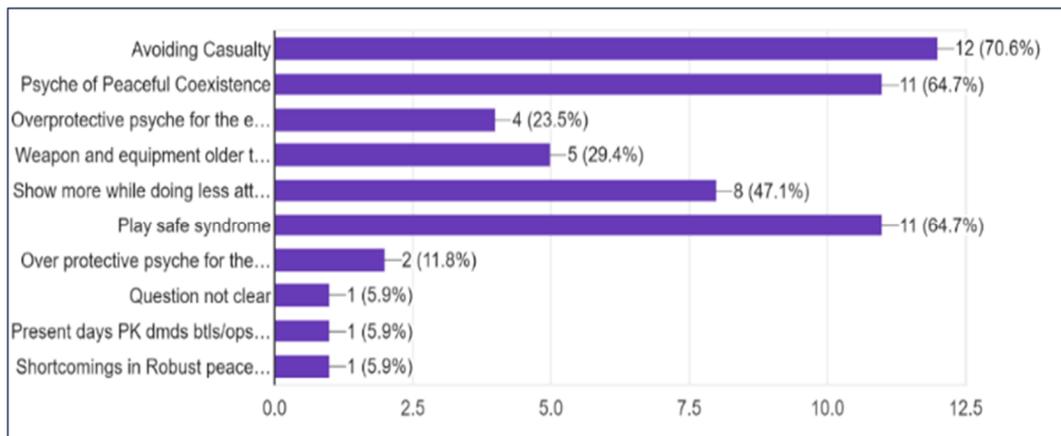
Source: Author's self-construct

Avoiding Casualty

Contingents deployed in the mission area try to undertake only unavoidable military operations. Even the routine patrolling which are conducted are also road and APC bound by most of the contingents irrespective of the countries, as has been highlighted by Severine Autesserre in the following words:

> United Nations peacekeepers in full protective keep watch in kaseguru (Congo), while their translator investigates recent fighting between rebels and the Congolese Army there. The soldiers spent less than 20 minutes in the village; they never leave the main road, and they don't interact with anybody.[13]

Though for any military patrol, it is a spontaneous reaction to dash down and crawl to a position advantageous over the enemy or the AGs, generally, it is found that many of the military contingent members don't only remain confined to the established road networks, they don't get out of the APC.

Overprotective Psyche for the Employment of Female Participants

Joining female peacekeepers in military contingents dramatically impacts peace efforts. In some contingents, the female participants are involved in challenging tasks like driving in rugged terrain, joining the operation TOBs, fighting patrols, SCDs, etc. However, there are examples where the TCCs are overprotective of female participants with regard to their security. They only participate in a prearranged meeting for media coverage that has a significant impact. Cultural orientation and dependency on their male counterparts sometimes inhibit their potential.

Not a TCC's War of Independence

It is to be understood that the TCCs are sending the peacekeepers because of their commitment to world peace. But it must be remembered that the officers and men will ensure force protection at all times. They are not expected to go on military operations without sufficient backup and logistics.

Superpowers' Interest Perspective

Traditionally, other than a few specific missions, major powers like the USA, Russia, France, UK and China generally don't participate in the UN Peacekeeping missions with military contingents. However, they have their presence in the mission in some important staff appointments. In the coming days, we will likely see an increased presence of these countries participating in the missions with military contingents. As significant contributors to the UN and members of the UNSC, they also influence the decision-making of the UN HQ or the mission HQ.

Colonial Legacy

Almost all the conflict zones were sometimes colonies of the UK, France, Belgium, etc. Though the countries had gained their independence, the legacy remained. The over-inclination toward the previous master countries and the new influence of the current major power create a conflict with the insiders' influence on conflict zones.

UN Mission in Host Country Perspectives

The UN Mission is the primary stakeholder in any peace operation. The integrated mission constitutes three pillars viz. Civilian Section, Force and Police. Many times, some solutions for the problems are considered which worked elsewhere. But the same may not work here.

Figure-5: Respondents' Identification of Issues about the Mission Dynamics
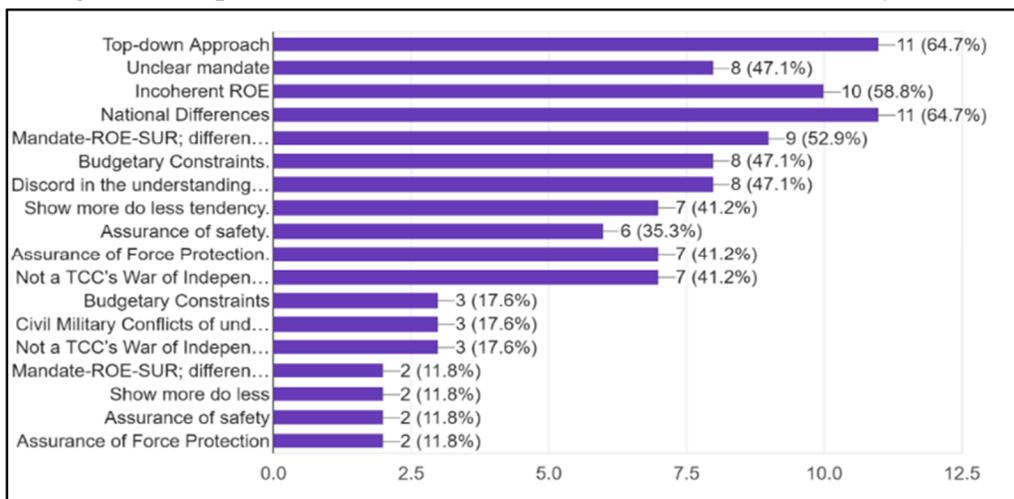
Source: Survey conducted by the Author

Some of the probable issues are discussed below:-

Top-Down Approach: One size does not fit all. Replicating one successful mission does not guarantee the success of all others of the same magnitude. Conflicting with what most politicians and interveners preach, top-down approaches are not the only means to reestablish peace. Bottom-up initiatives can also make a difference, and ordinary people can address some of the deeper roots of the country's problems. Most peacebuilders do not have enough time to understand the conflict. They use standardized answers to every question for peace. Lately, many people have called themselves "experts." So when there is a problem, they imagine that they already have the solution to their catalog of responses: This is a problem A, so this must be solved by measures Y. Conflict analysis, i.e., understanding who's fighting, why, and over what- became just as important as the design and implementation of solutions.[14]

Unclear mandate: Peacekeeping mandates are often ambiguous and open to multiple interpretations. They provide a broad framework but lack specific details on executing tasks. Military units deployed for peacekeeping must navigate this ambiguity, translating it into practical actions on the ground. Peacekeeping operations operate in diverse and dynamic conflict environments. Mandates must be adaptable to address varying conflict types, from civil wars to post-conflict stabilization.

Resource Constraints: Peacekeepers often operate with limited resources. They face difficulties implementing mandates due to personnel, equipment, and funding constraints. Though often there is a slogan that "do more with less," the SRSG, Ms. Bintou Keita, did not agree with the idea during her first visit to the NS Brigade on 12 March 2021. She emphasized the best use of the available resources and managed the expectations of different stakeholders as far as possible. However, balancing expectations with available resources is a constant struggle for the contingents and logistics department. The budgetary constraints remain a limiting factor.

Incoherent ROE and SUR

The ROEs should be adequately robust to ensure that a UN peacekeeping operation retains its credibility and freedom of action. The mission leadership should ensure that these ROEs authenticated by the Commanders are well understood by all relevant personnel and applied without prejudice. In DRC, two sets of ROEs exist for the same mission. The FIB has been authorized to conduct offensive operations. On the contrary, other Brigades are not authorized for offensive operations. Force Commanders and Police Commissioners indicate that some military-formed units and Formed Police Units are not structured, manned, and equipped for specific operational tasks and security demands of the mission in high-threat environments. To better support the military and police aspects of mandate implementation, units need mission-specific rather than generic or standardized capabilities commensurate with the SUR.

National Differences

While different contingents are deployed in the mission area under similar mandates, national differences remain regarding TTPs, weapons systems, national culture, and attitude toward peacekeeping tasks. Sometimes, it becomes difficult for commanders to synchronize operations for the same task.

Lack of Operational and Tactical Intelligence

Traditional Intelligence systems are almost nonexistent in the Mission Area. As such, they often cannot provide timely information that could help prevent, avoid, and respond to hostile attacks. Intelligence in peacekeeping is overly reliant on technology ill-suited to the operational environment. Information is not shared among key mission components, and human intelligence is underdeveloped or nonexistent. The intelligence cycle is incomplete, with information rarely translating into JMAC Reports and CLA or LA's last-moment information.[15]

Responsibility to Protect (R2P)

The countries where the protection and stabilization missions occur are not particularly interested in protecting their citizens. In 2006, in tacit recognition of this problem, UN member-states established the principle that it is a government's primary obligation to protect its citizens. The R2P principle also holds that the international community may intervene if the government fails to protect its citizens. Because the governments of these countries are either unwilling or unable to provide such security, the peacekeepers are being asked to do so. Peacekeeping is an emergency support, not a permanent solution.

Ways Forward for Success in UN Peace Operation: Bangladesh Perspective

The Bangladesh Army, in its role as part of UN peacekeeping missions, has implemented several operational measures to enhance success at both strategic and operational levels. Some critical actions to be taken are as follows:-

    a.   **Strategic Level Measures**: The success of UN peacekeeping missions involves a combination of strategic and operational measures which in turn contribute to successful peacekeeping efforts.

    b.   **Clear and Achievable Mandates**: UN peacekeeping missions require transparent, credible, and achievable mandates. These mandates define the mission's objectives, scope, and authority. The Bangladesh Army ensures alignment with these mandates when participating in UN peacekeeping.

    c.   **Personnel and Resources**: Adequate personnel, logistics, and financial resources are crucial. The Bangladesh Army commits trained personnel to fulfill mission requirements. Properly equipped and supported troops enhance mission effectiveness.

d. **Long-Term Planning and Transition Strategies**: Successful transitions from conflict to peace require long-term planning. It is vital to include peacebuilding and transition strategies in peacekeeping mandates. The Bangladesh Army contributes to planning and executing these strategies.

e. **Adaptability and Learning**: Peacekeeping missions face evolving challenges. The Bangladesh Army remains adaptive, learning from experiences and adjusting strategies accordingly.

f. **Leadership and Commitment**: Bangladesh firmly commits to UN peacekeeping by consistently contributing troops, police personnel, and other resources. Leaders at all tiers must understand the dynamics of UN Peace Operations and prepare and employ the peacekeepers accordingly to achieve the objectives of the missions and Bangladesh's National Interest. However, efforts may continue to make our presence at the UN or Mission HQ decision-making level.

g. **Capacity Building**: Bangladesh invests in training and capacity building for its peacekeepers, emphasizing leadership, cultural awareness, and conflict resolution skills. Peacekeepers should be acquainted with the language used in the mission country to communicate with people.

h. **Partnerships**: Bangladesh collaborates with other troop-contributing countries, regional organizations, and the UN to share best practices and enhance effectiveness. Bangladesh Army HQ has taken an excellent initiative to at least open the discussion and avenue for such deployment. Respected CAS of the Bangladesh Army has already visited Gambia, along with a six-member delegation, to discuss issues related to the co-deployment of troops in UN peacekeeping missions.[18]

Gender Balance with a Workable and Effective Mindset

The UN has taken some steps towards maintaining more excellent representation and emphasized the importance of women's participation in peacekeeping. Women in peace processes play a crucial role in improving effectiveness. However, it set its target to deploy at least 15%, yet much progress is to be made. As an example of a success, in 2007, when the UN's first all-female peacekeeping contingent was deployed in Liberia, it was found that this led to increased reporting of sexual violence by the local populace. Consequently, decreasing the frequency of these crimes was very encouraging indeed. However, to be operationally effective with a higher percentage of participation, female peacekeepers need to be trained adequately for even combat engagements on the frontiers.

Operational Level Measures

The operational Army HQ may ensure detailed planning and implementation on the following aspects:-

Robust Training: Bangladesh provides rigorous pre-deployment training to peacekeepers, covering mission-specific tasks, rules of engagement and cultural sensitivity. Deployments are frequently as Static Combat detachments, etc.

Effective Command and Control: The Bangladesh Army ensures efficient command structures within its contingents, enabling effective coordination during operations. As there is an understanding prevailing in the emission areas that Contingents get confirmation from the Capitals before acting on the Force's instructions, things should smoothen.

Adaptability: Peacekeepers from Bangladesh adapt to local contexts, respect cultural norms, and build trust with communities. They also need to reorient the prevailing operational environment of the host countries, such as DRC, Mali, or CAR. The requirement to resort to active military operations to non-imminent threats, such as those in the DRC, will likely become more prominent.

Protection of Civilians (PoC): Bangladesh emphasizes the safety and security of civilians, implementing measures to prevent harm and promote their well-being. Proactive military operations should be planned and conducted with deliberate preparation for the PoC.

Community Engagement: Bangladesh peacekeepers engage with local communities, fostering dialogue, understanding and cooperation. Language can be a barrier to communication. Thus personnel of Bangladesh should be taught foreign languages like French and Spanish, in addition to speaking English well.

Logistical Support: The country provides reliable logistical support to its contingents, ensuring their operational readiness. Fore planning is essential to adapt to the dynamic operational environment.

Cultural Reorientation: Female officers and soldiers' participation in combat might be necessary in future UN peace operational deployments. Since around 15% of the contingents will be female soldiers, a company strength will be out of a contingent. To maintain the fighting efficiency of the Contingents, female soldiers will be required to be deployed in Forward Operation Bases such as TOB, COB, or even SCD, like many other TCCs.

Tactical Level Measures

At the tactical level, the contingents and Brigade HQ should note and emphasize the following aspects:-

The right kind of TTP: In the face of growing competition, the Bangladesh Army trains its people to take the right kind of action when threats arise in the mission area for the peacekeepers and the PoC. A4P+ increases the impetus for Action for Peacekeeping by focusing on a few systematic and cross-cutting priorities. Any effort to drive forward an A4P+ priority will positively affect A4P commitments across several thematic areas.[19]

Deployment of Operational Equipment: It is not only the trained personnel but the appropriate equipment that will ensure operational success. The weapons, ammunition,

drones, etc., should always be operationally fit and deployed for the COE inspection, reimbursement, and operation used for operational success.[20]

Generation of Tactical Intelligence: Generating intelligence is a prerequisite for success in military operations or to protect civilians. Though the UN has some guidelines for tactical intelligence, the contingents must be creative in combining information from different formal and informal sources. Trend analysis, periodic robust operations, and proactive interests also help generate workable tactical intelligence.[21]

Basic Infantry Fighting Tactics in the Field Operation: The basic drill of dash-down, crawl, observe and fire to neutralize an opponent firing on the military patrol is an auto-reflex muscle memory action for any infantryman. But often, the patrol is found inside the APC with the psyche of overprotection, which is ultimately not rewarding. Sometimes, they do not fire at all, even when it demands. On the other hand, contingents fire indiscriminately from fortified positions in the Camps. Our personnel should be able to fire effectively and judiciously when required.[22]

Conclusion

It is said that peacekeeping is not the job of soldiers, but only soldiers can do it. Bangladesh Armed Forces and Police have become a trademark of peacekeeping by topping the list of TCC for highest contribution for most of the time in recent decades. Over a passage of time there has been evolution of this kind of conflict, so has peacekeeping. It has gone through sequential evolution and reached third-generation peacekeeping. Though Bangladeshi peacekeepers have done their best so far, the future days will be challenging since they will face more competition from aspiring countries. Even advanced countries like China, Japan, Russia, and the USA will likely have a larger footprint in missions to hold their influence.

Bangladesh Army also has to face more conflicting situations beyond their defense deployment, where they must engage in increased combat. As the room for improvement is the largest room in the world so there is scope for improvement. It requires adequate training, a mindset for operations, and equipping with modern technology-based armament and equipment. The strategic, operational, and tactical decision-makers will be necessary to plan and execute the abovementioned tasks. These measures collectively contribute to the success of UN peacekeeping missions and reflect Bangladesh's commitment to global peace and stability.

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Brief Biography

Brigadier General Md Mostafizur Rahman, ndc, hdmc, afwc, psc, PhD was commissioned on 20 December 1992 in the Corps of Infantry. He served in several infantry units. His staff tour of duties includes the appointments of General Staff Officer-3 Training in the School of Infantry and Tactics, Brigade Major in Headquarters 65 Infantry Brigade in Chittagong Hill Tracts, General Staff Officer-1 in HQ DGFI and HQ 9 Infantry Division and Colonel Staff in both HQ 9 and 11 Infantry Division. He also served as Platoon and Term Commander in Bangladesh Military Academy. He commanded 34 E Bengal, 77 Infantry Brigade and 46 Independent Infantry Brigade. He also commanded NS Brigade (Itrui) in MONUSCO and also served as the Chief of Doctrine Division at HQ Army Training and Doctrine Command. He acted as an Independent Director of Dhaka Stock Exchange Limited. He successfully completed the Army Staff Course, Armed Forces War Course, and National Defence Course in Dhaka, Combating Terrorism Executive Course in Washington DC (USA), Legal Aspects of Combating Terrorism Course in Rhode Island (USA) and Higher Defence Management Course in India. The officer achieved a Master of Management, Security, and Defence Studies from Osmania University Hyderabad (India), Bangladesh University of Professionals and the National University of Bangladesh respectively. He also obtained PhD degree from the Department of the Government and Politics of Jahangirnagar University of Bangladesh. He participated in UN Missions in Sierra Leone (2001-2002), Sudan (2009-2010) and the Democratic Republic of Congo (2021-2022). Currently, he is serving as the Directing Staff of Armed Forces War Course at National Defence College.

The Persuasive Power of Internet Media: A Concern to Individual Freedom, Self-Worth and Collective Security

Brigadier General Sultanul Afrain Zunaid, SUP

Abstract

Although, till the last decade of the 20th century, the media was primarily based on newspapers, television, and radio, now the world is watching a lightning transformation of the media through internet-based digital technologies. The impact of internet facilities is so enormous that digital spaces eventually have become a lifeline in modern societies, profoundly influencing human life and behavior. The internet-based digital communication method has evolved media in the Screen Age. The power of smart screens has profound influences on human cognition; thus, through the impact of smart screens, human relationships, life values and principles, global views, and most vital socio-individual attributes are rapidly shifting in their meaning. Indeed, digital media are primarily designed for the utility of human beings; however, they are often found as a means of manipulative machines by global or local investors. This article highlights some of the most demanding facets of social awareness among people, especially youths, in navigating the Internet Media. The study findings provide some critical understanding of the persuasive power of Internet Media and its impacts on people's self-worth, freedom, and security.

Keywords: Internet media; human behaviour; influence; freedom, self-worth, security.

Introduction

Humans evolved on earth nearly 7 million years ago and only 50 thousand years ago people started to learn the language. Till Johannes Gutenberg invented the printing machine in 1440 CE, people had only verbal speech and handwritten content to communicate as media. Media was not very significant even 120 years from now. However, in the second decade of the 20th century, especially during the First World War (1914-18), military leaders were amazed to discover that propaganda could be a brilliant tool to fight against the enemy's will. They found that propaganda news and bulletins circulated through handouts and radios were highly influential in creating panic among the enemy soldiers. However, when television appeared in the fifth decade, more influential media emerged to propagate news through audio-visual presentation. Social scientists were surprised to see that the power of a black-and-white box (television) possesses an enormous ability to keep people stuck around it. This made it even easier to spread news, ideas, information, concepts and even rumors among people innocently, consciously, or purposefully.

During the second half of the 20th century, the pressure of competing interests compelled world scientists to work relentlessly to explore new technologies, and eventually, they invented the computer and the internet. A new and more powerful media industry evolved in human history through persuasive technology- the Internet and Computer-based Communication Systems. Soon,

the introduction of smartphones made a massive shift in the meaning of traditional media that people had ever visualized. Although the Information Age started near 1970, massive development and global networking materialized during the early 21st century; thus, media industries entered an ever-new paradigm.

Social scientists spotted that Internet Media could offer profound opportunities and constructive use of high-speed networks in education, development, social awareness and security. However, it also opened new doors for business and politics. Thus, investing billions of dollars, many research and experiments were undertaken for the media and its associated technologies, focusing on business and politics. Smart people looked to make money and gain power through media research, and only a little attention was paid to citizen-centric education, development and security. Researchers found that the media can enormously change how people think, behave and perceive different issues. As such, many media theories came into being. Agenda-setting theory points out that media successfully tells its readers and viewers what to think about.[1] Framing theory clarifies that the media can influence how people perceive and understand events by selectively highlighting parts of events while ignoring or downplaying other aspects.[2] Cultivation communication theory speaks that exposure to media, particularly screens, shapes individuals' perceptions of reality over time, leading them to adopt beliefs and attitudes consistent with those presented in media content. It also apprises that heavy screen viewers are more likely to perceive the world in ways consistent with the screen contents, leading to a phenomenon known as 'the mean world syndrome.'

Indeed, the media has enormous power and is even more powerful than nuclear weapons. The claim is nothing but logical reasoning – as the decision to use nuclear weapons is made by some humans who are highly susceptible to massive media influence. In 1953, when media was only confined to newspapers and radio, in his book *Counterblast* Marshal McLuhan stated, "The media are not toys; they should not be in the hands of Mother Goose and Peter Pan executives. They can be entrusted only to new artists because they are art forms."[3] In this study there is an attempt to visit the power of Internet Media and its influence on human self-worth, freedom, and security.

Literature Review

An Overview of Screen Age

In the Information Age and, more specifically, the Screen Age, people live in a society where the societal environment is experiencing a speed of constant change and modifications worldwide. The speed of such changes is taking new heights every day. Few decades ago, electronic media replaced print media, but now the internet media has changed the total perception about media today. Internet media - digitally delivered news, articles, blogs, music, video, websites, email, streaming apps, podcasts, and internet-based communication[4] has engulfed almost every sphere of our modern life.[5] Internet media technologies offer unprecedented opportunities for

individuals to engage in communication, socialization, entertainment, and learning, and have the potential to enhance the quality of our life significantly.[6] Thus, the internet, computer gazettes, and smartphones have become almost indispensable in all the societies of the present world.

A total of 5.35 billion people worldwide were using the internet at the start of 2024, making 66.2 percent of the world's total population digital. The internet-connected population grew by 97 million users in the 12 months leading up to January 2024.[7] Worldwide, 1 in 3 internet users is a child or youth. According to UNICEF, 86% of school-aged children and kids in high-income countries and 60% of middle-income countries possess internet access. As a social being, observational education is the central mode of human learning. Thus, people mostly learn through watching and imitating the behaviors, attitudes, and values of others in their environment.[8] People, especially youth, mostly learn what they watch in the majestic world of virtual space. Youths and children behave and imitate what they experience through the message of internet media and its contents. Youth's cognitive development and behavior are now almost open to the influence of virtual environments, profoundly impacting their beliefs, attitudes, and behaviours.[9] Researchers found that the colorful attraction of virtual space largely shapes youths' cognitive structure and behavioral patterns more than the physical and social environment. Today, youths often accept a lifestyle and make life choices mainly through the influence of media propagation.

Although media has enormous benefits in making human life easy, comfortable, secure, and paving more liberty in society, a few powerful groups seem to abuse the power of the media industry. The vast power of media could be utilized for improved education, social harmony, enhanced intra and inter-national unity, humanity, and peace. Instead, media has now mainly become another tool to make people addicted, greedier, and more intolerant. In the name of luxury, liberty, amusement, style, and status, people are now racing, and the speed of such a race is accelerating every day. The adverse effect of media addiction is manifested in almost every sphere of human life now. Researchers have found that excessive media use often exacerbates social isolation and loneliness. It provides an alternative to face-to-face interactions and reduces opportunities for real-world social engagement.[10] It has also been found that media could negatively impact children's social and emotional skills, including their ability to build relationships, regulate their emotions, and develop empathy.[11] It is observed that extensive usage of virtual space is taking a massive toll on the sound mental structure in societies. Research has suggested that persuasive technology designs have the power to lead to problematic internet use, as they are designed to increase users' mental engagement over an unlimited period."[12]

Methodology

This article is prepared through content analysis technique. Study documents were selected depending on the significance of internet use with no intention to undermine the productive features of digital media.

Study Analysis 1: Persuasive Technology Design

During a social gathering some topics were discussed which varied from cooking to health care, business to state and international politics, ancient stories to Hollywood movies. Most opined perhaps the internet is using us and not we are using the internet.

Purpose of the seminar conducted was to address mental problems that adolescents face in the digital age. Some teachers of educational institutions pointed out that young people are becoming hooked on digital devices and the internet, which is causing them to lose focus on their studies. Even elderly people are becoming addicted to the internet.

Sometimes visiting websites for specific purposes have become part of daily life. New data, a new stimulus, an eye-catching image, or a headline from a media feed can carry our thinking to the areas of interest of media designers. Media houses are in a race with each other to draw more and more human attention to their content and they apply powerful tools to enter human cognition. In doing so, they mostly hit the weakest links of peoples' biological instincts. Sometimes, they apply lucrative announcement of easy money, offering amusements, beauty contest, food and various biological need.

The media industry is now so powerful that, the impact of persuasive technology is all around today. Media has become the oxygen of modern civilization. In 2022, the global media and entertainment market size was USD 2516970 million and it is projected to touch USD 4216401.15 million by 2031.[13] This industry has engulfed almost every sphere of human lives to maximize their profit through using every human emotion and attention. Although they compete for higher profit, media industries mostly cooperate among themselves for their even higher mutual benefits in controlling people's cognitions. Now the masterminds have the abilities to manipulating people's spirits. Illicit media controllers also bring many seemingly constructive and colorful activities to fool people. It seems a few monsters collaborate to suck not every bit of human blood and flesh but the time and attention of every life.

Indeed, persuasive technology encompasses a range of interactive computing systems and designs aiming to predictably influence human attitudes, behaviours and choices.[14] Media masterminds launch programs to induce people and make them act and respond in ways people may not have deliberately wanted. It is the technique to shape people's life choices among options and take their opinions to the designer's area of preference. It is the scheme to shape mass people's emotional structure, physical and mental habits and their responses to certain situations in a certain way. Media technologies are now tapping into the brain neurons for increased product sales, winning politics, people's motivation, habits and in fact, every area of human life. Through the race, persuasive technology is evolving at lightning speed each day with new ideas, tasks, agendas, and their implementation strategies.

The masterminds behind media technology conduct extensive research on people's psychology, emotions, and reactions to different stimulations; thus, they design the tools to engage

people's attention for an extended period. They evaluate what triggers and influences people's primary instincts, then create algorithms to support the interest of their investors' agenda. These algorithms are so profoundly designed that they tap into our emotional triggers—anger, fear, love, sympathy, joy, hope, identity, compassion, pleasure and many more. Through much critical evaluation, they design media tools to stimulate our brain networks in the most refined ways to influence our mental structure and behavioral responses. Whether liked or disliked something on our own; it is assumed something is choice or liberty, but that is seldom true today. The impact of persuasive technology shapes minds in a way that we like or dislike, love or hate, and accept or reject something, mainly the outcome of media influence.

While social media, chat boxes and other communication apps started as means to connect with friends and family, they have since evolved into a coveted hobby by all ages and all groups. Playing video games or watching sports events apparently seems mindless and relaxing. Nevertheless, what we see, listen to and visualize significantly affects the brain. Whenever we log on to our favorite apps, the dopamine signal in the brain increases; when we experience more dopamine after surfing some pleasurable virtual content, our brain identifies this activity as a reward that needs to be repeated. In such a situation, we become compulsive to stay in the virtual space, leaving other essential tasks. Through the process people get addicted to virtual world which is under category of behavioural addictions.[15] Behavioural addictions are often manifested as gambling, computer gaming, video watching, overeating, excessive shopping, chatting, and internet browsing.

Addictive substances and behaviours activate the same reward pathways in the brain as other pleasurable experiences, such as engaging with music, art, media, or other entertainment.[16] The pleasure feelings experienced during internet media are commonly known as internet addiction, social media addiction, technology addiction, digital addiction, and video game addiction. Once people are addicted to virtual media, the first response manifests as they lose interest in hobbies and other physical activities they previously enjoyed. With the addiction to internet media, people remain engaged in virtual space, ignoring study, work, family responsibility, relationships, and essential living necessities.

Today, behavioural addiction related to new media has raised public concern globally, and many studies have been conducted on the issue. When people get addicted to digital space and spend excessive time playing games, gambling, and shopping, they often suffer from severe financial troubles and poor work performance. When people excessively use chat rooms to enjoy online relationships, they often lose real-life friends and suffer from a deficit of emotional support. Indeed, virtual media can only transfer digitally created illusions to our brains but cannot carry genuine emotional support. Thus, many people are found with mental disorders like isolation, depression, insomnia, and more mental illness.

Study Analysis 2: A Neuro-Scientific Perspective of Media Influence

Naturally, the brain always remains hyperactive to seek information, stimulation, and signals, and our brain's prefrontal cortex earnestly engages in those for their critical evaluation. Thus, the vibrations or flash notifications of our cell phones act as stimuli and keep our brain's amygdala engaged. The almond-shaped little amygdala plays the most crucial role in detecting and responding to new or challenging environmental stimuli and helps ensure our physical safety.[17] In ancient days, predators were our evident enemies; therefore, the human brain's amygdala used to remain hyper for any unusual signs, signals, or symptoms all around at all times, searching for the presence of man-eaters. Today, though there are hardly any predators around us, the brain acts almost similarly upon receiving new information or notifications. It makes the brain into overdrive, triggering anxiety and stress and at the very least, creates hyper-vigilance over media notification icons. Using such biological structure, persuasive technology leverages cognitive and social psychology insights, attention, memory and motivation to shape user behaviour.

The attentional capacity of the human brain is finite and limited, estimated to be around 60-120 bits of information per second or about 7 ± 2 chunks of information in working memory.[18] Since the brain's capacity to process sensory information is limited, there is a bottleneck in the flow of information from sensory organs to the brain, resulting in the selection of a small fraction of sensory inputs for further processing.[19] Using this biological structure of the brain, programmers of media houses can easily target any segment, community, or society irrespective of time and space. Persuasive technology works similarly to powerful drugs, and people spontaneously behave as the media controller may wish to. As humans are biologically predisposed to learn by imitating others and are more likely to imitate people they perceive as socially dominant, media acts to construct people's behavior and shape their cognitive domain through lucrative fashions, celebrities, and magical words.[20]

Persuasive technology takes full advantage of our brain operating techniques and applies different stimulations when we go online. Whenever one has smartphone at hand for a specific purpose, then one moves through many other areas of cyberspace, mostly subconsciously, and suddenly it is discovered that one has already consumed significant time. Through evaluating online behaviour, media technology reads each human at their character and applies pre-designed tools to draw peoples' attention to their interests. They divert and transport peoples' attention by popping up some favorite brands or fashions, headlines or ideas, sometimes through attractive figures and commodities, a video or image, and many more feeds. They repeatedly follow the same technique until the idea or notion gets engraved in people's minds; thus, they modify our mental human habits. That is how the internet media industries use people's psychological and biological triggers to alter behavior, attitude, and opinion and push people to act in their designed way.

Study Findings

Social Capitals are in Constant Attack

Social and emotional capital naturally exists in humans, making them social beings on Earth since people survive and progress through different kinds of social skills. Youths and children learn the language, behavior, and socio-emotional skills from their childhood to become balanced characters appropriate for their society. Nevertheless, most societies are now experiencing declining social and emotional skills like relationship building and management, social and community obligation, empathetic behaviour, cooperation, and patriotism. Socio-emotional bonding within the community and even within the family members is decreasing due to the lack of physical interaction between people. Many such stories, studies, articles, and news on relationship impediments, relationship management, intolerance, and emotional breakdowns are published daily on the issue.

Empirically apprehended that a tremendous and powerful intangible force is acting against the socially expected socio-emotional domain, especially in youths' lives. Due to the lack of patriotism, wrong sense of dignity and low self-worth, many juveniles are now engaged in crimes like drug peddling, stealing, hijacking, cyber-crimes, rape, suicide, killing, joining extremists and vandalizing public property. It indicates that many youths severely lack constructive social skills and that there is something imperfect with their learning environment.

Today, in the screen age, young people spend a significant amount of time consuming virtual media content. Thus, they learn behaviour and attitude and build mental habits through the influence of digital media. Youths learning about social norms, values, principles and socio-emotional soft skills are significantly influenced by the contents of internet-based virtual spaces. Such influences are diverse depending upon the content quality, consumption trend and degree of access. Sometimes, learning from family, schools and society gets undermined by what they watch and see in virtual spaces. Many youths critically lack relationship skills like respect, compassion, empathy and patience during their social interaction; many display intolerance to others' opinions, norms and values due to inappropriate learning. The trend of declining social capital is passing through a compound effect daily through internet media content, likely to cause severe uncertainty in human bonding, unity and cooperation for the future.

Disconnected through Connected

According to a recent global survey, about 33 percent of adults experienced feelings of loneliness worldwide.[21] Report says 36% of all Americans—including 61% of young adults and 51% of mothers with young children feel severe loneliness.[22] Isolation has become a long persistent situation in Japan. Based on studies from 106 countries, the prevalence of lonely feelings among adolescents ranged from 9.2 percent in Southeast Asia to 14.4 percent in the Eastern Mediterranean region.[23] The people of the present world are the most connected civilizations ever known. They

are connected by cell phones, the internet media, television, and many other apps facilities, but why should people of this world suffer from loneliness and isolation? People of the present civilization seems to be highly connected, simultaneously experiencing a severe emotional deficit in the known history of humankind.

According to our biological design, our brain must fulfill its emotional hunger through the human-to-human actual interface. These hunger-pangs are only fulfilled through interpersonal emotional connections mostly during informal and positive physical interactions. When we meet people physically, our natural biological design helps us to read each other's emotional spectrum. Views may be interchanged through verbal speech however, a massive data transmission occurs silently and mostly beyond our consciousness through our eye contact, body language, physical touch, and many known and unknown situational or environmental stimulations. Such data transmission occurs as light (visible and non-visible), sound wave (audible, infrasonic, ultrasonic), temperature, smell wave, pressure wave, infrared wave, magnetic wave and many more. In case of virtual interaction, data exchange is only limited to machine transmitted visible light and audible sound waves when we stay connected to internet media in our virtual space interactions. Again, most stories, images and video content presented through internet media are engineered, manipulated, altered and exaggerated, thus those media contents carry diverse messages to our minds. Through watching the exaggerated presentation, people often perceive something in a wrong way thus they form faulty expectations from the real life. Eventually frustration occurs among people; they suffer from conflict of their expectations and reality; thus people of the virtual world get into discontent, dissatisfaction and unhappiness.

Due to innate biological and emotional needs, we feel urgency to meet our loved ones. In our work life, we often experience that cooperation is better materialized when we meet people physically instead of communicating virtually. Biological design always seeks interpersonal physical interaction to fulfill emotional needs – our grand architectural design to build unity. Ignoring the natural architecture of human life, when people rely more and more on virtual space and reduce physical interaction, they suffer from emotional vacuums and engage in tranquility deficits. Often, such people suffer from loneliness and encounter diverse mental health issues like anxiety disorder, distraction disorder, impulsive behavioural disorder, insomnia, and many more.

Technology has made human life easy, comfortable and free from human dependency. Taking advantage of modern gadgets, many people in affluent societies are leading independent lives. In those societies, more and more people are opting to enjoy a life free from responsibility, dependency, obligation, and commitment. A similar sense is vigorously waving now in many societies worldwide. Instead of life-long commitment, people prefer a short-term relationship and look for free, pleasurable, single, and often isolated lives. Today, the revolution of virtual space has created the fastest-connected global network. However, it has adversely affected the scope of human-to-human physical interaction and emotional support needs. The cheap and easy means of virtual communication have made human life externally ultra-speedy and seemingly

enjoyable but, at the same time, brought civilization to an era of emotionally ever-disconnected age. Eventually, people of the Screen Age are more towards loneliness, isolation, disharmony, lack of unity, anxiety and depression-prone and are often on the way to becoming emotionally bankrupt.

Contributing to the Emotional Numbness

What could be the meaning of life without love, a smile, a sense of beauty, joy, respect, and hope? Indeed, emotions act as the powerhouse in lives to unite, cooperate, progress, and even survive. Emotions are a precious asset, making us human and differentiating us from machines and robots. Today, persuasive technology has overwhelmingly infiltrated the emotional domains of human life. The media tech giant and masterminds are in control of playing with human emotions to meet their interests. Those tech experts can create, divert, and even paralyze natural human emotional responses through persuasive technology and cognition-manipulating techniques. Is it really true?

Falling within a sudden enemy bombardment, a teenage boy was scared, shocked, and helpless; he was traumatized watching the destruction, split dead bodies, blood, and flesh. He felt extreme disgust, acute fear, and unbroken tension, watching children, women, and older cry for help. Living on the battlefield, that simple, soft-hearted, innocent boy who never consciously killed even a tiny creature like an ant got transformed from within and took weapons at hand, taking an oath to kill enemies. Gradually killing and watching segmented dead bodies became mundane as his brain started suffering from emotional numbness. Today, a similar response occurs in brains when online. One travel from acute destructive news to extreme euphoric pleasurable content within a brief period. Diverse types of content, images, and videos in our chat boxes and newsfeeds in virtual space are encountered. When one enters internet media for some essential content on YouTube, often consciously or unconsciously one gets engaged in watching many different items. Those contents and news are keenly designed, organized, and fed into browsing pages, following the most intelligent way to hack attention. One may have passed 10 minutes online where one encounters news regarding war updates between Russia and Ukraine, and then the next feed is about some sports news. One could also watch a pathetic picture of a distressed Palestinian child and a few pop music trailers followed by a national budget report, a morning report, some pictures of friends and relatives enjoying their holidays or social events, and many such contents bearing diverse emotional responses in our brains. After 10 minutes of surfing the internet, one may have traveled from a highly fearful emotional state to extremely joyful events and many such emotions with diverse degrees. At the end of 10 minutes, what does one feel in oneself? How does one sense those events when one has just passed through in internet media? Actually, one feels numb and frozen in emotional spectrum; one loses sensitivity to ones feelings. An influx of opposite kinds of neurotransmitters acts in brain, bringing conflicting emotions; eventually, one feel numb. One feels paralyzed to respond naturally.

Conclusion

Media can construct and shape the social and emotional framework of societies. Media can enhance cooperation and collaboration among nations through unity enhancement programs. Similarly, they can use technology to infuse media addiction, propagate mass consumption, create an emotionally numb society, provoke psychological instability, and destroy essential social fabrics that people have inherited for thousands of years. While media technology possesses enormous ability to serve society, controlling this technology is crucial in determining its overall impact on humanity."[24] Indeed, internet media has vast constructive features for the benefit of humanity, but that depends on who controls this technology. When weapons were invented, there was an intended positive use of them. Nevertheless, history stands with the truth that rulers, emperors, money class, kings, and knights used most weapons to rule people. People in power hardly cared for the needs of humanity and the general well-being of people. A similar episode is also taking place with the media; the enormous power of new media technology is likely to be used to control people's attention. The technology will likely be focused on manipulating people's cognitions for a few tech giants' political and commercial gains.

Humans developed many technologies; nevertheless, the invention of internet media has dramatically impacted the human species in that no other innovation could do it so profoundly and so rapidly. Persuasive technology has not occupied some land; it has not controlled the magnetic spectrum or energy, nor even ocean or space, but it has captured the entire domain of human attention. Indeed, the people of modern civilization are at risk of a massive modification in their spirit, self-identity, and freedom of choice. If the issue is not understood or addressed appropriately and timely, the time is near when only the few tech giants shall be named humans, and all homo-sapiens will act as biological string puppets.

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Brief Biography

Brigadier General Sultanul Afrain Zunaid, SUP was commissioned in the Army Service Corps on 11 December 1997. Apart from serving in ASC outfits, he has served in I Para Commando Battalion and Army Security Unit. He also served in Special Warfare Wing, School of Infantry and Tactics as an Instructor. In overseas assignment, he performed as Quarter Master and Military Transport Officer of Bangladesh Contingent in Liberia (UNMIL) and Military Observer in Mali (MINUSMA). The officer evinces keen personal interest in studying international relations, strategic and security affairs. He has few publications on Basic Soldiering, Leadership Qualities, Motivational Challenges from the Young Officers' Perspective, Disaster Management, etc. At present, he is serving as Director of National Security Intelligence.

Enhancing Communication Strategies Through Effective Monthly Darbar by Commanding Officers: A Social Penetration Theory Perspective

Colonel G M Sohag, afwc, psc

Abstract

Relationship building and effective communication are crucial components of a successful military organisation. Within the Bangladesh Army, Commanding Officers' (CO) Monthly Darbar serves as a platform for officers and soldiers to come together, discuss issues, and build camaraderie. This study seeks to investigate how these monthly meetings or Darbar impact relationship building and communication strategies within the military, drawing on the Social Penetration Theory which narrates that relationships progress through a process of self-disclosure and inter-reliant communication. The study employs a qualitative research design, including personal interview, survey, and focus group discussion to gather data from participants. Findings from this research provide valuable insights into the effectiveness of communication and relationship-building practices within the Bangladesh Army. Finally, the ways and means have been suggested to make CO's monthly Darbar more effective.

Keywords: Monthly Darbar, relationship building, communication strategies, Social Penetration Theory and Bangladesh Army.

Introduction

Studying relationship building and communication strategies within the military is important for several reasons. Firstly, strong relationships among military personnel are essential for fostering teamwork, trust, and cohesion, which are critical for operational success.[1] Effective communication strategies, on the other hand, ensure that information is shared accurately and efficiently, leading to effective decision-making and problem-solving. Many scholars gave credit to United States' technology and training for the swift combat success of Operation Iraqi Freedom, while a group of researchers argued that the true strength of America's military might lies not in its hardware or high-tech equipment, but in its motivation and inter personal relationship dynamics in the units. Many researchers also opined that cohesion, or the strong emotional bond between soldiers and officers, continues to be a critical factor in combat motivation and performance.[2] Consequently, unit cohesion is still a battle winning factor even for the most advanced Army like United States Army.[3]

The Social Penetration Theory, developed by psychologists Irwin Altman and Dalmas Taylor in 1973, advocates that relationships progress through a process of self-disclosure and interdependent communication. This theory also suggests that individuals gradually reveal deeper and more personal information about themselves as they interact with others, leading to increased levels of intimacy and relational satisfaction.[4] It also emphasizes the importance of reciprocity in

self-disclosure, with individuals tending to match the level of disclosure of their communication partner. This reciprocal self-disclosure fosters trust and intimacy in relationships, leading to greater satisfaction and commitment. According to the Social Penetration Theory, relationships progress through several stages of self-disclosure, starting with the superficial and moving towards the intimate. This study will try to relate the theory with the inter personal realtionships between the leaders and the led that is expected from the outcome of Darbar.

Often, the CO is considered as the 'DAD' of the unit and fellowmen as 'brothers-in-arms' who accompany each other in thick and thin times. Soldiers consider their buddy's demise in action as more grievous than their own. They experience the guilt of survival, which may be unique to the military profession only.[5] As the 'DAD' of the unit, the CO's monthly Darbar in the Bangladesh Army serves as a platform for the CO to address various issues and concerns raised by the soldiers, as well as to provide guidance and motivation to the undercommand. Hence, it holds significant importance in maintaining transparency, communication, and unity within the regiment/battalion.[6]

The aim of this study is to explore the influence of CO's Monthly Darbar on relationship building and communication strategies within the Bangladesh Army using the Social Penetration Theory as a theoretical framework; thus, making the Darbar more effective. In doing so, the study will first discuss the overview of 'Social Penetration Theory' and its application in organisational contexts. Thereafter the study will focus on tracing the history of Darbar alongwith its importance on relationship building in the military. Finally, the study will provide few ways and means for enhancing communication and relationship-building practices within the military organisation and thus strengthening bonds by making the Darbar more effective.

Rationale of the Study

In a regiment, the inter personal relationship inspires all its members to put up the best and meet the expectations of the other. But, fulfilment of expectation cannot be formalized as it is absolutely psychological in nature. The bonding or interpersonal relationship also creates a mental obligation among all the members to work together for the betterment of the regiment, which matures through psychological engagement between the leaders and the led.[7] Through holding monthly Darbar effectively, the grievances of the undercommands can be minimized while by addressing the appropriate need the efficiency of the regiment can be maximized.[8] Thus, the importance of holding Darbar in right sprit may be a very important tool in building relationships and strengthening bond among the members of the regiment. But there is limited study on how these Darbars impact the relationships between the CO and their subordinates, and how they influence communication strategies within the Army. By applying Social Penetration Theory, which focuses on how relationships develop and deepen over time through self-disclosure and interpersonal communication, this study will provide valuable insights into the dynamics of these monthly assemblies in the Bangladesh Army.
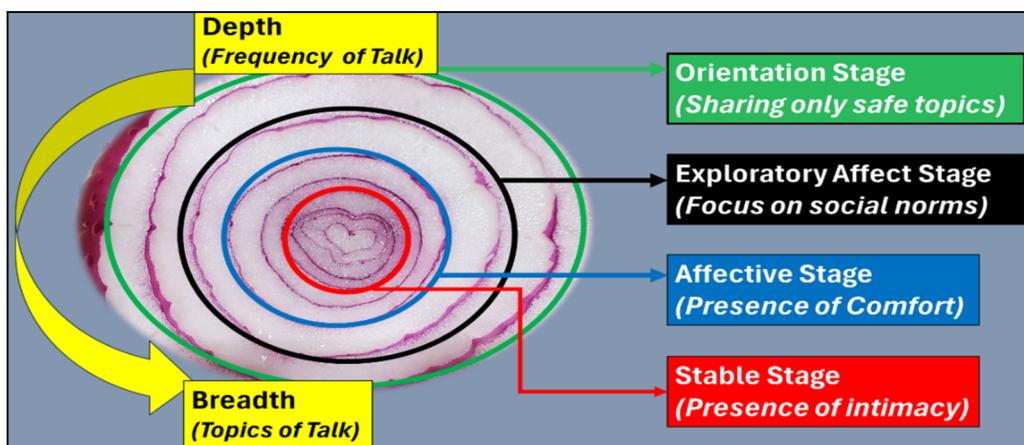
Overview of Social Penetration Theory

Stages of Social Penetration Theory: The Social Penetration Theory suggests that as individuals engage in an interpersonal relationship, they gradually move from superficial to intimate levels of communication and self-disclosure. There are four stages of social penetration theory which are briefly discussed below:-

a.   **Orientation Stage**: This initial stage involves superficial communication, where individuals engage in small talk and exchange basic information about themselves. As the bond is new and unfamiliar, individuals play safe and do not disclose much. Intimate personal details are not disclosed during this stage. Usually, safe topics are chosen and negative topics are mostly avoided.[9] For example, when a young officer or newly recruited soldier joins his/her regiment, he/she talks to a few people about only general isues pertinent to the unit. In the context of the Darbar, this may involve discussing routine army matters and sharing updates on operations or welfare issues.

b.   **Exploratory Affect Stage**: The second stage involves sharing a little more information than the first stage. Shallowness decreases and people are more prone to disclose personal information, their thoughts, opinions, and emotions. But as the bond is still relatively new, people still focus on social norms and behave accordingly. In the context of Darbar, officers and men may start discussing their experiences, challenges, and aspirations within the military.

c.   **Affective Stage**: The third stage is known as affective stage. In this stage, the relationships deepen, individuals start to develop a stronger emotional bond and empathy towards each other. There is a presence of comfort and friendliness in this stage. Hence, this stage may involve sharing personal stories, demonstrating support, and building camaraderie among members of the regiment.

d.   **Stable Stage**: In the final stage of social penetration, individuals are expected to have established a close and intimate relationship, characterized by open communication, mutual trust, and a sense of belonging. People are expected to share even a traumatic experience. These relationships are usually maintained and last for a longer time.

How Does Social Penetration Work?

Social penetration is achieved through the process of self-disclosure. Self-disclosure is the process of revealing information about yourself. The information can be about opinions, thoughts, feelings or experiences. It is helpful to create trust, understanding and emotional intimacy between people. Social penetration theory is often compared to peeling layers of an onion, where the outer layers represent superficial details and the inner layers represent deeper and more personal aspects of an individual. Just like an onion, there are a set of peels on people. People need to "peel back" others' layers of personal data through communication to reach the inner core (see Figure-1).

Figure-1: Stages of Social Penetration Theory-Onion Metaphor

Source: Adapted from A. Carpenter and K. Greene, 'Social penetration theory,'
The International Encyclopedia of Interpersonal Communication, 2015, pp.1-4.

Application of Social Penetration Theory in Organisational Contexts

In the context of the Bangladesh Army and the impact of Monthly Darbar on relationship building and communication strategies, the Social Penetration Theory can provide valuable insights into how interactions and self-disclosure within the military organisation contribute to the development of strong and effective relationships among soldiers and officers. By examining the patterns of self-disclosure and communication strategies employed during monthly Darbar gatherings, this theory can help enhancement of relationship-building and communication within the Bangladesh Army.

The theory asserts that as individuals disclose increasingly personal and intimate information, their interpersonal relationships deepen and become more meaningful. This Theory has been widely applied in various interpersonal communication contexts, including friendships, romantic relationships, and professional relationships. In an organisational context, social penetration theory can be used to understand how relationships develop within a specific workplace or institution. By examining the depth and breadth of communication and self-disclosure among members of an organisation, this study can gain insights into the dynamics of interactions and the level of trust and rapport that exists among the team members. In the context of monthly Darbar, it will be easier to understand how the level of self-disclosure and sharing of personal information during Darbar influences the quality of relationships between CO and his/her men.

Importance of Relationship Building in the Military

There are two basic components of military service, the leaders and the led; and it has always been a focus of military leadership. This hierarchical system forms the basis of all military working principle.[10] The effectiveness of this working principle depends on Chain of Command,

discipline, professionalism, military ethos and values; customs and traditions, etc. But, the core strength of this working principle comes from strong inter-personal relationship between officers and men. Even the smallest working group i.e. section or detachment follows same functional entities.[11]

In the Battle of Kamalpur fought from 12 June – 04 December, 1971 Company Commander Captain Salahuddin Momtaz led the attack from the front and was severely injured by a mortar shell. As it happened his subordinates took risk of their lives to evacuate him but all of them got martyred. Such initiative and dedication can only be achieved when officers and men develop sound inter-personal relationship between themselves.[12] On the other hand, in the Charge of the Light Brigade during the Crimean War (October 1853-February 1856), the poor relationship between the officers and men played a significant role in the British forces' defeat.[13] The lack of clear communication and trust resulted in orders being misunderstood or disregarded, leading to chaos on the battlefield. For example, Lord Raglan, the overall commander of the British forces, sent a vague order for the Light Brigade to charge the Russian artillery positions. However, due to poor relationship between Raglan and his subordinate officers, the order was not effectively communicated or understood. As a result, the Light Brigade charged headlong into a valley surrounded by enemy artillery, suffering heavy casualties without achieving any strategic objective.[14]

In the light of above discussion, it is understood that relationship building in the military plays a crucial role in ensuring effective communication, cohesion, and trust among officers and soldiers. It also fosters a sense of camaraderie, teamwork, and mutual respect, which are essential for the successful execution of missions and operations. Building relationships not only promotes a positive organisational culture and boosts morale, but also enhances the overall unit performance where unit members become highly motivated even for the supreme sacrifice. Linkage between the good inter-personal relationship and unit performance is shown in Figure-2 below:-

Figure-2: Linkage between Good Bonding and Unit Performance

Source: Author's self-construct

SWOT Analysis of Building Relationships: Building relationships within the military hierarchy poses various challenges, including hierarchy, power differentials, and chain of command dynamics etc. The strict hierarchical structure of the military can sometimes obstruct open communication, collaboration, and trust among officers and soldiers.[15] Furthermore, the demanding nature of military operations, deployments, and training can limit the time and opportunities for personnel to engage in relationship-building activities. However, there are also opportunities to overcome these challenges and foster relationships within the military hierarchy. By promoting a culture of openness, respect, and inclusivity, military leaders can create a conducive environment for building relationships. The SWOT analysis of building relationships in military is depicted in Figure-3:-

Figure-3: SWOT Analysis of Building Relationships in Military

S	W	O	T
Strengths	**Weaknesses**	**Opportunities**	**Threats**
○ Strong sense of camaraderie and loyalty among military personnel	❑ Strict hierarchical structure may limit open communication and collaboration	○ Promote a culture of openness, respect and inclusivity within the military	❑ Resistance to change within the military hierarchy
○ Clear chain of command and hierarchy for effective communication	❑ Limited time and opportunities for relationship-building activities due to demanding nature of military operations	○ Implement regular communication channels and feedback mechanisms	❑ Potential for distrust and conflict among personnel
○ Opportunities for mentorship and leadership development programs	❑ Potential for power differentials and conflict within the chain of command	○ Encourage mentorship, leadership development and peer support programs	❑ Lack of resources or support for relationship-building initiatives
○ Supportive team-building activities to foster trust and collaboration	❑ Lack of formal communication channels and feedback mechanisms	○ Develop trust and collaboration through team-building activities	❑ Pressure to perform and meet expectations within the psychological contract
○ Opportunities for professional growth and advancement within the military	❑ Psychological contract obligations may create pressure and expectations for performance	○ Promote professional growth and advancement opportunities within the military	❑ Potential for miscommunication or misunderstandings within the chain of command.

Source: Author's self-construct

Brief History of Darbar

Origin of Darbar: Darbar is a Persian-derived term referring to the noble court of a king or ruler or a formal meeting where the king held all discussions regarding the state. It was used in South Asia for a ruler's court.[16] Monthly CO's Darbar has a long-standing tradition within the armed forces. This practice involves a monthly meeting between the CO and all the officers and men of the regiment, where issues related to the functioning and well-being of the unit are discussed. Through the Darbar every one can present his/her case personally to the CO for consideration infront of all and it also provides the CO with a regular opportunity to put across his policy in person.[17] The origin of the monthly CO's Darbar can also be traced back to the early days of the Infantry Regiment, when the CO was the ultimate authority within the unit. In order to

maintain discipline, morale, and esprit de corps among the troops, it was essential for the CO to have regular interactions with his men. The Darbar provided a platform for the CO to listen to the grievances and concerns of his subordinates, as well as to convey his orders and expectations to them. It is to be mentioned that apart from the CO's Darbar, Brigade Commander and Divisional Commanders also hold Darbar periodically. Moreover, Darbar by the Chief of Army Staff is held in different areas as and when opportunity permits.[18] It is also to be mentioned that utilizing the digital gadgets and online platforms, now-a-days the Chief of Army Staff can also hold Darbar frequently and interact with maximum number of soldiers across the country.[19] Besides, every year during the winter training, the head of the state/government also holds Darbar.[20]

Darbar during Mughal Era: In pre-colonial India, Darbar functioned as an institution where rulers managed day-to-day affairs of the state, interacted with foreign and local delegates, displayed their power through grandeur which was a source of legitimacy for their kingdom. The British believed that Darbar was to represent grandeur, essential for gaining legitimacy and exercising authority. Throughout the nineteenth and twentieth centuries, the East India Company and the British Raj officials used Darbar for pomp and show despite many voices of disagreement.[21] The British colonial rulers also adopted this practice in their administration, including the military, as a means of maintaining order and communication within their ranks.[22] However, during the Mughal era in India, the Emperor would hold court in his Darbar to listen to the grievances and requests of his subjects and officials. This is shown in Figure-4 below:-

Figure-4: Darbar in the Mughal Era and British Indian Era

Mughal Emperor Shah Jahan and Prince Aurangzeb in the Royal Court, 1650

Nizam of Hyderabad Mir Osman Ali paying homage to the King and Queen at Darbar, 1911
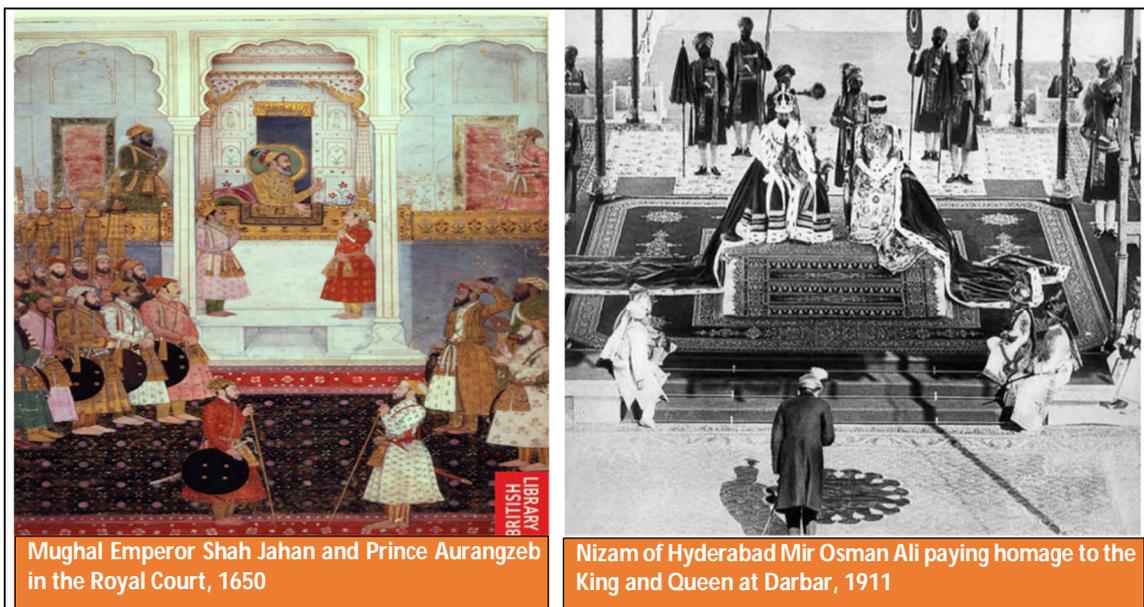
Source: Adapted from https://commons.wikimedia.org/wiki/File:Emperor Shah Jahan and Prince Alamgir (Aurangzeb) in Mughal Court, 1650 CE

Darbar during Ottoman Empire: In Islamic history, the concept of Darbar was also prevalent, especially during the time of Ottoman Empire. The Sultan would hold regular Darbars specially after the Friday Salat (prayer) to meet with his officials, dignitaries, and subjects to discuss various matters of state, receive petitions, and address grievances. Meanwhile, anyone who had a request for the Sultan would also gather in the square. For this reason, the Friday Salat (prayer) can be described as one of the most overshadowed scenes in Ottoman history. Infact, this practice of Darbar was an important aspect of governance and maintaining harmony within the empire.[23]

Purpose of Holding Monthly Darbar

Objectives of Darbar: The CO's monthly Darbar provides an opportunity for open communication, feedback, and discussions on various issues related to the unit's operations, welfare, and morale.[24] This regular interaction helps in building trust, camaraderie and a sense of belonging among the members of the unit. Holding Darbar regularly also ensures transparency, communication, and unity within the regiment/battalion. In fact, the tradition of Darbar in the military has been a valuable tool in enhancing inter-personal relationships, ensuring communication and transparency, and fostering unity and cohesion among the members of the unit. It continues to be a relevant and important practice in modern military organisations.[25]

Importance of CO's Monthly Darbar: The implications of the Darbar on the undercommands are significant. By providing a forum for open communication and dialogue, the Darbar ensures that the concerns and opinions of all members of the regiment are taken into consideration. This, in turn, helps to build trust and mutual respect within the unit.[26] Moreover, by interacting with his men on a regular basis, the CO is able to identify any issues or challenges that may be affecting the unit's effectiveness. This allows for timely intervention and corrective action to be taken, thereby improving the overall performance of the regiment.[27] A three-tier importance of holding monthly Darbar and its linkage to strengthening the bond is narrated at Figure-5:-

Figure-5: Three-tier Importance of Darbar and its Linkage to Strengthening Bond
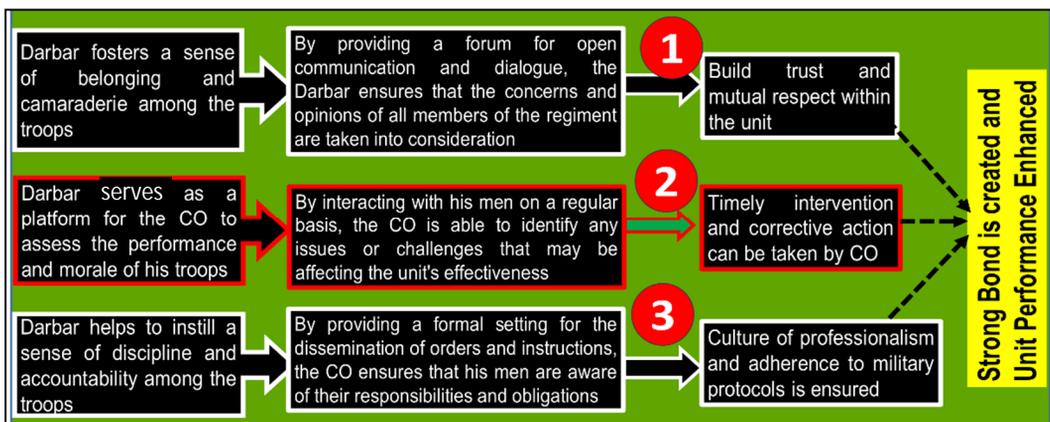
Source: Author's self-construct

General Principles of Holding Darbar: The general principles of holding Darbar suggests that it must be held at definite intervals (i.e monthly). It should not be too formal and any one who wishes should be entitled to state his case to the CO. Moreover, it is expected that the CO should give decision on the spot as far as possible (details of general principles of holding Darbar are at Figure-6).

Figure-6: General Principles of Holding Darbar

Source: Adapted from Army Regulations (Rules), 711- A, 1975, p. 300

Usual Procedures of Holding Darbar: Usually the CO decides the date and time of holding his monthly Darbar. Once the date is fixed, it is circulated to the undercommands following appropriate Chain of Command and written points are invited. During the Darbar, initially the Adjutant of the regiment reads out the Darbar proceedings or minutes of the last Darbar. He also narrates the steps taken by the points that were raised in last Darbar. Thereafter, the CO discusses his agenda which covers training, administrative, operational points etc. He also discusees the upcoming commitment of the regiment, distribute prizes among the winners (if any), narrates the income/expenditures of last month etc. Besides, he explains the important letter/policies to make everyone aware. Finally, the Darbar ends and subsequently the proceeding is circulated.[28]

Statistics of Points Raised in the Darbar: By actively participating and engaging in the CO's Darbar, individuals can contribute to a more effective and cohesive unit. On the other hand, actively participating in the Darbar and presenting written points or agenda items can help to ensure that all relevant information is shared and discussed among the unit members.[29] This can lead to better decision-making, problem-solving, and overall cohesion within the unit. Although the written points are asked formally before the Darbar and random points are also asked during the Darbar, but soldiers are at times found reluctant to express themselves and hence they do not want

to raise points to the superiors.[30] A statistic of points raised in the Darbar of few major and minor units for a duration of 3 months i.e. May-July, 2024 of a formation are narrated in Table-1 below:-

Table-1: Number of Points Raised During Monthly CO's Darbar

| Month	Number of Points Raised by the Major Units During Monthly CO's Darbar						Number of Points Raised by the Minor Units During Monthly CO's Darbar			
	Unit A		Unit B		Unit C		Unit X		Unit Y	
	Written Points	On the Spot Points	Written Points	On the Spot Points	Written Points	On the Spot Points	Written Points	On the Spot Points	Written Points	On the Spot Points
May 2024	02	Nil	Nil	02	05	Nil	Nil	01	03	01
June 2024	04	Nil	02	Nil	04	01	Nil	Nil	08	01
July 2024	Nil	03	Nil	01	02	02	01	03	01	Nil

Source: Author's self-construct

Reasons for not Presenting Points in Darbar: Not projecting or forwarding points during the CO's monthly Darbar can be detrimental to the overall communication and cohesion within the military unit. By not presenting points or agenda items during the Darbar, individuals are missing out on the opportunity to bring up important issues or concerns that may affect the unit as a whole.[31] The reasons for not forwarding points are as follows:-

a.   **Fear of Retribution**: One of the key reasons soldiers may not feel comfortable raising points to their CO could be a fear of retribution or a lack of confidence in the response they may receive. Moreover, soldiers may be afraid of facing consequences or reprimands if they bring up sensitive or critical issues during the Darbar. This fear can stem from a hierarchical military structure where speaking up against superiors is frowned upon.[32]

b.   **Lack of Confidence**: Some soldiers may lack the confidence to speak up in front of their superiors or may feel that their opinions are not valued or taken seriously. This can lead to a reluctance to forward points during the Darbar.

c.   **Lack of Awareness**: Soldiers may not be fully aware of the purpose of the Darbar or may not understand the importance of voicing their concerns or suggestions. This lack of awareness can result in a reluctance to participate in the discussion.[33]

d.   **Utilizing Other Communication Means**: Other than monthly Darbar, soldiers also get many scopes to raise their points to the authority in different occasions like the Daily Roll Call (05 days in a week), Central Roll Call (once in every week), CO/Company Commander's interview, and also in other informal means. If their issues are solved through these means, then it is likely that they may not have points during the monthly

Darbar.[34] This can also be a reason for not forwarding points during monthly Darbar. On this issue, a survey was conducted among 64 officers and men to identify their thoughts about addressing the points through other communication means except the CO's monthly Darbar. About 81% respondents feel that daily roll call can offer the scopes to settle down the problems while 84% responded that informal gathering or social events can be another important tool by which the problems can be solved at unit level. (Survey responses shown at Figure-7).

Figure-7: Perception of Respondents' about Addressing the Points through other Communication Means except the CO's Monthly Darbar
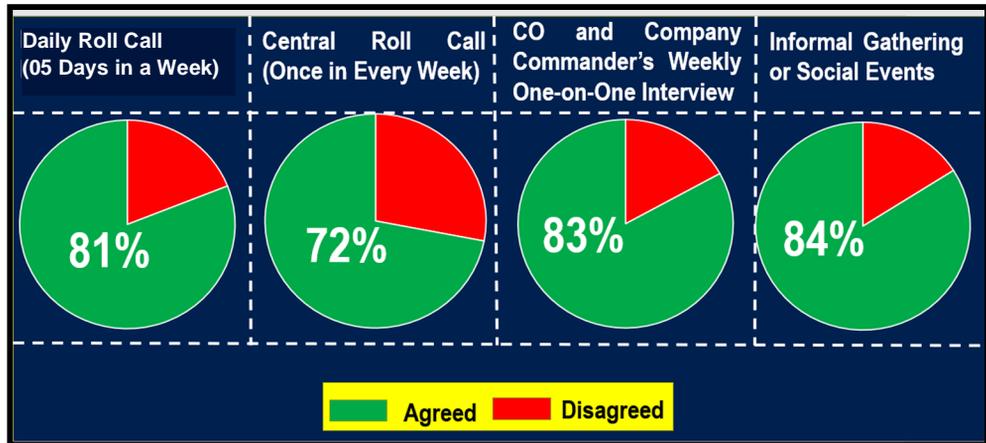
Source: Author's self-construct

e.   **Communication Barriers**:   Soldiers may face challenges or may struggle to articulate their thoughts and ideas effectively during the Darbar. This can hinder their ability to forward points and engage in meaningful communication with their superiors.[35]

f.   **Lack of Trust**:   Soldiers may not trust that their concerns will be taken seriously or addressed appropriately by their superiors during the Darbar. Moreover, if the previous points are not taken into due consideration, then it may also create mistrust. This lack of trust can deter them from sharing their thoughts openly.[36]

g.   **Cultural Norms**:   In some military units, there may be cultural norms or expectations that discourage soldiers from speaking up or challenging authority figures. This can contribute to a reluctance to forward points during the Darbar.[37]

Summary of Respondents' Assessment: A survey conducted by the author among 100 respondents reveal that 95% other ranks feel that utilizing other communication means are the important reason for not forwarding points in CO's Darbar. On the contrary 52% other ranks opined that lack of trust is the reason for not projecting their points during CO's Darbar (see Figure-8):-

Figure-8: Respondent's Assessment for not Presenting Points in the Darbar

	Fear of Retribution	Lack of Confidence	Lack of Awareness	Communication Barriers	Lack of Trust	Cultural Norms	Utilizing Other Communication Means
Officers	50	70	95	63	30	25	80
JCOs	60	75	90	45	36	45	90
Other Ranks	85	80	86	79	52	55	95
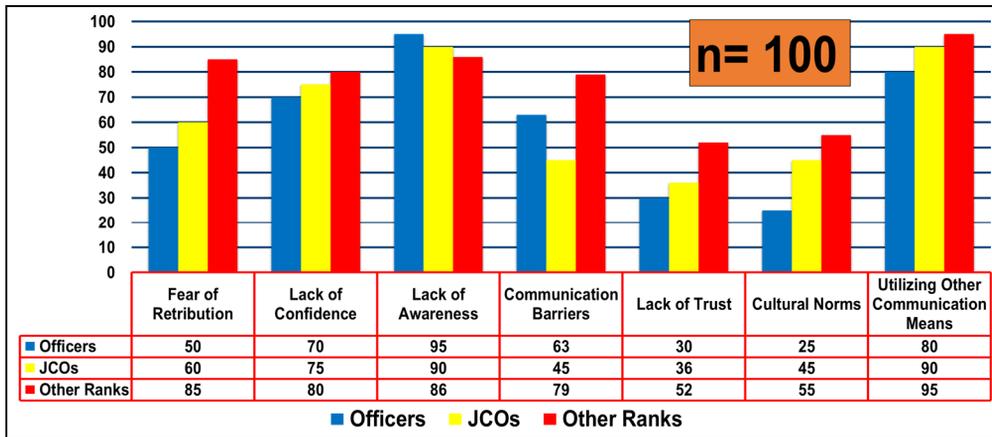
Source: Author's self-construct

Ways and Means to Make Monthly Darbar More Effective

When the soldiers are reluctant to forward points in Darbar, it can lead to important issues not being addressed and potentially impacting the overall effectiveness and morale of the unit. Additionally, failing to communicate during the Darbar can also lead to misunderstandings or miscommunications within the unit, as important information may not be shared or discussed in a timely manner.[38] This can ultimately impact the unit's effectiveness and ability to carry out its mission. Hence, steps should be taken to enhance the inter-personal relationships and adopt following measures to make monthly Darbar more effective by strengthening the bond which are as follows:-

Create Conducive Environment: In order to encourage soldiers to participate actively in the CO's monthly Darbar, it is important for military leaders to create a supportive and inclusive environment where open communication is valued and encouraged. Training programs on effective communication skills and conflict resolution can also help soldiers overcome their reluctance to forward points during the Darbar.

Foster a Culture of Open Communication: It is important to create an environment where soldiers feel comfortable and encouraged to speak up and raise their concerns during the Darbar. This can be achieved through regular communication workshops, training sessions on effective communication, and leadership that encourages an open-door policy. Military leaders should ensure that soldiers feel heard and respected, and that their feedback is taken seriously and acted upon. By addressing these underlying causes of reluctance, units can foster a culture of open communication and collaboration, ultimately enhancing relationship building and communication strategies within the organisation.

Provide Multiple Channels for Communication: Soldiers may have concerns or points that they are uncomfortable sharing in a public setting like the Darbar. Providing alternative channels such as suggestion boxes, anonymous feedback forms, or one-on-one meetings with leadership can encourage soldiers to voice their opinions and concerns. Moreover, the informal channel of communications like daily roll call, central roll call, interview by Company Commander, recreation room time, etc should be held as prescribed or as and when opportunity permits.

Ensuring Confidentiality and Trust: Soldiers may be hesitant to speak up during the Darbar if they fear negative repercussions or backlash. It is important for leadership to ensure confidentiality and build trust among the soldiers so that they feel comfortable sharing their views without fear of retribution.

Recognizing and Rewarding Participation: Recognizing and rewarding soldiers who actively participate and contribute during the Darbar can incentivize others to speak up and share their points. This can be done through public recognition, commendations, or other forms of appreciation.

Conduct Regular Feedback Sessions: In addition to the monthly Darbar, leadership can also conduct regular feedback sessions with individual soldiers or smaller groups to encourage open communication and address any concerns or issues that may not have been raised during the Darbar.

Circulation of Darbar Proceedings: The CO needs to ensure that all personnel are well informed about decisions made during the monthly Darbar. Hence, there is a need to implement a system of written communication. This could involve sending out written summaries of the Darbar proceedings to all personnel following appropriate chain of command. The extract of important decisions may be read out during roll call for the personnel who were unable to attend in person. Additionally, the CO could schedule follow-up meetings or briefings with those personnel who were unable to attend the Darbar in person. This would allow them to ask questions and receive clarification on any decisions or announcements made during the meeting. Overall, the key is to ensure open communication channels and make sure that all personnel are kept informed of important decisions and updates, regardless of their ability to attend the Darbar in person.

Conclusion

The CO's Monthly Darbar plays a vital role in the functioning and cohesion of the Battalion/ Regiment. By providing a platform for open communication, dialogue, and interaction between the CO and his men, the Darbar ensures that the unit operates effectively and efficiently. It fosters a sense of unity, discipline, and accountability among the troops, and helps to maintain the high standards of professionalism and performance expected of the Regiment. It also serves as a platform for exchange of ideas between CO and his/her subordinates. By utilizing the Social Penetration Theory, which suggests that relationships develop through self-disclosure and sharing of personal information, the Darbar contributes to the deepening of relationships within the Bangladesh Army. Through regular interactions and discussions during the Darbar, CO and soldiers

have the opportunity to share their thoughts, concerns, and feedback, leading to a more open and inclusive communication culture.

Overall, the impact of the Darbar on communication strategies within the military is significant. It promotes a sense of camaraderie and collaboration among members of the Bangladesh Army, enhances understanding and mutual respect between CO and their subordinates, and ultimately contributes to improved communication and relationship building within the organisation. It is to be mentioned that relationship building is vital in the military for fostering effective communication, cohesion, and trust among officers and soldiers. The monthly Darbar serves as a valuable tool for facilitating relationship building and communication strategies within the Bangladesh Army. While there are challenges in building relationships within the military hierarchy, there are also opportunities to overcome these obstacles and enhance relationships among personnel. By prioritizing relationship-building efforts, the CO's monthly Darbar can create a supportive and cohesive environment that enhances strong bond resulting overall performance and morale of the unit.

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Brief Biography

Colonel G M Sohag, afwc, psc was commissioned in the Corps of Infantry on 07 June 2000 with 42 BMA Long Course. Apart from serving in various capacities in number of Infantry Battalions, he served as the General Staff Officer-3 in Intelligence Branch, and also as Brigade Major of an Infantry Brigade deployed for Counter Insurgency Operations. He also served at Army Headquarters, Military Secretary's Branch as Deputy Assistant Military Secretary. Besides, he served as the Commanding Officer of an Infantry Battalion deployed both for Counter Insurgency Operations at Chittagong Hill Tracts and in plain land. As General Staff Officer-1 he served in a Divisional Headquarters and also in Infantry Directorate of Army Headquarters. Besides, he served as the Private Secretary to the Vice Chancellor of Bangladesh University of Professionals (BUP). Excluding the mandatory military courses, he completed Advanced Course on Administration and Development from Bangladesh Public Administration Training Centre, Savar and Beijing Administrative College, China. He also completed United Nations Staff and Logistics Officer Course from Centre of United Nations Peacekeeping, New Delhi, India and Combat Group Commanders' Course from Armoured Corps Centre and School, Ahmadnagar, India. Wearing blue helmet, he served as a contingent member in UNOCI, Ivory Coast and also as Military Observers' Team Site Leader at Sector North of MINUSMA, Mali. He is a graduate of Defense Services Command and Staff College, Mirpur and obtained Masters in Defense Studies from BUP. He is also a graduate of Armed Forces War Course from National Defence College, Mirpur and obtained Master of Social Science in Security and Development from BUP. Presently he is serving as Colonel Staff in a Divisional Headquarters.

Feasibility of Incorporating Artificial Intelligence in Logistics Operations of Bangladesh Army – Challenges and Ways Ahead

Lieutenant Colonel A S M Nazmul Haque, psc, Ordnance

Abstract

The integration of Artificial Intelligence (AI) into military logistics represents a paradigm shift that promises unparalleled opportunities and challenges. This paper delineates the potential, hurdles and strategies for incorporating AI within the logistics operations of Bangladesh Army. The exponential advancement of technology, particularly AI, has revolutionized diverse industries worldwide. Militaries globally have harnessed AI for logistics operations, enhancing decision-making, efficiency and cost-effectiveness. However, Bangladesh Army's logistics infrastructure remains relatively primitive, despite the immense potential AI holds for optimization. This article conducts an in-depth analysis of AI's current applications in military logistics globally and identifies specific areas within Bangladesh Army logistics ripe for AI integration. It explores predictive maintenance, inventory management, supply chain optimization, spare parts management, storehouse administration, and healthcare services as potential areas for AI incorporation. Moreover, the paper examines the challenges impeding AI integration, such as high initial costs, limited access to AI-powered systems, awareness gaps, security concerns, and the absence of robust research and development initiatives. Strategic solutions are proposed, emphasizing prioritized plans, technology transfer contracts, awareness programs, security measures, and collaborations with universities and industries. The study concludes that a holistic approach combining strategic planning, collaboration, awareness initiatives, and security measures is imperative for successful AI integration within Bangladesh Army logistics. The recommendations emphasize the roles of key directorates, such as Master General of Ordnance (MGO's) Branch and Military Training Directorate, in spearheading AI integration efforts and fostering collaborations for AI research and development. In summary, this paper advocates for a systematic and collaborative approach to navigate challenges and leverage AI's potential in Bangladesh Army logistics, ensuring modernization, operational efficiency, and readiness in an evolving warfare landscape.

Keywords: Artificial Intelligence (AI), inventory, technology transfer contracts, warfare.

Introduction

Technology is developing exponentially with hypersonic speed. The world is witnessing a paradigm shift in its living, thinking and communication, with the introduction of artificial intelligence (AI). The revolution brought by AI in both military and civilian communities has been incredible. Militaries all over the world are developing AI for logistics operations, decision support, command and control, or even as a lethal force. AI is often referred as a tool for jobs that are 'dull, dirty and dangerous.'[1] AI systems also have the potential to reduce costs in logistics and sensing

and to enhance communication and transparency in complex systems. The swift growth in AI technology has revealed new opportunities for its incorporation in logistics. The Army can also exploit the capabilities of AI down to the tactical level to improve supply chain management, resource allocation and many other logistics operations.[2]

Logistics is fundamental to every military activity in all environments. Logistics is the oxygen that allows military muscle to function, grow, and strengthen. Forces involved in operations require the right levels of support at the right time and the right place. Traditional logistics systems, both civil and military, operate on a 'push-pull' principle. The mechanisms have changed over time; first by hand, then crude spreadsheets, and more advanced tools. Bangladesh Army logistics operations are also no exception to that. Though there was substantial effort by the concerned people, our logistics system is still quite primitive. McKinsey research studies show that the logistics industry has adopted AI service product practices, marketing, and distribution channels. The survey also suggests that 84% of executives deem AI the key growth driver for logistics industries.[3] Many of the armies in the world are introducing AI technology for smooth and effective logistics operations. The machine learning and AI patents are mostly owned by developed countries and renowned companies as shown in Figure-1. Therefore, these technologies are often costly and at times not easily accessible. Though the Bangladesh Army has enormous opportunities to use AI technologies for logistics operations but no such endeavour is yet taken considering its accessibility, cost and user-friendliness. Therefore, it is imperative to study the feasibility of incorporating AI for the logistics operations of the Bangladesh Army, its associated challenges and opportunities. This paper will initially give an overview on the use of AI for military logistics operations. Thereafter, it will identify the areas of Bangladesh Army logistics where AI can be incorporated including its potential benefits. Subsequently, it will highlight the challenges of incorporating AI in the logistics operation of the Bangladesh Army and suggest ways to overcome the challenges.

**Figure-1: Statistics of AI Patents Owners 2013 to 2022**

Source: https://www.statista.com/statistics/1032627/worldwide-machine
-learning-and-ai-patent-owners-trend/
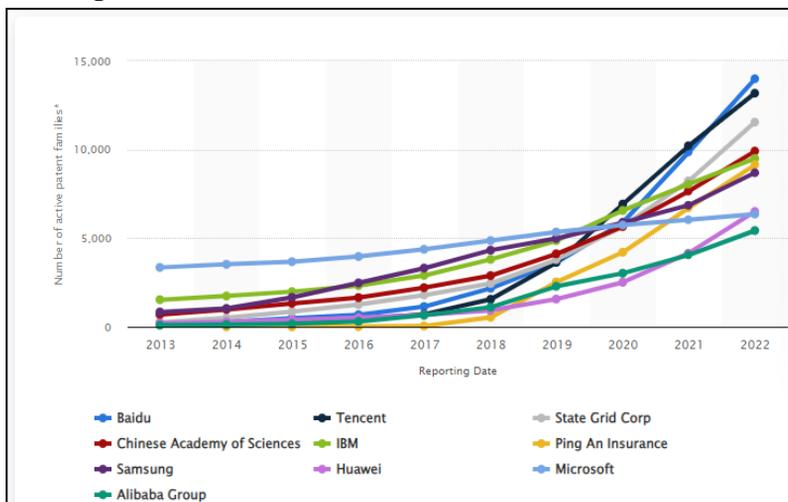
Use of AI for Military Logistics – An Overview

AI is the phrase of the current era which is intoned by technologists, academicians, journalists, and venture capitalists alike.[4] AI is becoming essential in today's society because of its capacity to solve complex problems in an efficient way in multiple industries, like healthcare, entertainment, finance, education, etc. Militaries all over the world are also using AI on different scales including in logistics operations. Subsequent paragraphs will provide an overview of the use of AI in military logistics. In doing so, initially, it will focus on the understanding of AI including its key features. Thereafter, it will highlight the current application of AI in military logistics including examples of militaries that have incorporated AI in their logistics. This discussion will provide the foundation for finding out the areas of Bangladesh Army logistics where AI can be incorporated.

Basics of AI: A search in Google with the word 'artificial intelligence' generates 1,410,000,000 results in .30 seconds.[5] In simple words, AI is an effective tool that enables machines to learn from their experience, adapt to new changes and perform tasks just like humans.[6] It is a field of study concerned with designing and programming machines to accomplish tasks that people accomplish using their intelligence.[7] AI is often referred as new-age electricity.[8] John McCarthy stated in his paper in 2007 "it is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable."[9] AI involves creating algorithms and systems that enable computers to learn, make decisions and perform tasks that typically require human intelligence. AI systems can be rule-based (following a set of pre-defined instructions) or learning-based (adapt and learn from data).[10] A summary of AI is given at Figure-2.

Figure-2: Understanding AI
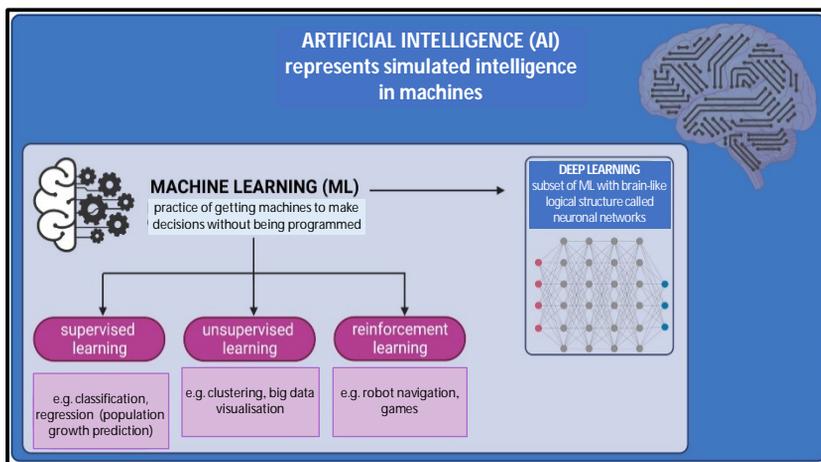
Source: *Allergy*, Volume 78, Issue 8, pp. 205-208,
05 June 2023, DOI: (10.1111/all.15778)

Features of AI: AI is one of the most important technologies in the present world because it gives machines the ability to make human-like decisions. Machines are faster, smarter and more accurate than humans but machines cannot think like humans. AI gives the machines the ability to think. However, the capabilities of AI systems are narrow as they can perform only the programmed jobs or tasks.[11] General features of AI systems are the classification of data, detection of anomalous behaviour, prediction of future behaviour based on past data and optimizing performance of complex systems. French Computer Scientist Yann Lee observes, "Our intelligence is what makes us human and AI is an extension of that quality."[12] Key features associated with AI are deep learning, facial recognition, automated task, data Ingestion, cloud computing, quantum computing and chatbots as given in Figure-3.

Figure-3: Features of AI

Source: https://techvidvan.com/tutorials/artificial-intelligence-features
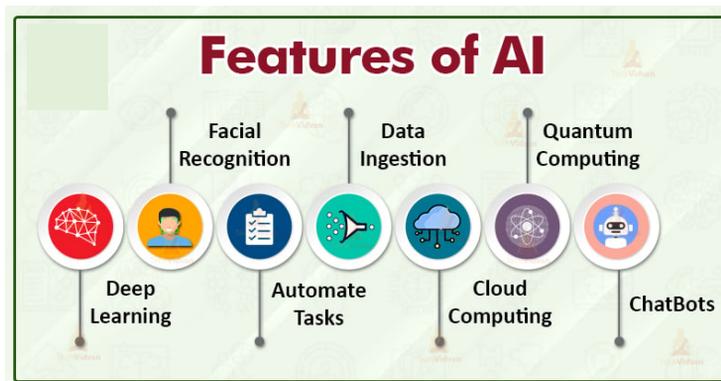
Current Application of AI in Military Logistics: The advent of AI has brought significant transformations across multiple sectors, including the military domain. The swift progress in AI technology has uncovered new opportunities for its incorporation in various sectors, including military logistics. The incorporation of AI inside military logistics and supply chain management has emerged as a pivotal element in augmenting operational effectiveness and facilitating informed decision-making. One of the primary benefits of incorporating AI in military logistics is the ability to analyze vast amounts of data in real-time which has enhanced logistics decision-making. Military organizations are making informed judgments based on accurate and current information to optimize vehicle routing and scheduling. AI-powered systems are used to monitor and evaluate weather forecasts, traffic patterns, and inventory levels. AI-powered systems are also used to summarize soldier's medical history to diagnose. IBM's creation of the Electronic Medical Record Analyzer (EMRA) is one of the examples of the use of AI in healthcare.[13] AI algorithms are used in forecasting military equipment failure and maintenance by studying sensor data. This will help militaries in arranging maintenance and repairs in advance. Air Force Chief Scientist Gregory Zacharias, U.S. Air Force, Washington, D.C. confirmed AI is the driving force behind the 'smart' system.[14] One important AI logistic initiative under the Joint Artificial Intelligence Center (JAIC) is preventive

maintenance, particularly for fighter jets. The presence of comprehensive information enables logisticians to make well-informed judgments regarding the transportation of supplies and equipment to assist military personnel, resulting in significant savings in terms of time, effort, and financial resources. Cloud data of vehicles can ensure conditioned base maintenance in due time. AI is widely used in managing huge suppliers and defence procurement agencies. This is making the military supply chain more efficient and cost-effective. Driverless resupply with drones, Unmanned Aerial Vehicle (UAV) etcetera are also in use to resupply munitions and combat supply. The Army Research Laboratory (USA) is also looking into using aerial drones instead of land vehicles under the Joint Tactical Aerial Resupply Vehicle (JTARV).[15]

Armies Incorporated AI in Military Logistics: Many of the armies of the world are using AI for effective logistics operations. The global AI market was valued at approximately $87 billion in 2022 and is expected to reach $407 billion by the end of 2027.[16] IBM continued to serve the US Army in Army Logistics Support Activity (LOGSA) for cloud services and software under a $135 million contract.[17] There are other fields as well where the US Army is using AI for their logistics support like Global Combat Support System-Army (GCSS) uses a basic form of automation and allows logistics managers to control the flow of logistics throughout their organizations.[18] US Army also uses AI-powered Tele medicine to monitor patients, diagnose injuries and treat victims of traumatic injuries on the battlefield.[19] 'Project Theseus' of the United Kingdom is an example of a centralized "tasking" system that deploys unmanned systems for combat logistic operations as given in Figure 4.[20] AI has been used by the People's Liberation Army (PLA) for logistics and maintenance.[21] Furthermore, according to the Centre for Security and Emerging Technology (CSET), maintenance, repair, logistics, and sustainment accounted for 11% of the 343 AI contracts. Russian manufacturers of military equipment are designing autonomous combat robots and extending their capabilities, like reconnaissance, patrolling, fire support etcetera including the ammunition supply and medical evacuation as logistics part. Indian Army is also seen enhancing the use of AI in military logistics.

Figure-4: Project Theseus
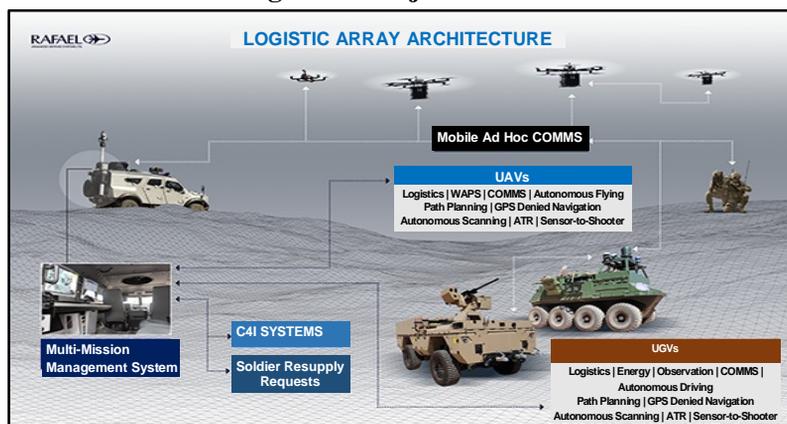
Source: www.frontline-global.com/defence/content/uk-looks-ai-army-logistic

Areas of Bangladesh Army Logistics Suitable for Incorporating AI

AI in military logistics offers a wealth of unparalleled capabilities as we have seen in the previous paragraphs. Recognizable AI-driven logistics operation has not been introduced in the Bangladesh Army. However, there are potential areas in the logistics operation of the Bangladesh Army where AI can be incorporated to enhance its effectiveness. Subsequent paragraphs will identify the areas of Bangladesh Army logistics where AI can be incorporated.

Predictive Maintenance of Arms and Equipment by Incorporating AI: AI has emerged as a powerful tool for enhancing predictive maintenance strategies. In Bangladesh Army, problems with vehicles, arms, and equipment including their routine maintenance are identified and corrected manually by the concerned workshops. Incorporation of generative AI in the concerned workshops will allow the workshops to perform routine maintenance timely including effective and accurate interventions on assets that require attention, before failure causes unplanned downtime. The generalized working procedure with the incorporation of AI is given in Figure 5. This proactive approach ensures that equipment is always in working condition. Bangladesh Army may incorporate such technologies in the workshops with immediate effect. Incorporation of such technology will assist in identifying the requirement of routine maintenance by the units and concerned workshops timely. This will also support in detecting the faults of arms, equipment and vehicles before employing them for operations in war and peace.

Figure-5: Generalised Working Procedure of Incorporation of AI in Workshops

Source: https://tractian.com/en/blog/ai-maintenance-industry
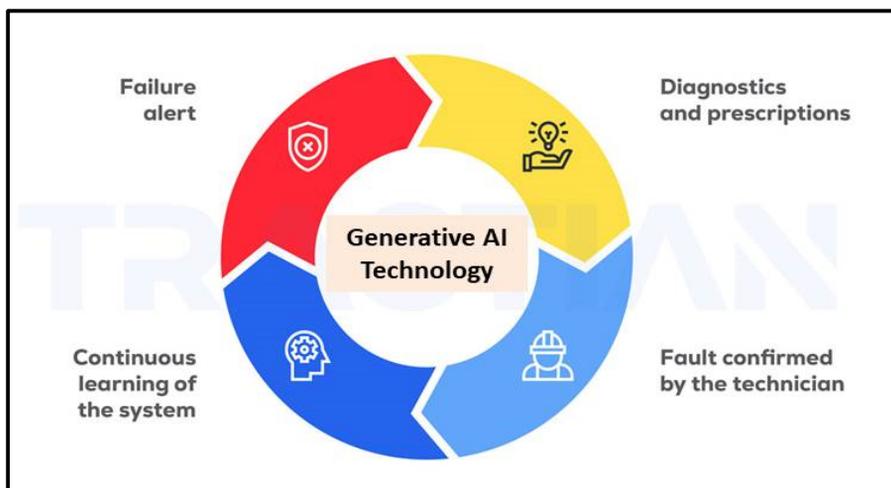
Inventory and Store Management: In today's fast-paced and volatile operational environment, effective inventory management plays a critical role in the success of any operations. Managing inventory involves the complicated coordination of procurement, warehousing, distribution, and order fulfillment processes. Traditionally, these operations have

relied on manual processes and outdated systems, leading to inefficiencies, errors, and increased costs. Incorporation of AI-powered inventory and store management by Central Depots, Director General of Defence Purchase (DGDP) and concerned branches of Army Headquarters will ensure timely procurement, storage and supply of logistics to the concerned front/operation on time. This will enhance demand forecasting and planning, efficient inventory replenishment, inventory optimization and classification, real-time tracking and visibility and predictive maintenance and quality control. Currently used 'MGO's Automation Software' and 'Kit Inventory Management System (KIMS)' for individual soldiers may also be enhanced with AI-powered software. This will prevent shortages, reduce excess inventory costs and enhance logistics efficiency to a great extent.

Streamlining Supply Chain Management: Effective supply chain management is essential to optimizing the flow of products and services and streamlining logistics operations. The logisticians do the provisioning based on the past data; then the indenter places demand for procurement to DGDP for the Army's requirement. The automation system for routine demand is prevailing in central depots which can be enhanced further with the integration with AI. AI can help in forecasting exact demand, reducing waste; reducing human error.[22] and minimizing transportation costs. Through the examination of historical data and real-time information, systems propelled by artificial intelligence have the capability to predict demand patterns, inventory fluctuations, and potential disruptions.[23] This capability empowers these systems to optimize inventory levels, reduce the occurrence of stock outs and streamline supply chain operations. Resource prioritizing is a complicated issue in supply chain management especially, the high-value stores and equipment that are procured by the DGDP from all over the world. Thus AI-empowered data can always guide the agencies to seek correct decisions in real-time need. Life cycle analysis in terms of major equipment will play a vital role too.

Spare Parts Management: After procuring military equipment and weaponry the challenge faced by the user is to ensure spare parts management. Evaluation of the equipment price, availability of spares and their costs, timeline of use by the force and such other factors can very well be done through AI; through large data analysis. AI-powered spare parts management is suggested to be introduced in concerned central depots, workshops and all other establishments involved in the procurement, supply and use of spare parts. This will support the decision-making process of the leadership. By detecting patterns and trends that human analysts might fail to notice, AI can improve the decision-making process.[24]

Storehouse Management: Central depots and logistics units of the Armed Forces use the storehouse for maintaining, preserving and issuing the stores. Smart storehouse management can play a vital role in store maintenance and issues. It can be implemented with AI-enabled facilities. Thus, the stores can be managed effectively with serviceability. Manpower can be employed in other areas and the workflow of depots can be addressed more meticulously.

Medical Services: Video-conferencing platforms and chatbots present intriguing prospects for augmenting the scope and availability of healthcare services.[25] Chatbots provide numerous users with instantaneous and effortless access to information, whereas the number of providers that can participate in one-on-one video conferencing may restrict its availability within an organization's network. Conversely, Chabot's are not optimal for addressing intricate matters such as cancer; instead, video consultations with specialists would be more suitable. Serious and complicated patients should be given care by specialists.

Challenges of Incorporating AI in Bangladesh Army Logistics

In the evolving landscape of warfare, the integration of AI revolutionizes military logistics by enhancing decision-making, optimizing supply chains, and improving overall efficiency.[26] Bangladesh Army is still in a very preliminary stage for incorporating such facilities in military logistics. Subsequent paragraphs will shed light on the challenges to incorporating such facilities in the Bangladesh Army.

High Initial Cost: It has been published by Forrester that AI software spending will double from $33 billion to $64 billion within 2021 to 2025.[27] This can help to assume the expenditure on AI integration or installation at present days. It will cost more and needs to be evaluated by the Bangladesh Army. Logistics has been put in sixth and last priority in the relative importance of military fields for AI automation[28] as per the survey. Time elapsed now will never come back and in turn, the expenditure will increase in future. This high initial cost affects the progress of the integration of AI-powered systems.

Lack of Access to AI-Powered Systems: At present, there are approximately 15-20 dedicated AI teams diligently crafting their unique AI products in Bangladesh.[29] However, the military seems hesitant to have access to such systems. On the contrary, people dealing with AI are also reluctant to communicate with the military considering its 'security dilemma'. Accessibility to the system will always give scope to create opportunities and new doors can be opened in future too. Lack of access to AI-powered systems is curtailing the scope to introduce such systems in the Army. By 2025, the AI-powered systems and development in the AI field will increase but as of today access to the system in the Bangladesh Army is not encouraging.

Security Dilemma: Handling personal data is the most pressing privacy and security issue in AI. Due to intentional breaches or accidental leaks, the information could be mishandled or compromised. Therefore sensitive information can fall into the wrong hands, leading to identity theft, financial fraud, and other forms of abuse. At the same time hacking and manipulation can be taken place. Due to security dilemmas, the Army is losing many opportunities for AI which would substantially increase the logistics efficiency and operation.

Absence of Research and Development (R &D) on AI: An organisation's R&D, brings up new ideas, development of skilled professionals, and most importantly customizes and adapts to problems and meets local needs and challenges. It is very important for encouraging new ideas

and making improved AI technologies. Without big spending in R&D, it is difficult to make cutting-edge AI solutions that fit specific needs. Due to absence of adequate R&D on AI in Bangladesh, AI-powered systems made in Bangladesh cannot be produced. Thus there is no progress with the development of AI and incorporate the same in the military.

Fear of Manpower Surplus: Job displacement, unmatched skills, reskilling challenges and exacerbating income inequality will pose a significant challenge to the goal. Some people might be afraid that incorporating AI will cause a lot of people to lose their jobs or make some jobs obsolete. This fear can make people; not want to use AI technologies, especially workers who think their jobs are in danger. Employees may not want to learn new skills or adjust to the AI incorporation process because they are afraid of losing their jobs. This pushback can take longer for AI technologies to be used and used to their full potential.

Ways Forward to Incorporate AI in Bangladesh Army Logistics

Bangladesh Army is yet a far distance from AI integration to logistics. Addressing the above-mentioned obstacles requires a strategic and multi-faceted approach, emphasizing collaboration, innovation, education, and policy frameworks. Subsequent paragraphs will highlight the ways forward on the issue of AI integration in military logistics.

Prioritized Plan – Long Term Benefits: There is no denying the fact that the initial cost of incorporating AI in any system will be high. However, AI can improve efficiency, reduce costs in the long run, increase accuracy, and enhance scalability. Organizations can reduce the time and resources spent on manual processes by automating repetitive tasks, freeing employees to focus on more strategic objectives. Bangladesh Army may set up priority in incorporating AI in different organisations and reap the long-term benefits. A top-down approach by the Army Headquarters and a perspective plan on AI with a suitable priority plan will help all concerned to have long-term benefits. Army Headquarters' Master General of Ordnance (MGO) Branch may be nominated to act as the lead Directorate to incorporate AI in logistics in coordination with the Information Technology Directorate. This will help in setting the appropriate priority for the incorporation of AI in the logistics.

Contract with Technology Transfer: Bangladesh Army is procuring different arms and equipment which have inbuilt AI in their different sub-systems. While procuring such systems, a contract with the concerned agencies is suggested to be made with the transfer of knowledge, skills, and technologies to the stakeholders. In this way, the Bangladesh Army may receive access to cutting-edge AI technologies, best practices, and research insights through collaboration, advancing AI integration for the desired fields. This contract will emphasize reciprocal learning, where the Bangladesh Army will be benefited from technology transfer and offer its unique insights and difficulties to global AI. Bangladesh Army may also integrate local universities for R & D in the fields of AI.

Awareness Programme: Bangladesh Army should run an awareness programme on AI and its developments in the form of study periods, seminars and workshops at different levels. The awareness programme will dispel myths and fears about AI. The program's transparency helps users to understand AI's strengths and flaws. This programme emphasizes AI ethics. Data privacy, transparency and accountability are highlighted to stakeholders to establish confidence in AI systems. Side by side it can push governments to develop AI investment, infrastructure, and innovation policies. Such a programme will also generate interest among the members of the Bangladesh Army which will facilitate the incorporation of AI in Bangladesh Army logistics. Military Training (MT) Directorate may be given the responsibility to run the awareness programme.

Becoming Security Conscious and Taking Calculated Risk: The security dilemma of AI integration in a conservative organization like the military can be reduced to a great extent by becoming security conscious. AI integration relies on security consciousness to protect data, systems and infrastructure. This requires strong cyber-security, encryption and data privacy protections to secure sensitive data and AI algorithms. Taking calculated risks will promote AI integration, innovation and growth. Innovation requires taking calculated risks to push boundaries, explore new AI applications, and stay competitive in a fast-changing technology market.

Cooperation with Universities and Industries: The University Grants Commission (renamed as University Commission) of Bangladesh has suggested adding AI to the curriculum to influence the future course of higher education in Bangladesh like the developed countries of the world.[30] There are 25 best-ranked universities in Bangladesh who are recognized to conduct research on AI.[31] Bangladesh Army may collaborate with different universities to research AI considering the needs of the Bangladesh Army. MGO's branch may also take the lead in this regard. Bangladesh Army may sign a memorandum of understanding with renowned universities in this regard. Military Institute of Science and Technology (MIST) may also give dividends to a great extent. This relationship bridges the gap between theoretical knowledge and practical application, thereby promoting developments in AI through the combination of academic and industry strengths. They can carry out cutting-edge research, create AI algorithms, and investigate novel applications suited to solve problems in the Army by working with industries. This will enhance R & D and also make the incorporation easier and less costly.

Meeting Current Manpower Surplus Keeping Efficiency: The strategy leverages AI to increase output, upskill people, and strategically shift surplus labour for maximum efficiency. Automation, machine learning, and AI-driven solutions can improve workflow, decrease workload, and increase labour efficiency. AI literacy, data analytics, and technology training lets excess workers operate in AI-compatible positions. It reduces job displacement and empowers workers to use AI.

Recommendations

Based on the above discussions, following are the recommendations:-

a. MGO's Branch, Army Headquarters is recommended to act as a lead office for incorporating AI in logistics and make a perspective plan for the incorporation of AI in logistics. The suggestions of this paper may be used as a starting point.

b. MT Directorate is recommended to run awareness programme on the use of AI in the form of study periods, seminars and workshops at different levels.

c. Army Headquarters is recommended to sign a 'memorandum of understanding' with different universities to research AI-empowered systems suitable to be incorporated into Army logistics.

Conclusion

The integration of Artificial Intelligence (AI) in military logistics stands as a pivotal and transformative endeavour. The detailed analysis shows that the Bangladesh Army's efforts to integrate AI into logistics operations face significant obstacles. A systematic approach is needed to overcome these hurdles and capitalize on AI's tremendous prospects. Bangladesh Army, like many military, recognizes logistics' importance in operational success. AI can transform supply chain management, maintenance, inventory control, and more when properly incorporated into logistics optimization. However, military logistics AI integration faces challenges that must be addressed.

The foremost challenge lies in overcoming the high initial costs associated with AI adoption. Although the upfront investment may seem daunting, it's imperative to view AI integration as a long-term investment that promises enhanced efficiency, cost reduction, and increased accuracy. A strategic approach involving a prioritized plan, led by the Army Headquarters and relevant directorates, can help delineate clear goals and timelines for AI integration, optimizing resources for maximum impact. Accessibility to AI-powered systems remains a challenge, with limited local AI development and reluctance within the AI community to engage with the military due to security concerns. To address this, strategic contracts emphasizing technology transfer and collaboration with global agencies can facilitate access to cutting-edge AI technologies while promoting reciprocal learning and knowledge sharing. Engaging local universities and industries in research and development endeavours can foster indigenous AI solutions tailored to the Bangladesh Army's needs.

Awareness programmes help military personnel grasp AI and dispel myths. The Military Training Directorate can educate stakeholders on AI's strengths, ethics, and possibilities, boosting trust in its implementation while emphasising data privacy and accountability. Security is important in military AI integration. Protecting sensitive data and AI algorithms requires strong cyber security, encryption, and data protection. Accepting measured risks while preserving security can

help AI adoption while protecting data and systems. Collaboration with universities and industries is key to the Bangladesh Army's AI integration. Through academia-industry partnerships, the Army can bridge the gap between theoretical knowledge and actual application, enabling military logistics-focused AI research and use. Anticipating AI-related job loss requires a proactive approach. Strategic planning to upskill existing workers for AI-compatible positions can maximise output, efficiency, and reliability.

Embracing AI within the Bangladesh Army's logistics operations necessitates a holistic approach, combining strategic planning, collaboration, awareness, and security measures. Despite the challenges, the benefits- including enhanced efficiency, reduced costs and improved decision-making-make the incorporation of AI into military logistics an indispensable pursuit for the Bangladesh Army's modernization and operational effectiveness. Through careful navigation of obstacles and strategic partnerships, the Bangladesh Army can embark on a transformative journey toward AI-driven logistics, ensuring readiness and effectiveness in an evolving landscape of modern warfare.

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Brief Biography

Lieutenant Colonel A S M Nazmul Haque, psc was commissioned in the Corps of Ordnance on 7 June 1999 from Bangladesh Military Academy (BMA). In addition to the mandatory courses, he attended Ammunition Technical Officers' Course (OC&S), Basic Intelligence Course (SMI) and Deputy President Course (ISSB). Apart from his different regimental appointments, he commanded 31 Independent Ammunition Platoon (24 Infantry Division) and 506 Division Ordnance Company (11 Infantry Division). He served as Deputy Assistant Director of Ordnance Services (Headquarters 19 Infantry Division) and Assistant Director of Ordnance Services in the field formations (Headquarters 11 Infantry Division and Headquarters Logistics Area). He participated in the UN Peacekeeping Mission in Sudan (UNMIS) and Cote d Ivoire (UNOCI). He is a graduate of Defence Services Command and Staff College (DSCSC), Mirpur, Dhaka. He has served as Commanding Officer in Detachment (Det) Army Security Unit (ASU) Rajshahi and Bogura. Presently, he is Commanding Officer of Det ASU, Ghatail.

Counter Drone Warfare and Suggested Options for Bangladesh Army

Lieutenant Colonel Mohammad Mahmudur Rahman Niaz, SGP, psc, Engineers

Abstract

Unmanned aircrafts, commonly called drones, have huge potential to exploit in sectors like military, mapping, agriculture, search, and surveillance. Their development, unprecedented range, precise engagement, and persistent capabilities have reshaped the battlefield. Weaponization and full autonomy of drones raise profound ethical questions and poses a significant threat to global security. Demand of counter drone technologies have increased in recent times among developed armies. Vast and effective application of this technology is noticed in present Russia- Ukraine war and Israel-Palestine war to address drone threats. Bangladesh needs to enhance counter drone capabilities to address any possible threats from potential superior adversaries. This paper finds that Bangladesh Army is yet to be prepared in aspects of armaments, standardised technology and skill to counter the drone threats. This paper mostly analysed secondary data for logical reasoning and finally suggested few options to enhance preparedness. A matrix in the paper showed that considering cost effectiveness and precision, development of laser and radar systems will be effective. This paper suggests that selection of appropriate method, coordination among all stakeholders, training, innovation, effective response plan are must to enhance capabilities in countering drone threats. By research and development, Bangladesh Army should indigenously produce counter drone systems to address crisis. The findings of this paper can contribute to further research to enhance capabilities for addressing possible drone threats.

Keywords: Drones, counter drone, warfare, training, radar, innovation, research and development.

Introduction

Drones are more formally identified as Unmanned Aerial Vehicles (UAVs) or Unmanned Aircraft Systems (UAS). Recently, the use of UAVs has increased rapidly in numerous sectors. Drones are mostly used for surveillance, reconnaissance and combat mission. The use of drones in military operations are increasing due to changing nature of conflicts, where non-traditional rivals and asymmetric warfare tactics pose challenges. Drones create a strategic benefit by providing precision in strikes and real-time intelligence. It raised demand for effective counter drone systems for protecting vital areas and infrastructures. Counter drone systems, also called Counter-Unmanned Aerial System (C-UAS) technologies, are a set of combined packages to detect, identify, track, and mitigate drones threat of opponent. Radar, cameras, Infrared (IR), Radio-Frequency (RF), and acoustic sensors are a few famous systems widely used for detection and identification of drones. After detection various offensive means are employed to neutralize and physical destruction of the drones. In this aspect, various jammers, nets, missiles and lasers are effectively used. However, cost benefit ratio is another issue in case of engaging swarms of makeshift drones.

Effective C-UAS solutions can give unmatched, layered protection to warfighters, allies, and assets.[1] Incorporating Artificial Intelligence (AI), machine learning, and advanced sensors with modern drones offer challenges in evolving C-UAS capabilities.[2] So, it demands more research to ensure increased range, fastest engagement, and rapid neutralisation by superior adversaries. Use of counter drone techniques have increased in recent warfare. In present Russia- Ukraine war, both sides have employed several technologies like jamming and hacking to counter drone threats in the battlefield. Even, use of laser-guided missiles are observed in countering drones. Similarly, Israel also intercepted and destroyed many drones of adversaries recently. Bangladesh, located at the gateway to South and Southeast Asia has neighbours with military supremacy. To address threat from potentially superior military adversaries, Bangladesh needs to enhance capabilities in counter drone aspects. Besides, Bangladesh is one of the largest troops contributing countries in UN. The counter drone action is also vital there as drones can be used for malicious purposes by terrorists, criminal organisations and lone actors. Considering global case studies, Bangladesh Army should develop workforce to produce and operate innovative C-UAS systems.

This paper will initially give overview of counter drone concepts. Then few famous counter drone systems will be discussed. After analysing the findings, this paper will suggest some plausible options for Bangladesh Army.

Counter-Drone Aspects

Concept: Though counter-drone and anti-drone terms are used as tantamount term, but anti-drone refers to defensive measures designed to reduce the vulnerabilities and counter-drone refers to strategies and tactics used to prevent, deter and destroy drones. Counter-drone technology encompasses steps like detection, track, identification and incapacitation.[3] The engagement system can be classified into non-kinetic and kinetic.

    a.   **Non-Kinetic**: It is also known as 'soft kills' and done by mostly jammers, spoofer, and drone guns. This system disrupts a drone's flying abilities by stalling or altering the control and navigation signals. By emitting noise signals at set frequencies, it disrupts the drone's command signals.

    b.   **Kinetic**: Maximum kinetic counter-drone systems include a sensor. It sends signal and analysing the returned signal, it fires projectiles like missiles to destroy the drone.

Detection: Passive sensors are widely used in this aspect. Directional acoustic arrays have proven to be one of the most reliable systems for detecting drones in the world today. The high-resolution acoustic beams can collect acoustic variations and can classify drones analysing those. Again, radar combining with AI have excellent drone detection capabilities. Drone detection software like Air Guard integrates all the data into an interface to provide geo-referencing, notifying and further tracking.

Track: Radar systems detecting reflected waves can track drones. Besides, RF detectors can track drones if it maintains radio communication with base. AI driven drones may not emit traceable RF signals. All drones use GPS signals for navigation on flight. Special ground-based antenna array can pick up GPS signals from a transponder on a drone and triangulate on the signals to determine and broadcast the drone's position.[4]

Identification Systems: As per Federal Aviation Administration (FAA) regulations drones have Remote Identification (ID) from December 2019. This is just a digital license plate for drones. Following methods are widely used for drone identification as friend or foe.

a.   **Electro-Optical (EO)**:   It uses a visual. These are video cameras with optical sensors that can identify ID signature of drones using infrared or thermal imaging.

b.   **Acoustic**:   Microphones or acoustic sensors can identify the noise made by any drone and measure the distance. These have less effective range as sound attenuates gradually with distance. Placing more acoustic sensors can triangulate to specify location.

c.   **IR or Thermal**:   It uses a heat signature which is effective in poor visibility.

d.   **Radar**:   Radar sends out signal or radio energy and receives the reflection. Analysing the difference, it can measure direction and location of the drone. Radar is less effective to identify small drones. Micro-doppler radar can differentiate speed also.

e.   **RF**:   RF sensors can intercept radio signals between a drone and its controller. Drones can be identified analysing the RF spectrum. These sensors can listen to frequencies coming from all directions to measure altitude and also speed of any drone.

Figure-1: Major Counter Drone Methods
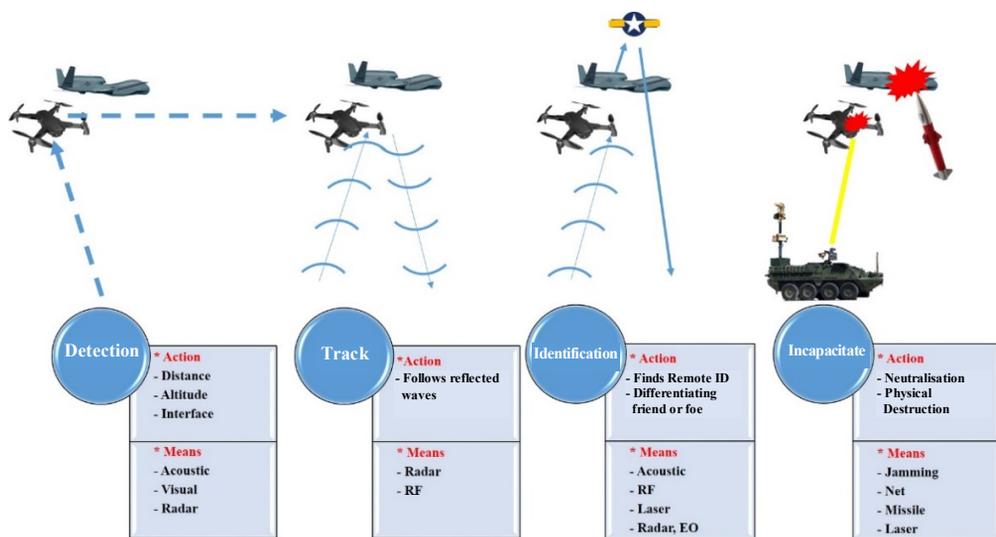
Source: Author's self-construct

Incapacitate: This countermeasure covers neutralizing, taking control and physically destroying the drone. Some important methods are discussed below:-

a. **Netting Systems**: In this system a hand-held or shoulder controlled gun is fired towards any hostile drone. The fired net grabs the drone in mid-air. In close range, it is effective. Besides, a drone carrying net can be manoeuvred towards the rogue drone.

b. **Shooting**: In this case special bullets are shot from handheld or shoulder- controlled gun directly towards hostile drone at short range. For long range engagement missiles guided by radar and sensors are very effective.

c. **High Power Microwave (HPM) Devices**: These devices generate an Electromagnetic Pulse (EMP) to destroy electronic functional devices and circuits of drone. It can also interfere with radio links and create damaging voltage. Focusing EMP in desired direction by antenna can reduce any collateral damages.

d. **High-Energy Lasers**: The fired laser beam can create ablation, shock wave and radiation effect on target. Here, Integration of beam control, beam directing, power, thermal systems, trackers with hardware and software are vital.

e. **Cyber Takeover Systems**: Passively detecting radio frequency transmissions of the threat drone, it identifies the drone's ID using AI. Even hacking and taking control of drone is also possible by this system.

f. **RF Jammers**: Huge amount of RF energy is transmitted towards any hostile drone to disrupt the control signal. It is less effective against autonomous drones as they do not rely on inter communications.

g. **GPS Spoofers**: GPS spoofers interfere with navigation system of the target drones. They can replace the communication signal or alter the GPS coordinates.

Applications of Anti-Drone Systems: Few major applications are highlighted below:-

a. Protection of military concentrations and other sensitive installations from drone threats.

b. Security of airspace around airports.

c. Safety of vital utility like power plants, oil refineries, telecommunication connections and national media.

d. Identification and neutralisation of drone threats along bordering regions.

e. Forensic screening of captured drones to grab vital information.

Examples of Famous Counter Drone Systems

Anti-UAV Defence System (AUDS): This is non-kinetic electronic systems and designed to disrupt and deactivate drones. AUDS combines electronic-scanning radar, EO tracking and RF capabilities. Its sensor can detect, track, identify and defeat a drone in approximately 15 seconds at a range of up to 10 kilometres (km).[5] The system can be vehicle- mounted. It is effective against multiple drones due to its multi-band RF inhibitor. It uses electronic scanning micro-Doppler radar to detect any drone. For tracking, it uses IR, camera and video tracking software. It functions in inclement weather also.

Figure-2: AUDS 360 Fixed Anti-UAV Defence System

Source: AUDS Anti-UAV Defence System, available at https://www. blighter.com/products/auds-anti-uav-defence-system/[6]

Smart Anti-Vehicle Aerial Guided Engagement (SAVAGE) Anti-Drone Missile:

This 40 mm counter-UAV missiles can be fired from ground launcher or flying UAV. It has AI operated target detection and tracking capabilities. This missile uses video camera and EO sensor as guidance system. At night it uses IR vision. Besides, this United States (US) developed missiles can communicate with each other by radio to engage number of drones in swarms.

Figure-3: SAVAGE anti-drone missile
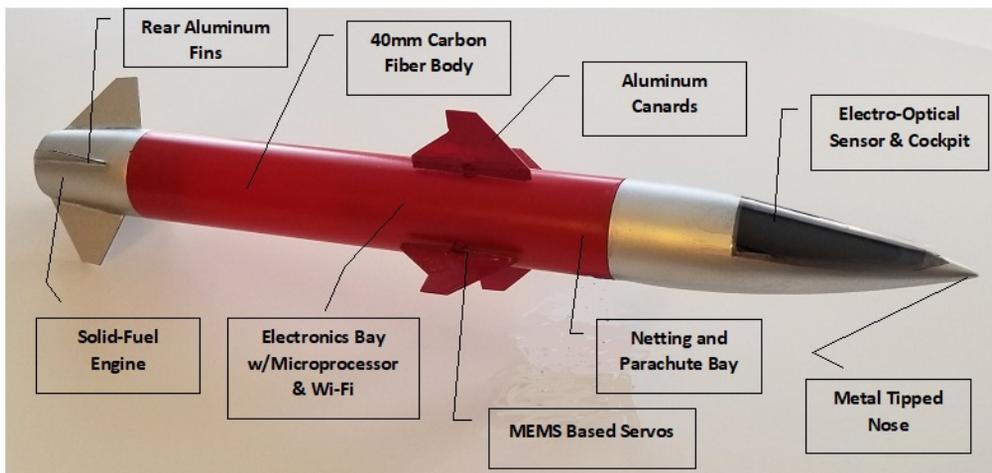
High Energy Laser Mobile Demonstrator (HELMD):   It uses high energy lasers to damage or destroy hostile drones. It can effectively operate at inclement weather also. It can avoid collateral damage caused by fragmenting ammunition due to precision and rapid on-target effect. The beam director provides full sky coverage and engage below-the-horizon targets. It is very economical option as it saves money of huge ammunition. However, future up gradation covers increasing laser's effective range and decreasing flight time to target.

Figure-4: HELMD

Drone Defender:　　It is a direct-energy anti-drone weapon. Its integrated AI software can detect, identify, locate, track and mitigate drone threats. The launcher can focus electromagnetic beam, which can jam the communication and navigation signals of a hostile drone. It has effective range of 400 meters and can operate for two hours on a single battery charge.[9] The drone guns also function like this system.

Figure-5: Drone Defender

Source: Shankul Bhandare, 'Army to Procure Anti-Drone Systems for Upcoming Drone Threats,' *Defencexp*, 9 July 2021[10]

Drone Catcher:　It includes a multicopter with netgun and a ground control station. For detecting and tracking drones, the multicopter uses camera and laser rangefinder. By on-board sensors, the net gun locks the hostile drone and shoots the net to incapacitate.

Sky Droner:　It can detect, distract and disable hostile drone from flying as per set command. Using in-built multiple sensors it can monitor the radio signals and identify ID of the hostile drone within a range of 1 km. After detection, this system can disable communication links of the hostile drone. This Singapore developed model can be placed on high structures to build a surveillance network.

ELI-4030 Drone Guard:　This C-UAS system is developed by Israel Aerospace Industries (IAI). It has multi-layer sensor data to ensure robust threat detection, tracking and identification while on move. Developed by Israel Aerospace Industries, it has capabilities to jam communication devices and GPS. Equipped with advanced artificial intelligence algorithms, the system streamlines threat analysis and decision-making processes, reducing operator workload and enhancing overall operational effectiveness.[11]

Sky Wall 100:   This shoulder launched bazooka fires a canister filled with a net at drones within 100 meters range.[12] It uses compressed air flow to throw special nets with precision. This system uses predictive algorithm to lock and engage the hostile drone. After enveloping the drone, a parachute brings the drone downwards.

Backpack Drone Jammer: Avenge Angel Company made High Power jammer which is omnidirectional. It has 8-band FPV. By using radio frequency suppression technology it can disconnect the controlling network of the UAV from base. It can also prevent all functioning of the drone.

Figure-6: Avenge Angel Backpack drone jammer

Source: AvengeAngel Backpack drone jammer, available at https://avengeangel.com/ufile/2406/09/file/[13]

Skyjacker Counter-drone System: France based Safran Electronics and Defence Company developed this. By transmitting altered signals, it can disrupt satellite guidance signals and mislead any hostile drone. It can counter saturation attacks of swarming drones within 10 km area. With spoofing transmitters, it has wide array of sensors, sights, radars, RF detectors, lasers, and communication jammers. These devices created counter-drone protection zone around venues of the Paris 2024 Olympic and Paralympic Games.

Figure-7: Skyjacker counter-drone system

Source: Safran launches Skyjacker counter-drone system, available at
https://spacewatchafrica.com/safran-launches-skyjacker-counter-drone-system/[14]

Silent Archer Counter-UAS System: It provides defence against low, slow and small UAS threats. This vehicle mounted device uses radar and electronic sensors to identify, track, and neutralise minor enemy drones.

Findings

Market Demand: C-UAS demand is expected to register a Compound Annual Growth Rate (CAGR) of 26.6% between 2023 and 2028. Few notable suppliers are Lockheed Martin Corporation, Dedrone, Advanced Radar Technologies, Liteye Systems Inc., SAAB, Thales, Raytheon Technologies Corporation, Blighter Surveillance Systems Limited, DETECT, INC and DroneShield.[15]

Figure-8: Continent wise demand forecast of C-UAS systems
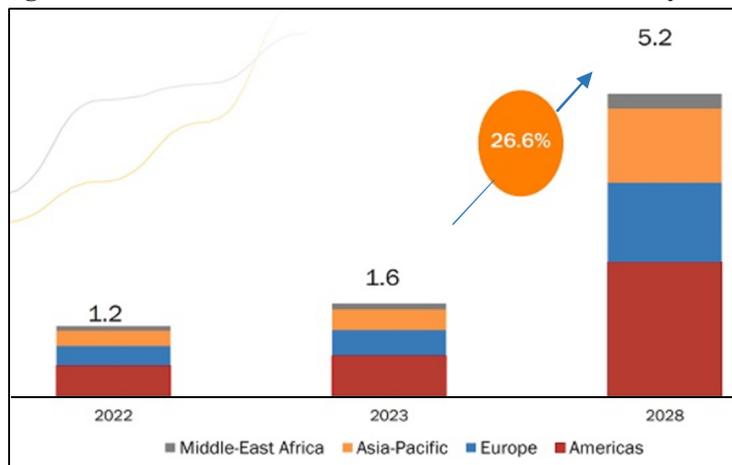
Source: Anti-Drone Market Highlighted by Size, Share, Industry Overview & Forecast, available at https://finance.yahoo.com/news/anti-drone-market-highlighted-size-120000802.html[16]

Pros and Cons: It is to be mentioned that, radar and laser systems can detect target precisely. Few important aspects of various detection and identification method are discussed below:-

Table-1: Pros and cons of various drone detection and identification methods

Ser	Subject	Pros	Cons
1	General	Deterrence and captured data can be utilised in post-incident scrutiny.	Legal restrictions and less efficient integration with all systems.
2	RF Analysers	Cost-effective, and can detect multiple numbers of drones.	Not effective in detecting autonomous drones and crowded RF areas.
3	Acoustic Sensors (Microphones)	The system can detect most drones within the near-field in wider area, including autonomous drones without RF devices.	Not very effective in noisy environments and have short effective range (maximum 500m).
4	Optical Sensors (Cameras)	Recorded images can be used for further forensic analysis.	Poor performance in dark, fog conditions.
5	Radio Frequency Jammers	Wide are coverage and non-kinetic neutralization.	Short range.
6	Radar	Covers long range and can accurately track many drones including autonomous even in bad visual conditions.	Regulatory limitations and accuracy vary depending on the size of the drone.
7	Nets and Net Guns	Drone-deployed nets have longer range and minimises collateral damage.	Difficulty in neutralising hostile autonomous drones.
8	High-energy Lasers	Accurate and low cost as ammunition demand is nil.	Large system, directed-energy and cooling needs high energy.
9	Cyber Takeover Systems	Precise and low risk of collateral damage. Captured data are vital for forensic investigation.	Less effective against hasty or makeshift drones.

Source: Author's self-construct

Comparison Matrix: Considering few basic parameters, comparative study among few detection and identification methods is shown below. Here, no 1 denotes poor, 2 denotes average, 3 denotes good and 4 denotes very good.

Table-2: Comparison matrix of few detection and identification methods

Ser	Topic		Detection and Identification Technologies					
			Optical	**Acoustic**	**Thermal**	**Radar**	**Radio Frequency**	**Laser**
1	Performance in Inclement Weather	Night	1	3	3	3	3	3
2		Rain	1	1	1	3	2	3
3		Fog	1	3	3	3	2	2
4	Wide area coverage		1	3	1	3	3	2
5	Long Range coverage		2	1	3	3	3	2
6	Accuracy		3	2	3	3	3	4
7	Cost effectiveness		2	1	3	3	3	4
	Total Value		**11**	**14**	**17**	**21**	**19**	**20**

Source: Author's self-construct

When electronic warfare, jammers, spoofers and cyber measures fail, counter-drone laser weapons serve as a last 'hard kill' line of defence.[17] These laser weapons are cost effective as it need not to fire million dollars missile to destroy hasty or makeshift drones. Effectiveness in inclement weather can be increased by using high power laser of more than 10 kilowatt. To avoid collateral damages engagement area should be selected cautiously.

Legal Issues: All countermeasures are not legal in most countries. In the US, US Department of Defence, Department of Homeland Security, and Department of Justice are authorised to use drone countermeasures. Jamming drones near airports covering duration, method and using frequencies need legal permission and coordination with civil aviation authority.

Applications in Recent Wars: Few recent applications are discussed below:-

a. In recent war against Russia, Ukraine used US made counter-drone 'Gun trucks' and laser-steered rocket systems. Ukraine also used CORTEX Typhon systems of Norway, which uses radar to detect drones and fires missiles to destroy them. Ukrainian soldiers are seen using various manpack devices to jam Russian drones. Moreover, Ukrainian soldiers

are using 'anti-drone rifles' which can generate a directed radio pulse to disrupt any drone. Russia has also deployed Gyurza, another AI-powered anti-drone jammer.[18]

b.   Israel has developed and effectively used various counter-drone methods in recent war against Iran, Hezbollah and Hamas. Role of their Drone Dome of Rafael Advanced Defense Systems and the Elbit Systems ReDrone are notable here. The non-kinetic systems can detect a drone using 3D radar, signal, and cameras mostly. Various innovative applications of jammers were also noticed. They have applied various laser techniques to destroy the drone. Their developed devices have high demand in international market.

Future Trend in Drone Countermeasure: Features of some forthcoming systems are described below:-

a.   AI and ML algorithms are incorporated to increase detection accuracy, threat analysis, and decision-making courses.

b.   Cost effective destruction of swarms of makeshift drones will become increasingly important.

c.   Evolving regulations will reshape use of counter drone systems, ensuring ethical obligations.

d.   The multi-function electronic warfare like Electromagnetic Pulse (EMP) capabilities to destroy transponder and GPS system of drones.

e.   Man pack devices with electronic attack capabilities and jamming.

Challenges for Bangladesh Army: The prominent issues are discussed below:-

a.   **Precise Jamming**:   Jamming the drone signal without affecting other signals that use the same radio frequency is technically challenging to achieve. Jamming the RF signal may be affected by other devices that could negatively impact. Again, jamming the drone's transmission signal is challenging as it stronger than the command signals. Moreover, drones using radio frequencies may not be detected or jammed.

b.   **Limitation in Detection by Radar**:   Low flying drones may not be detected by radar.

c.   **Detecting AI Driven Drones**:   Present non-kinetic techniques would be feeble at jamming the transmission signal of any drones with AI capabilities.

d.   **Limitations Posed by Urban Landscape**:   Drone detection by directed energy will be challenging as dense urban areas of Bangladesh obstruct line-of-sight. Besides, risks of collateral damages are high in case of engagement in these regions.

e.   **Energy Efficient Sensors**: To ensure uninterrupted power supply in any eventualities, solar power sources and fuel cells are the technologies should be integrated.

f.   **Coordination with Other Agencies**: Detecting drones using varying operational method in drone swarms is challenging. In Bangladesh perspective effective integrated detection methods and inter-agency cooperation are still missing. Harmonization of communication between sensors is a challenging issue.

g.   **GPS Spoofing**: 4th Generation GPS systems are becoming increasingly more interference-proof.

h.   **Efficient Workforce**: Bangladesh Army still do not have efficient workforce to operate counter drone devices.

Options for Bangladesh Army

a.   **Selection of Appropriate Counter Drone Method**: Purpose or mission should get priority in selecting counter drone method. Before acquiring or purchasing any system issues like range, price, resilience, installation setup, troubleshooting backup and secured supply chain must be ensured. Hitting a balance between modernisation and cost-effectiveness is necessary.

b.   **R&D**: Assessment of potential vulnerabilities and risks will help to prioritize and allocate resources effectively. Considering specific needs, factors like detection range, line of sight, precision, and integration capabilities should be finalised. For conducting multiple engagements further research needed to enhance understanding of laser and high-power microwave lethality and consistency at the atmospheric condition of Bangladesh. Research should also focus on minimising any collateral damage. Moreover, after action review after any test can also dictate development requirement.

c.   **Skilled Workforce**: Comprehensive and regular training needed to develop skill on various aspects of countering drone threats. Training should include threat recognition, equipment operation and effective response plan. Training curriculum should be up dated to match present trend. Exchange of training or expertise with air force also should get priority. Innovative war-games considering operational analysis will also enhance skill. For testing long range directed energy weapons suitable infrastructure need to be developed.

d.   **Foster Collaboration**:   Seamless coordination between law enforcement agencies, air force, and other relevant stakeholders should be established. In this regard, organogram and coordination cell should be set beforehand. Necessary security measures and responsibility should be well defined. Adopted counter drone measures should comply with existing laws and regulations.

e.   **Effective Response Plan**: A detailed response plan should include steps to analyse the weight of the threat, communication, coordination between stakeholders and actions to be taken. At the tactical level, early indications and neutralising attacking drones at short ranges is important. Mobile jamming systems are effective here. Multi-layered counter drone systems are planned to protect strategic sites. All the sensors, communication devices should be seamlessly integrated with existing security infrastructure to neutralise the drones in most effective way. At first layer, detection system can include radar, RF detectors, acoustics, optics, and various cameras. The combination can be updated to ensure effectiveness. To engage detected drone, interdiction gadgets of RF jamming and EW means should be used. In all stages collateral damages should be avoided.

f.   **Indigenous Production**: To ensure secured supply chain in any crisis, Bangladesh need to enhance its indigenous production capabilities. Here outsourcing and employment of experts can be done considering security aspects.

Conclusion

UAV, usually known as a drone are extensively used for various purposes presently. Its use in military operation in future will increase further. So, the need to enhance capabilities to counter them also became important for security of vital installations. Counter-drone technology encompasses steps like detection, track, identification and incapacitation. Non-Kinetic operational method covers mostly jammers, spoofer and drone guns to incapacitate hostile drones. But, the kinetic system aims for neutralization or physical destruction. For detection of drones, radar combining with AI and for tracking RF detectors have excellent capabilities. EO, Acoustic, IR, Radar, and RF means are widely used for identification of drones. Drones are made incapacitated by firing nets, missiles, and lasers.

In recent Ukraine-Russia war and Israeli defensive operations decisive and effective use of counter drone methods are observed. Working methods of few famous systems like AUDS, Droneguns, SAVAGE anti-drone missile, HELMD, Dronedefender, Dronecatchers, SkyDroner and Backpack jammers are discussed in this paper. It is identified that, demand of counter drone systems are increasing at a compounding rate. Considering various pros and cons, and analysing a matrix, it was noticed that for detection and identification laser and radar are most effective. However, still there are many restrictive regulations prevail in most countries regarding using counter drone systems.

Bangladesh, located at the gateway to South and Southeast Asia have neighbours with military supremacy. Still now, Bangladesh has very limited capacities and workforce in counter drone aspects. In Jamming, detection by Radar, incapacitating AI driven drones Bangladesh face challenges. Again, engaging low flying drone in dense urban environment will be difficult. Analysing purpose and threat, Bangladesh Army should employ right kind of drones. Besides, R&D should be conducted for indigenous production. Training module should be revised and

updated regularly to match demand of time. However, legal issues and after action reviews can dictate course of action for development. Finally, to ensure a safer and more secure future, Bangladesh army should enhance its counter drone capabilities in coordination with all stakeholders.

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Brief Biography

Lieutenant Colonel Mohammad Mahmudur Rahman Niaz, SGP, psc, was commissioned in the Corps of Engineers in December 1999. He served in various appointments in four Engineer Battalions, one Independent Engineer Company and one Border Guard Bangladesh (BGB) Battalion. He served as Instructor class-C in Engineer Centre and School of Military Engineering, Instructor class-B in Junior and Non-Commissioned Officers' Academy (JNA) and Instructor class-A in Military Institute of Science and Technology. He also served as Garrison Engineer and Commander Military Engineer Services. Besides mandatory courses, he attended mid-career Course in Pakistan. He has completed his Bachelor of Science in Civil Engineering, Masters in Defence Studies and Masters in Business Administration. Presently he is pursuing PhD higher research study programme in BUP. He has participated in United Nations mission in Darfur and DR Congo. Besides, he has to credit a number of articles in various journals and national dailies as well as published 6 books. He also presented articles in national and international seminars. He is a regular blood donor. Presently he is serving as Town Planner in Bangladesh University of Professionals.

Explicit-Implicit of Innovative Leadership: A Need for the Junior Leaders of Bangladesh Army

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Abstract

Innovative leadership is crucial both on the battlefield and in peacetime. It involves quick decision-making and creative problem-solving. In Bangladesh (BD) Army, with a shortage of officers and an increasing workload, junior officers/ Junior Commissioned Officers (JCOs)/ Non-Commissioned Officers (NCOs) need to be innovative to perform the responsibilities. It has become essential to develop innovative leadership. Junior Leaders (Captains, Lieutenants/ JCOs/ NCOs) are often tasked with additional responsibilities, necessitating innovative leadership to handle challenges efficiently. By developing knowledge and skills, junior leaders will be efficient in technical and professional expertise to solve problems. Behavioural skills like situational sensitivity, style flexibility, and situational management are also essential. Strong leader-led relationships between leaders and their teams foster effective leadership. Mutual respect and understanding enhance communication and trust. Junior leaders need to develop a sense of responsibility. They must take responsibility for tasks and understand their responsibilities, leading to greater involvement and leadership growth. Junior Officers and JCOs are encouraged to take initiative and proactive actions in handling tasks independently to foster innovation. Situational-Based Training Exercise (STX) helps junior leaders think creatively and solve real-world problems through scenario-based learning. Developing character qualities like knowledge, courage and motivation are vital for innovative leadership. Motivated leaders inspire their teams and contribute more effectively in the unit/organization work environment. Innovative leadership fills the leadership gap in the Army. Developing this leadership style through knowledge, relationship-building, proactive actions, training and character development will enhance the unit performance and professionalism of the BD Army.

Keywords*: Innovative leadership, strong leader-led relationship, developing a sense of responsibility, proactive actions, STX, developing character qualities.*

Introduction

A hunger for leadership has been one of the most universal cravings of time and if it is innovative leadership then it becomes more demanding. It is equally important both on the battlefield and in peacetime. Generally, innovative leadership means a kind of leadership which can make prompt decisions in varied situations or can give innovative ideas to achieve a mission or task. For an organization, it can be redefined; it is a kind of leadership by which a leader finds an idea even in any emergency to accomplish a mission or task. According to Dr. David Gliddon, ''Innovation leadership synthesizes different leadership styles in organizations to influence

employees to produce creative ideas, products, services and solutions. The key role in the practice of innovation leadership is the leader."[1] In this context, it is significant to explore how an organization will prepare innovative leaders/ leadership in the unit work environment.

Before discussing the means of developing innovative leadership it is imperative to know why it is needed for the junior leaders. It is a hard fact that at present BD Army has an acute shortage of officers and men in the units which is seriously affecting the leadership chain. Moreover, it is also not expected to have full strength everywhere every time, as such same individual has to do some more tasks than he is assigned. As a result, it has become a requirement to turn the junior leaders into innovative or creative leaders to get the job done in time. In some cases, the shortage of officers is mitigated by giving some responsibilities to the JCOs or NCOs who also need to be innovative leaders so that in case of any need or emergency, they can take immediate action or responsibility given to them. In order to resolve the issue of the shortage of officers and men as well as also for new assignments and getting several jobs done by the same person it is imperative to emphasize on innovative leadership for the junior leaders.

In light of the above, this paper will initially put some light on the explicit-implicit of innovative leadership, then it will suggest some measures to develop innovative leadership and finally, it will elaborately discuss those measures to develop it for the junior leaders. To make a simplified approach, the purview of the paper has been kept limited to the unit work environment of BD Army only.

Explicit - Implicit of Innovative Leadership

BD Army is a traditional Army that actively participated in the Liberation War in 1971 and made the country independent. Since then, it has walked a long way to its present shape. The leadership of this disciplined force never faced any challenge but, with time, due to a greater number of extra employments in UN missions, Rapid Action Battalion (RAB), Border Guard Bangladesh (BGB), deputation, etc. has reduced its junior leaders to an extent that it has seriously affected the leadership chain, especially in the unit work environment. Sometimes, it is found that a standard infantry battalion has only 6-8 officers out of which 3/4 officers are in various courses, one as commanding officer, one as second in command and one or two officers as quartermaster/adjutant and all the company commanders. In this situation of a unit, there remains a question of how best it can utilize the present junior leaders to minimize the total need; possibly the answer would be 'developing innovative leadership'.

To have a clear understanding of what innovative leadership involves, one must understand the concept of innovation. Although there is some controversy over how it can be defined, through consensus, it can be described as noble ideas of viable products that are put into operation.[2] It includes three different stages, which are all dynamic and constant.

Figure-1: Three Stages of Innovative Leadership
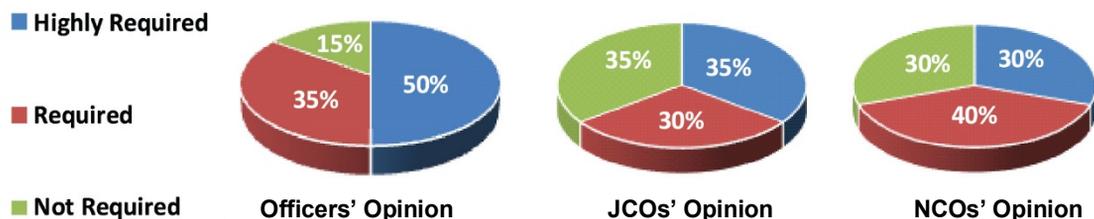

Source: Author's self-construct

Idea generation can be of two types. One is exploratory innovation, which involves generating brand-new ideas, and another one is value-added innovation, which involves modifying and improving ideas that already exist.[3] Whatever the types, ideas generated must be useful to the best effect of the organization or unit work environment. After generating the idea, evaluating that (how much it suits the organization) and then implementing it (effectively using the idea to perform the task/ goal) on the ground is very important. However, junior leaders still lack in planning, evaluating and implementing the given tasks independently which gives birth to a lot of challenges in the unit work environment therefore, it is practically felt that developing innovative leadership will fill the vacuum in the chain of leadership and the unit will function better. Now, the question remains; does it require for only officers or JCOs or both or what is the extent of junior leaders? Normally junior leaders are meant here NCOs, JCOs up to Captains. As JCOs and NCOs are commanding platoons and sections respectively and involved in arranging many important programmes besides their classical professional task, they are also to be considered here. However, a study was carried out among the members of an infantry brigade where respondents were 100 of various ranks and in the question of the need for innovative leadership of junior leaders, the answers were as follows:-

Table-1: Opinions of Officers, JCOs and NCOs

Question	Ranks	Highly Required	Required	Not Required
Do you think innovative leadership is needed for the junior leaders in the unit work environment?	Officers	50%	35%	15%
	JCOs	35%	30%	35%
	NCOs	30%	40%	30%

Source: Author's self-construct

Chart-1: Opinions of officers, JCOs and NCOs

Source: Author's self-construct

From the above study, it's found that opinions varied from rank to rank but the fact remains innovative leadership is required for junior leaders. However, some measures are required to develop innovative leadership for junior leaders.

Measures to Develop the Innovative Leadership

There are no specific guidelines provided on developing innovation leadership in the Army. However, from experience, knowledge and visualization of future operational and administrative tasks which will contribute to developing innovative leadership are discussed below:-

a. **Taking Initiative and Proactive Actions in the Unit Work Environment**: To make the junior leaders innovative, initiative and proactive actions should be undertaken. They should take the initiative to do all the activities which will make them responsible for doing things even without being told/guided. Junior leaders (Captain, Lieutenants/2nd Lieutenants, JCOs, NCOs) are to be sent to conduct various programmes independently like unit firing, assault course, and any other sports competitions. They should be responsible for every wrongdoing while performing their duties independently.

To perform as per expectation, a pre-training/cadre on respective games and sports may be arranged at the unit level to increase the confidence of the junior leaders. JCOs and NCOs were found shaky while conducting the match as a referee but few of them did well as it was expected. It was identified that, for not allowing them to take and seek this kind of responsibility for quite a long period, they were unsteady in performing those duties. To achieve the desired standard (doing things right/taking responsibility independently), seniors should task them continuously or ask them to conduct these kinds of competitions independently. This practice or habit should be such that after some days, junior leaders will proactively take on these responsibilities and perform as per expectations.

b. **Developing Knowledge and Skill of Junior Leaders**: It is imperative to develop the knowledge and skill level of junior leaders as they are the main stakeholders for the smooth running of the unit/organisation. Junior leaders need to handle the problems in unit at the first instance. Therefore, they should have the minimum knowledge and skills to

solve those problems. Knowledge of technical and professional aspects are interrelated and make the integrated effect known as the leaders' personality. In-depth knowledge of the self, knowledge of under-command's (UC's) strengths and weaknesses, the needs and values of the group members and the specific technical and professional requirements of the situation, can help a leader in solving any problems. Knowledge of values, ethos and their practical use on the ground also solves many problems. So, it is important to focus on developing the basic knowledge specially required for the unit work environment.

Developing skills is another important factor that is required to develop innovative leadership. A skilled leader can motivate or guide his men on the right path. There are a lot of different situations leaders need to tackle in the unit work environment which demands the development of some behavioral skills.[4] McGraw-Hill recommends that a leader must learn to develop the following behavioural skills:

> **Situational Sensitivity Skills**: An ability to read a situation by analysing its interacting elements i. e. for a unit work environment junior leaders should interact with their UCs very often and before and after any major events like technical or fitness inspection. This is a diagnostic skill which will solve many problems in the unit. It can be developed by regular practice of Situational Training Exercise (STX) which is elaborately discussed in the later part.

> **Style Flexibility Skill**: An awareness of one's strengths/weaknesses and ability to flex one's style to match the needs of the situation. This is an applied skill. This is very important in the unit work environment. For example; in the coming inter-unit firing competition, if the junior leaders exactly know who all are very good at firing and thereby make sure of their regular practice, the unit is likely to get the expected result, otherwise failure to know/select the appropriate men will cause unexpected result in the unit. So, junior leaders should remember when there is flexibility to select the men for a task, competition, course, cadre or anything, the right man should be nominated. Junior leaders should never be guided by nepotism which is wrongly practiced sometimes by some junior leaders.

> **Situational Management Skills**: An ability to modify certain elements of the situation, when a total change of style is not desirable. This too is an applied skill and junior leaders have to develop this skill to modify or partially change on certain elements of the situation. For example; for the shortage of time when a refresher training before Rocket Launcher (RL)/grenade firing could not be arranged for full length, then a partial refresher or conducting theoretical class or at least utilizing holiday should be done for minimum required training on that particular aspect, same kind of situational management may be done where a total change is undesired or time does not permit to do so.

c. **Understanding and Developing Leader-Led Relationship**: Leadership is walked around more once there prevails a good relationship between leaders and the led. Golden advice of Sun Tzu (544 BC- 496 BC) is, "*Know your men, know your enemy, and you can fight a hundred battles without peril.*"[5] Not only fighting battles but knowing UC is also very important during peacetime for day-to-day activities, training, operation and administrative jobs. Everything in the unit environment becomes easier if the junior leaders have a better relationship with their UCs. A Company/Platoon/Section commander without knowing his men cannot exercise his command and control (C2) over them. To develop a better relationship UCs should show proper respect to their leaders and reciprocally leaders should interact with them and maintain a congenial atmosphere by ensuring their training, admin, and welfare. To develop better relations between the leader and the led there should be a two-way communication system. At both ends they should know each other well and foster a good relationship. As a means of two-way communication, the leaders should at least know the ranks, names, service length, home address, marital status (with the details of kids), individual strength/ weaknesses, professional qualifications, present location, IPFT and RET state of UCs. Similarly, UCs also should know the same about their commanders. If UCs do not know about the capability of their leaders, they will not be confident enough to be led by their leaders. By knowing and understanding each other, junior leaders will be more interested in solving the problems of UCs and UCs will also be loyal to show prompt action. Now, the leadership grid approach model of *RR Blake* and *JS Mouton* is compared with the relationship between leader and led then it shows the following depiction.[6]

Figure-2: Grid approach model of leader-led relationship
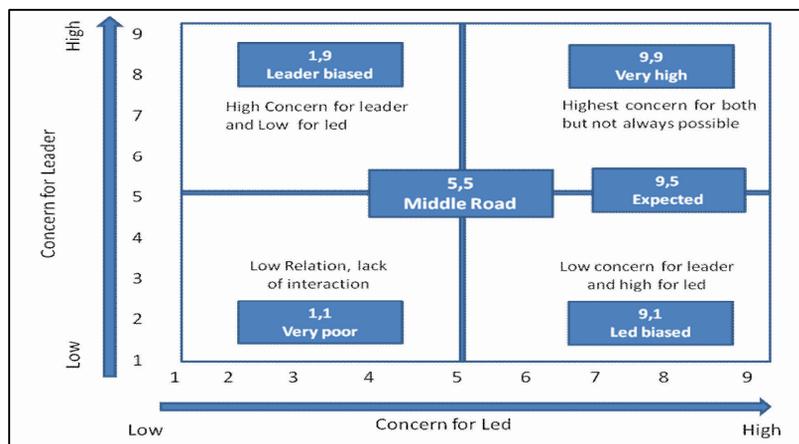
Source: Author's self-construct

From the above grid approach model it is found that, to develop a good relationship between the leader and the led concern for both is equally important but at the expected level (9, 5), the concern is more for led and less for the leader. In reality, findings are the same, leaders have to sacrifice more and display personal examples. The highest level

(9, 9) is very rare where both have to pay the highest concern for the organizational goal; the falter of any group may not see the light of success. Middle road (5, 5) is the safe play which should be avoided. It is essential to try and achieve the expected level (9, 5) and try to pursue the highest level (9, 9) as far as possible. Remember, in promoting innovation or any kind of leadership, a congenial environment is very important which is not possible without having a good relationship between leaders and the led.

d.   **Developing a Sense of Responsibility**:   Sense of responsibility refers to the degree of involvement of group members in the achievement of the organizational goal. The higher the involvement, the more responsible they would feel to achieve it, thus this involvement develops junior leaders to the innovation leadership. They can then increase the group members' readiness for shouldering responsibility to a great extent. However, developing a sense of responsibility needs to know the individual's charter of duties for the organization first, next comes taking care of the UCs. Without these two aspects sense of responsibility cannot be developed, let alone the leadership qualities.

To develop a sense of responsibility, junior leaders must be self-motivated and take the initiative to perform their organizational tasks. They should know their strength and weaknesses and also the same as their UCs thus promoting an environment congenial to culture leadership qualities. They should be prompt in doing any task and try to complete that on their own. Finally, junior leaders should take initiative and be very hard working to perform all the tasks without being told by others. If this is done, then they can innovate anything while exercising their C2.

e.   **Situational-based Training Exercise (STX)**:   Junior leaders very often come across many difficult situations or face many unknown problems where they need to take quick and timely decision to overcome those. To make such quick decisions, junior leaders need to undergo some STX with varied situations by which they can develop innovative ideas and can handle any situations/ problems. One example of STX is appended below:-

Example: At first, a scenario will be prepared for the junior leaders to identify the problems/difficulties, secondly; they will come up with potential solutions for those problems. For example; "If there is a move for field firing at Hathazari from Mymensing by road in June, junior leaders need to work out on what are the difficulties that may arise. They may be grouped in threes/fours and talk about what might happen." Here each participating member from each group can write the difficulties/problems on the whiteboard or a piece of paper and submit it to the trainer/ organizer for further discussion. In order to cope with similar kind of situations the trainer should discuss with all the points given by junior leaders which are listed below:-

      (a)   Shortest route and condition of the route (suitable for 3 tons or not)

      (b)   Accident-prone area, unwanted delay for vehicles

    (c)   Weather-related problems/any other problems likely to occur

    (d)   Admin arrangement during the break, extra POL for vehicles

    (e)   Break/ Rest point, snacks/tea for drivers etc.

Taking all the papers, one moderator/trainer (maybe a company commander at the unit level) will evaluate all of their solutions and find the most suitable one for this particular situation. Likewise, many other situations on admin, training and operational aspects may be given to the junior leaders and ask them to write the probable solutions. It will be found that many of them will come up with some brilliant innovative ideas which are effective in dealing with such situations. After doing this practice a good number of times, it will give them confidence to handle any situation with innovative ideas. As Henry Harris in his book, *The Group Approach to Leadership* remarks, "Leadership is a collective function and where it is exercised, resides not in the individual, however dominant, strong or efficient he may be, but in the total situation and in the demands of the situation."[7] This can be shown by the following Figure:-

Figure-3: Relation of leader and UC with the situation
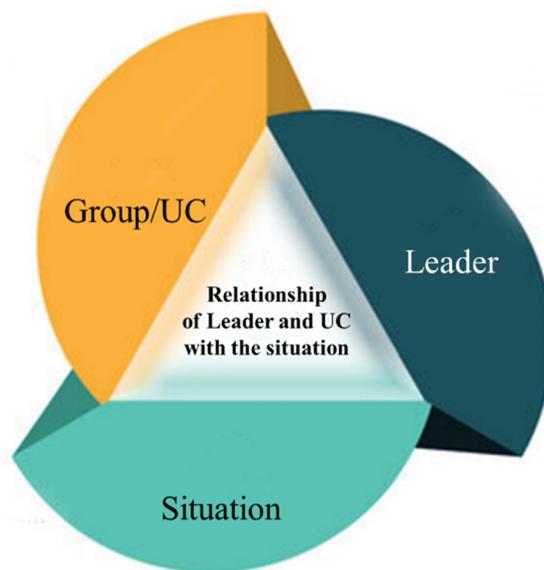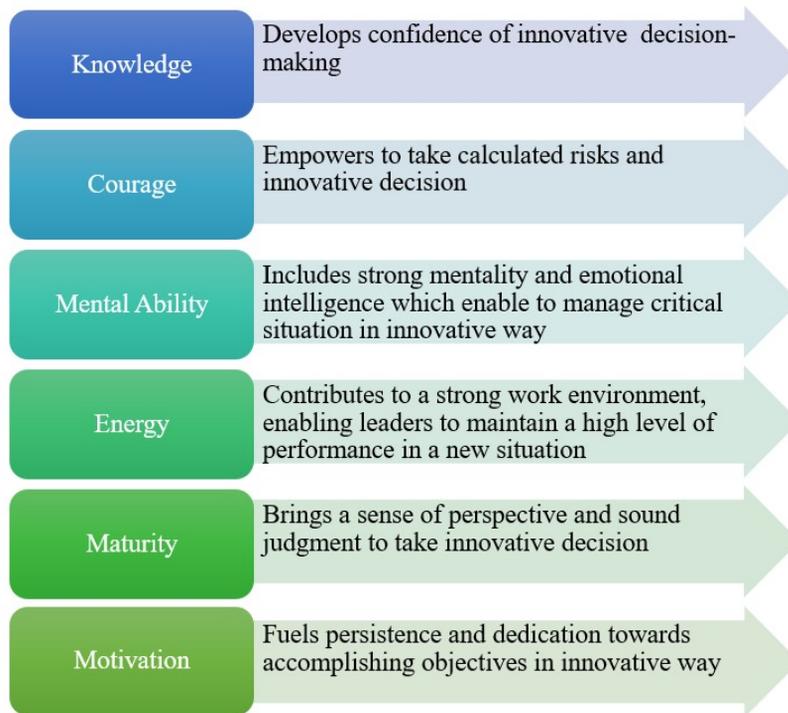

Source: Author's self-construct

f.   **Developing Character Qualities**:   An innovative leader, to be successful, must have some character qualities like knowledge, courage, robust mental ability to take the load, energy, maturity, motivation, etc. They should be able to reach his UCs and convey their ideas to them in simple and clear language. Developing these qualities will give them

confidence and a self-propelling force to solve any problem in the unit. He must be motivated as a motivated person works more often for intrinsic rewards like the challenge of the task, recognition by his group/UCs, actualization of his potential through the performance of the job, etc. than for extrinsic rewards. It has also been found that motivated junior leaders prove more imaginative and innovative in their efforts and make greater contributions than others, in giving a push forward to their organisation/unit work environment. As the UCs of present days are educated and situations are also sometimes challenging, therefore junior leaders must nurture those qualities to exercise their C2 in a better manner in the unit work environment. The following Figure shows the various character qualities that need to be fostered by the junior leaders.

Figure-4: Impact of Attributes in Developing Innovative Leadership

Attribute	Impact
Knowledge	Develops confidence of innovative decision-making
Courage	Empowers to take calculated risks and innovative decision
Mental Ability	Includes strong mentality and emotional intelligence which enable to manage critical situation in innovative way
Energy	Contributes to a strong work environment, enabling leaders to maintain a high level of performance in a new situation
Maturity	Brings a sense of perspective and sound judgment to take innovative decision
Motivation	Fuels persistence and dedication towards accomplishing objectives in innovative way

Source: Author's self-construct

Conclusion

Leadership is a quality which helps a group of people to be organized to achieve a common goal/task. On the contrary, innovative leadership means a kind of leadership which can make prompt decisions in a varied situation or can give innovative ideas to achieve a mission or task. Innovative leaders can make quick decisions and take higher responsibility when it is required. At present, due to an acute shortage of officers and men in the units, it has become a burning need to

get the officers' job done by the junior officers/JCOs in many cases. So, it has become essential to develop innovative leadership. It will contribute to bridging the gap of the leadership chain.

There are no specific guidelines given to develop innovative leadership in the Army. However, "Innovative Leadership" may be developed by taking proactive actions in the unit work environment, developing the knowledge and skills of junior leaders, understanding and developing leader-led relationships, developing a sense of responsibility, STX, developing character qualities etc. When innovative leadership is developed by practicing any or all of the said measures, it will not only contribute to the leadership chain rather, it will develop the entire unit and army. BD Army will be professional, even if there is any lack of leadership that will be also covered up by this innovative leadership. So, the units should focus on developing innovative leadership for the junior leaders in the unit work environment.

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Brief Biography

Lieutenant Colonel Md Shafiqul Islam, PBGMS, afwc, psc, MPhil was commissioned on 17th June 2001 in the Corps of Infantry with 44th BMA Long Course and joined 44 E Bengal (9 Bangladesh Infantry Regiment). Besides commanding 7 Bangladesh Infantry Regiment (BIR), he served 27 BIR as Company Commander and an Infantry Brigade as Brigade Major. He was Instructor Class-B in the School of Infantry and Tactics. He also served as Platoon Commander in Bangladesh Military Academy. Besides mandatory courses, he has completed Commanders Course in China and Observer Course in India. He is a graduate of Defence Services Command and Staff College, Mirpur. He has completed Armed Forces War Course from National Defence College, Mirpur. Under Blue Helmet, he participated in two Peacekeeping Missions; as a contingent member in Ivory Coast and as a staff officer in DR Congo. He has successfully obtained MPhil Degree. He received the Sword of Honour, Osmani, and Dr. Kudrat -E- Khuda Gold Medal in BMA. At present, he is serving as General Staff Officer Grade-1 (Operations) at 24 Infantry Division, Chattogram.

Innovative Military Tactics: A Futuristic Approach to Obstacle Planning in The 21st Century

Lieutenant Colonel Md Faizul Kabir, psc, Engineers

Abstract

The landscape of warfare is undergoing a transformative evolution in the 21st century, propelled by technological advancements, geopolitical shifts, and unconventional threats. In this era of dynamic complexities, the significance of innovative military tactics has never been more crucial. This paper embarks on a compelling exploration into the realm of military strategy, with a specific focus on a futuristic approach to obstacle planning. As history has shown, obstacles have played a pivotal role in shaping the outcomes of conflicts, from ancient fortifications to the trench warfare of the World Wars. Recognizing this historical groundwork, the investigation goes beyond conventional approaches, delving into innovative strategies essential for addressing the multifaceted challenges of modern warfare. From cyber threats to irregular warfare and geopolitical intricacies, the paper aims to unravel groundbreaking ideas that transcend conventional paradigms. Each of these ideas leverages advanced technologies to create obstacle systems that are adaptive and resilient, responding effectively to the evolving nature of modern threats. This paper endeavours to contribute to the discourse on military tactics, providing a visionary lens for understanding and preparing for the complex and dynamic landscape of 21st-century warfare. Overall, the paper serves as a contribution to the discourse on military tactics and preparedness, providing a visionary lens for navigating the intricate challenges of the 21st century.

Keywords: Warfare, military tactics, groundbreaking, paradigms, challenges.

Introduction

Military history is replete with instances where obstacles played a pivotal role in shaping the outcomes of conflicts.[1] From the rudimentary fortifications of antiquity to the sophisticated innovations of modern warfare, obstacles have been integral to defensive strategies. Understanding the historical and contemporary roles of military obstacles is essential for military planners, strategists, and scholars alike, as it provides insights into the adaptive nature of warfare and the enduring relevance of obstacle-centric strategies. Moreover, the inclusion of innovative ideas for modern warfare emphasizes the forward-thinking approach needed to counter evolving threats, making this exploration a vital contribution to the discourse on military tactics and preparedness in the 21st century.

The journey begins with ancient fortifications, where trenches, palisades, and embankments served as strategic barriers, exemplified by the Great Wall of China. Moving into the Middle Ages, the focus shifts to siege warfare, showcasing the construction of moats, drawbridges, and concentric walls in iconic castles across Europe.[2] The Renaissance to Early Modern Period

witnessed the transformative impact of gunpowder, introducing field fortifications such as trenches and redoubts. These obstacles provided cover for infantry and altered the dynamics of open-field battles. Trench warfare in World War I revolutionized military strategy, with elaborate systems of trenches, barbed wire, and bunkers defining the Western Front.

In this paper an endeavour has been taken to highlight the historical significance of obstacles in warfare and explore how obstacles shaped military strategies and influenced the outcomes of conflicts. It then delves into contemporary military threats, including cyber threats, irregular warfare, and geopolitical challenges, emphasizing the need for innovative obstacle planning. The study concludes by proposing groundbreaking ideas for obstacle planning in modern warfare, such as dynamic obstacle networks, cyber obstacles, terrain shaping, and the use of unmanned systems.

Historical Significance of Obstacles in Warfare

According to Henry Ford (1863 -1947), "Obstacles are those frightful things you see when you take your eyes off your goal." There are six obstacles in warfare as shown in Figure-1 and discussed in the subsequent paragraphs:-

Figure-1: Obstacles in Warfare
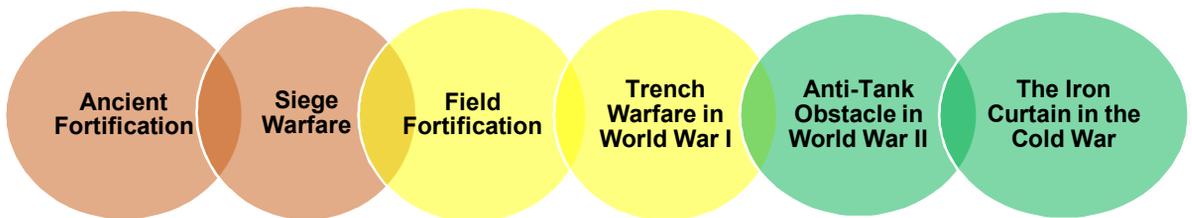
Source: https://www.google.com/search?q=what+is+web+link+of+Obstacles+in+Warfare

Antiquity to the Middle Ages

a. **Ancient Fortifications**: Ancient warfare witnessed the strategic deployment of rudimentary fortifications, notably trenches, palisades, and embankments.[3] These obstacles, meticulously designed, played a pivotal role as barriers to impede enemy advances. Trenches provided cover for defenders, palisades acted as protective barriers, and embankments served both defensive and strategic purposes. The Great Wall of China exemplifies the monumental scale of such fortifications, showcasing their efficacy in deterring invasions.[4] These ancient obstacles were integral to shaping the battlefield, blending defensive utility with tactical advantages, and their historical significance endures as a testament to the ingenuity of early military strategists.

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b.   **Siege Warfare**: Siege warfare in the Middle Ages witnessed the implementation of formidable obstacles, defining the defensive strategies of the time The construction of moats, drawbridges, and concentric walls emerged as hallmark features, strategically impeding enemy access to fortified structures. Medieval castles across Europe, such as the iconic castles of England and France, exemplify the tactical ingenuity in employing obstacles.[5] Moats served as protective barriers, drawbridges controlled access points, and concentric walls created layered defenses. These obstacles not only thwarted immediate assaults but also prolonged sieges, highlighting their enduring role in shaping medieval military tactics and fortifications.

Renaissance to Early Modern Period

a.   **Field Fortifications**:   The advent of gunpowder in the Renaissance to Early Modern Period transformed military tactics, introducing field fortifications like trenches and redoubts. These strategic[6] elements reshaped open-field battles, providing crucial cover for infantry and safeguarding artillery positions, enhancing overall defensive capabilities.[7] At the Battle of Yorktown, General Washington effectively repelled British assaults using field fortifications during the American Revolutionary War. The Battle of Naseby in 1645 highlighted the strategic use of trenches and redoubts, shaping the battlefield.[8] Field fortifications persisted into the Napoleonic Wars, as seen in the Battle of Borodino in 1812, where both French and Russian forces fortified their positions.[9] These obstacles became integral to military strategy, reflecting the evolving nature of warfare with gunpowder integration, setting the stage for complex defensive structures in subsequent conflicts.

b.   **Trench Warfare in World War I (1914-18)**: Trench Warfare whose origin can be traced to the Battle of Khandak (Trench) fought in April 627CE between the Muslims and Quraiysh, revolutionized military strategy, introducing obstacles on an unprecedented scale.[10] Elaborate trench systems, fortified with intricate networks of barbed wire and bunkers, became defining features of the Western Front. Notable examples include the Battle of the Somme, where soldiers confronted formidable obstacles in the form of entrenched defenses. The Battle of Passchendaele showcased the impact of natural obstacles, with mud and flooded craters hindering advances.[11] These obstacles played a pivotal role in shaping the protracted and devastating nature of trench warfare, illustrating their critical significance in the backdrop of World War I.

World War II (1939-45) and the Cold War (1946-90)

a.   **Anti-Tank Obstacles**:   Anti-tank obstacles had a pivotal impact in shaping battles across diverse theaters in World War II.[12] Tank traps, ranging from primitive trenches to sophisticated hedgehogs, were strategically deployed on key battlegrounds. The Battle of Kursk on the Eastern Front witnessed extensive anti-tank measures, including trenches and ditches, complicating German armored offensives.[13] Along the Atlantic Wall, dragon's teeth, formidable concrete barriers, served as imposing deterrents during the Allied invasion of

Normandy.[14] In the Pacific theatre, makeshift obstacles like log cribs disrupted Japanese tank advancements. These examples highlight the versatility and strategic significance of anti-tank obstacles, significantly contributing to the defensive prowess of nations and influencing critical engagements during this transformative era of warfare.

b.   **The Iron Curtain**:   The Cold War cast a shadow of division across the geopolitical landscape, epitomized by the Iron Curtain.[15] This symbolic and physical demarcation between the Eastern and Western blocs altered the course of global politics and military strategies. The Berlin Wall, a concrete manifestation of this divide, stood as a stark example, dividing East and West Berlin for almost three decades.[16] The Cuban Missile Crisis further intensified the tensions, showcasing how geopolitical obstacles could precipitate global crises.[17] In Asia, the Korean Demilitarized Zone and the Bamboo Curtain exemplified the broader impact of the Iron Curtain.[18] The ideological confrontation influenced proxy conflicts, espionage activities, and strategic alliances, leaving an indelible mark on the annals of history and shaping the contours of international relations.

Contemporary Military Challenges: Navigating the Multifaceted Landscape of Modern Warfare

In the words of General M. Smith (b.1964/1965), "Hybrid warfare demands a symphony of responses across domains. In the orchestra of conflict, harmony is achieved through integrated obstacle planning." There are six military challenges which are discussed below:-

Figure-2: Contemporary Military Challenges

Source: https://www.google.com/search?q=web+link+Contemporary+Military+Challenges

Cyber Threat Landscape

a.   **Historical Context**:   The historical roots of cyber threats trace back to the late 20th century, with the digitalization of military systems. A pivotal moment was the Stuxnet worm, a cyberweapon targeting Iran's nuclear program in 2010.[19] This marked a paradigm shift, showcasing the potential of cyber tools as strategic weapons. The historical context underscores the accelerating sophistication of cyber threats, evolving from individual hackers to state-sponsored operations. The 2007 cyber-attacks on Estonia and the 2015 Ukraine power grid attack are poignant examples, demonstrating the real-world impact of cyber intrusions on critical infrastructure.

b.   **Historical Cyber-Attacks**: Examining historical cyber-attacks provides valuable insights for contemporary obstacle planning. The 2017 Wanna Cry Ransomware attack, which targeted the healthcare sector and critical infrastructure, highlights the vulnerability of

interconnected systems.[20] The extensive damage caused by NotPetya in 2017 emphasizes the need for resilience and rapid recovery strategies. These incidents underscore the importance of preparing for cyber adversaries' unexpected and constantly evolving tactics.

c.   **Strategic Insights**:   The strategic implications of cyber security on military operations are profound. The cyber campaign against Georgia during the Russo-Georgian War (Aug 7, 2008 - Aug 12, 2008) showcased the integration of cyber operations with conventional warfare.[21] Military strategists must recognize the interconnectedness of cyber and kinetic domains. The development of the U.S. Cyber Command exemplifies a proactive approach, integrating cyber capabilities into broader military strategies.

d.   **Current Landscape**: In the contemporary era, the cyber threat landscape is characterized by its dynamic and pervasive nature. Nation-states, criminal organizations, and hacktivists constantly exploit vulnerabilities. The Solar Winds cyber-attack in 2020 exemplifies the sophistication of modern cyber threats, infiltrating government agencies and major corporations.[22] As military operations increasingly rely on interconnected networks, the potential for disruption and espionage through cyber means has become a paramount concern.

Non-State Actors and Guerrilla Tactics

a.   **Irregular Warfare Dynamics**:   Irregular warfare, characterized by asymmetry and unconventional tactics, introduces a dynamic and unpredictable element that demands strategic flexibility. This research paper explores the challenges associated with irregular warfare, emphasizing the nuances of non-state actors and the imperative for adaptive obstacle planning.

b.   **Challenges of Irregular Warfare**:   Irregular warfare, often waged by non-state actors utilizing guerrilla tactics, presents unique challenges rooted in the actions of elusive and decentralized entities. Operating beyond the conventions of traditional military structures, non-state actors such as the Viet Cong during the Vietnam War established military doctrines. The Vietnam War provides a historical context where irregular warfare, led by the Viet Cong, demonstrated the effectiveness of guerrilla tactics against a conventional military force. The ability of non-state actors to blend into local populations and utilize unconventional strategies highlighted the limitations of traditional military approaches. Understanding the motivations, networks, and adaptability of these groups is essential for developing effective obstacle-planning strategies.

c.   **Dynamic Obstacle Planning**:   Dynamic obstacle planning is crucial for countering the fluid and unpredictable nature of irregular warfare. Unlike conventional warfare, where static defenses may suffice, irregular warfare demands a proactive and adaptive approach. The Israeli Defense Forces' response to Hamas in urban environments serves as an exemplary case.[23] By integrating advanced sensors, rapid deployment strategies, and adaptable obstacle

networks, military forces can effectively navigate the unpredictable nature of irregular warfare. Such dynamic approaches are vital in countering improvised explosive devices (IEDs) and hit-and-run tactics employed by non-state actors.

Urban and Rural Considerations

a.   **Adapting to Diverse Environments**:   Irregular warfare unfolds across diverse environments, each presenting unique challenges for obstacle planning. In urban settings, non-state actors exploit complex terrain for cover and ambush, necessitating obstacle strategies that balance civilian protection with an effective defense. Experiences in the West Bank demonstrate the importance of adaptive obstacle planning in densely populated areas. In rural environments, military forces must leverage natural features and strategically placed obstacles to disrupt unconventional tactics. U.S. operations in Afghanistan provide insights into obstacle planning in vast and challenging rural landscapes.

b.   **Flexibility in Defence**:   Flexibility emerges as a linchpin in defending against unconventional tactics characteristic of irregular warfare. Non-state actors frequently employ hit-and-run strategies, IEDs, and ambushes, demanding swift adaptation from military forces. Mobile obstacle systems, including deployable barriers and modular barricades, showcase the required flexibility in defense. The experiences of the British Army during the Troubles in Northern Ireland underscore the importance of adaptive obstacle planning in responding effectively to the unpredictable tactics of non-state actors.[24] The intricacies of irregular warfare dynamics, marked by non-state actors and guerrilla tactics, necessitate a comprehensive and adaptive approach to obstacle planning. Balancing the challenges posed by diverse urban and rural environments, coupled with a commitment to flexibility in defense, ensures that military forces are well-prepared to navigate the complexities of unconventional threats.

Information Warfare Strategies

a.   **Psychological Operations and Disinformation**:   In the realm of information warfare, psychological operations and disinformation are integral components influencing perceptions Understanding the impact of these operations on narrative shaping is vital for effective obstacle planning. In the era of the Cold War, both the United States and the Soviet Union widely applied psychological operations to influence global perceptions, emphasizing the central role of propaganda and carefully crafted narratives.[25] In contemporary conflicts, such as the Syrian Civil War, disinformation campaigns have been employed to create confusion and manipulate public opinion. Obstacle planning in the information domain focuses on countering these narratives to maintain clarity and accuracy. Strategic obstacle planning involves implementing measures to secure communication channels, counter disinformation and ensure the reliability of information amidst the chaos of information warfare.

b.   **Fake News in Conflicts**: The rise of fake news in conflicts requires innovative strategies to maintain accurate information.[26] In the Ukrainian conflict, misinformation surged through social media, emphasizing the need for obstacle planning to counter false narratives swiftly. Challenges posed by deep fakes, AI-generated content mimicking real footage, necessitate adaptive obstacle planning. Technologies detecting and countering deep fake threats are crucial for preserving information authenticity. In the context of information warfare, obstacles encompass technological solutions, policy frameworks, and public awareness campaigns. Information warfare strategies, including obstacle planning, are vital for defending the battlefield of perception by addressing psychological operations and countering disinformation.[27]

Proxy Conflicts and Geopolitical Challenges

In the complex realm of geopolitical conflicts, external powers play a significant role, demanding a nuanced approach to obstacle planning. Proxy conflicts exemplify the impact of external influences, with collaborative strategies like strategic alliances and intelligence sharing emerging as crucial components. The Yemen conflict illustrates this, with Iran and Saudi Arabia actively supporting different factions. Effective obstacle planning in such scenarios requires a comprehensive understanding of external involvement's multifaceted nature. NATO member states' collaborative efforts during the Cold War against external influences in Eastern Europe underscore the necessity for joint approaches and effective obstacle planning.

Hybrid Warfare and Multi-Domain Challenges

a.   **Hybrid warfare**: Hybrid warfare, characterized by the integration of conventional, irregular, and cyber elements, presents a dynamic and multifaceted challenge on the modern battlefield. The interplay of these elements requires a nuanced understanding of the dynamics of hybrid warfare. For instance, the use of conventional military forces, coupled with irregular tactics such as guerrilla warfare and cyber operations, demands comprehensive obstacle planning that spans physical, cyber, and information domains.[28] The adaptability of military strategies becomes paramount to effectively counter the diverse nature of hybrid threats. An illustrative example is the conflict in Eastern Ukraine, where Russia employed a combination of conventional and irregular forces alongside cyber operations, emphasizing the need for integrated approaches in obstacle planning to address the complex challenges posed by hybrid warfare.

b.   **Multi-Domain Challenges**: Multi-domain challenges further compound the complexity of modern warfare. These challenges span physical, cyber, and information domains, requiring integrated approaches to obstacle planning. The ability to deploy obstacles seamlessly across these domains becomes crucial for military preparedness. The integration of cyber elements in the conflict between Russia and Ukraine highlighted the

significance of cyber obstacles. Advanced cyber security measures, including firewalls and encryption protocols, played a pivotal role in safeguarding critical infrastructure from cyber threats, emphasizing the need for adaptive strategies in the digital domain.[29] Unmanned systems have become integral in addressing multi-domain challenges. Drones and robotic systems, deployed for obstacle placement, offer a unique advantage in terms of rapid adjustments to changing tactical scenarios. This was evident in conflicts such as the use of unmanned aerial vehicles in the Middle East, where obstacles were strategically placed to counter various threats.

Innovative Ideas for Obstacle Planning in Modern Warfare

a.   **Dynamic Obstacle Networks**: The Dynamic Obstacle Networks concept represents a forward-looking military defense paradigm designed to navigate the evolving battlefield seamlessly.[30] Integrating cutting-edge technologies like advanced sensors, artificial intelligence, and robotics, this concept envisions autonomous ground vehicles armed with sophisticated sensors patrolling contested territories. These vehicles can swiftly reposition modular barricades or deployable barriers in response to real-time threats. Sensor-equipped drones collaborate with ground-based obstacles, choreographing a dynamic defense perimeter that autonomously adapts formations to address diverse tactical scenarios. In scenarios where AI-driven obstacles collaborate with military personnel, a harmonized defense strategy against agile adversaries emerges. This technology-driven paradigm emphasizes the adaptability, responsiveness, and resilience of military defenses, showcasing dynamic obstacles as a robust countermeasure in the complexities of modern warfare.

Figure-3: Dynamic Obstacle Networks Concept

Source: https://www.google.com/search?q=web+link+of+Dynamic+Obstacle+Networks+Concept
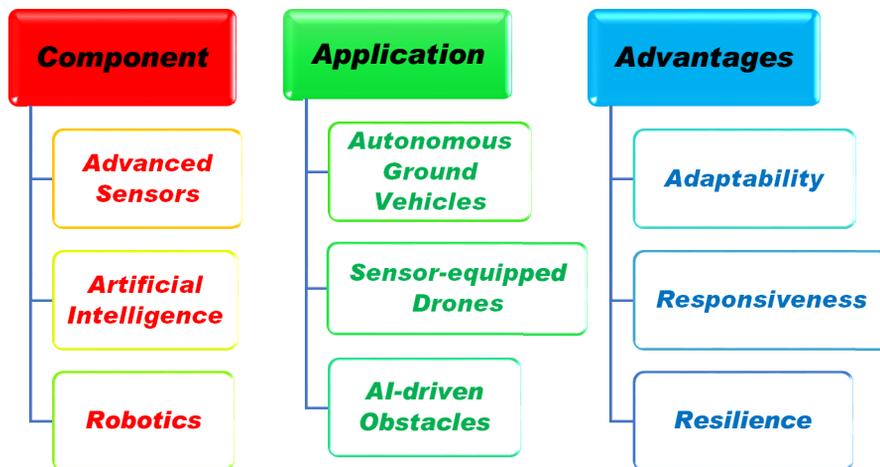
b.   **Cyber Obstacles**:   The integration of Cyber Obstacles introduces a novel dimension to military defense by extending obstacle planning into the digital realm through cyber security measures. In practical terms, this involves the implementation of robust firewalls, advanced encryption protocols, and sophisticated deception tactics to disrupt and counteract enemy cyber operations effectively.[31] For instance, envision a scenario where military communication networks are fortified with cutting-edge firewalls that autonomously identify and thwart cyber intrusions, ensuring the integrity of sensitive information. Additionally, the use of deceptive techniques, such as honeypots, can mislead adversaries, diverting their attention and resources away from critical military infrastructure. This multifaceted approach not only shields vital military assets from cyber threats but also establishes a resilient defense framework, safeguarding secure communication channels and preserving the integrity of critical information in the face of evolving cyber challenges.
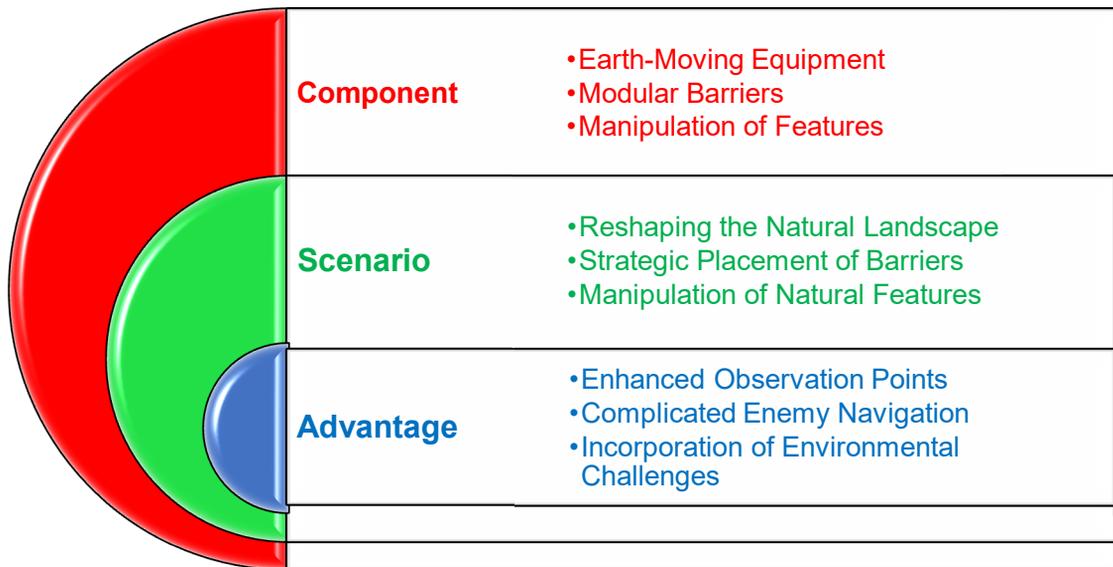
Figure-4: Cyber Obstacles Concept

Source: https://www.google.com/search?q=web+link+of+Cyber+Obstacles+Concept
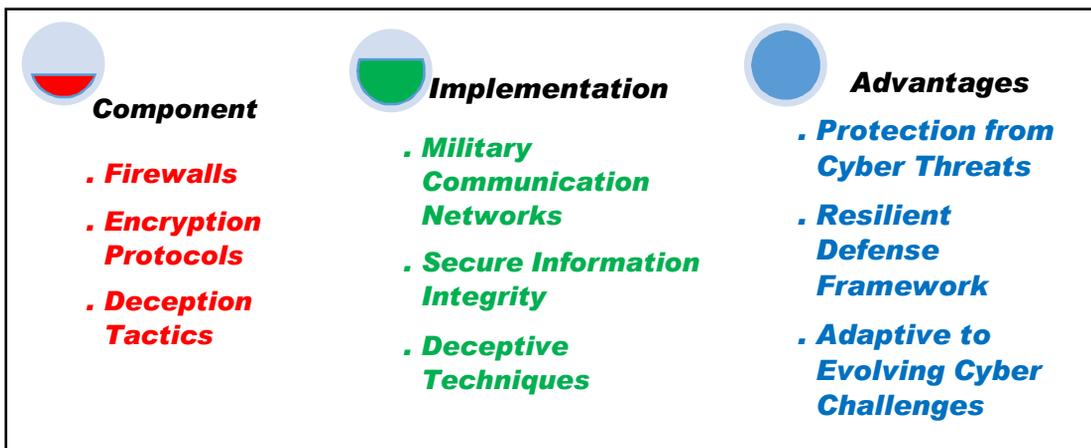
c.   **Terrain Shaping**:   Terrain Shaping stands as a sophisticated military strategy, utilizing advanced engineering to transform the natural landscape strategically. Employing robust earth-moving equipment, military forces can reshape the terrain, crafting elevated vantage points for enhanced observation.[32] The strategic placement of modular barriers disrupts enemy advances, complicating their navigation. Natural features such as rivers or hills can be manipulated to guide and impede enemy movements. This strategy ingeniously capitalizes on the environment, introducing unforeseen challenges for adversaries. Effectively turning the terrain into a pivotal component of defense enhances the security of military positions. For instance, creating elevated spots improves visibility, while strategically positioning barriers in narrow paths hinders enemy progression. In essence, Terrain Shaping exemplifies a dynamic approach to military defense, integrating environmental modifications to fortify positions and complicate the strategies of potential adversaries.

Figure-5: Terrain Shaping Concept

Component	• Earth-Moving Equipment • Modular Barriers • Manipulation of Features
Scenario	• Reshaping the Natural Landscape • Strategic Placement of Barriers • Manipulation of Natural Features
Advantage	• Enhanced Observation Points • Complicated Enemy Navigation • Incorporation of Environmental Challenges

Source: https://www.google.com/search?q=web+link+of+Terrain+Shaping+Concept

d.   **Unmanned Systems for Obstacle Deployment**:   The use of Unmanned Systems for Obstacle Deployment, integrating unmanned aerial and ground vehicles, revolutionizes obstacle placement by enhancing precision and minimizing risks to human personnel.[33] Aerial drones exhibit swift precision in strategically situating modular barriers in challenging terrains, while autonomous robotic systems on the ground dynamically navigate and adapt to the evolving battlefield. This cutting-edge approach accelerates obstacle deployment, allowing rapid adjustments to changing tactical scenarios. Practical examples include deploying unmanned ground vehicles in urban environments and utilizing aerial drones to establish barriers in remote areas, highlighting the versatility and efficacy of unmanned systems in fortifying military positions while prioritizing human safety.

Integrated Cyber Defence Systems

The development of Integrated Cyber Defense Systems represents a crucial innovation in addressing the evolving landscape of cyber threats.[34] This concept involves the creation of advanced cyber security measures adaptable to emerging threats. For example, implementing AI-driven cyber security systems allows for real-time threat detection, minimizing the risk of successful cyber-attacks. The integration of these systems underscores the importance of staying ahead of cyber adversaries and ensuring the integrity of military infrastructure in an era dominated by digital warfare.

a.   **Dynamic Urban Warfare Solutions**: Tailoring obstacle planning for urban environments is essential in addressing the challenges posed by guerrilla tactics. Dynamic

Urban Warfare Solutions involve utilizing advanced sensors and rapid deployment tactics. Consider the deployment of modular barricades equipped with sensors in urban areas, effectively countering guerrilla tactics while prioritizing the protection of civilian populations. This approach exemplifies the need for adaptive obstacle planning to navigate the intricacies of urban warfare scenarios.

b.   **Urban Obstacle Strategies**:   Urban Obstacle Strategies focus on developing specialized obstacle plans tailored to urban warfare scenarios. This concept emphasizes the strategic placement of barricades, roadblocks, and fortified structures to effectively control key urban areas. The advantages of this approach include addressing the unique challenges posed by urban environments, restricting enemy movement, and providing cover for friendly forces operating in such complex settings.

c.   **Smart Minefields**:   The concept of Smart Minefields involves the integration of smart technologies into traditional minefields, aiming for enhanced control and reduced collateral damage. This innovative approach incorporates sensors capable of detecting friendly forces, time-sensitive activation mechanisms, and advanced communication systems. The primary advantage of Smart Minefields lies in minimizing the risk of unintended consequences while maintaining the deterrent effect traditionally associated with minefields.

Augmented Reality (AR) Obstacles

Augmented Reality (AR) Obstacles introduce a concept that enhances situational awareness on the battlefield. This involves overlaying augmented reality obstacles to provide soldiers with real-time visualizations of obstacles, minefields, and fortified positions. The application of AR in obstacle planning contributes to improved decision-making by offering a comprehensive view of the battlefield, aiding in obstacle navigation, and facilitating avoidance strategies.

a.   **Denial and Deception Obstacles**:   The Denial and Deception Obstacles concept involves the incorporation of elements of denial and deception into obstacle planning. Tactics include creating decoy obstacles, false minefields, and misleading terrain features to confuse and misdirect adversaries. The strategic advantage of this approach lies in exploiting enemy vulnerabilities by inducing errors in their assessments of the battlefield, thereby gaining a tactical advantage.

b.   **Multi-Domain Obstacle Integration**:   Seamlessly integrating physical, cyber, and information domain obstacles is imperative for a comprehensive defense strategy. Multi-domain obstacle Integration involves deploying obstacles across these domains to create a robust defense against hybrid threats. Picture unmanned systems, including drones, deploying obstacles in real-time across multiple domains, dynamically responding to changing tactical scenarios. This adaptive strategy ensures a holistic and effective approach to obstacle planning in the face of multifaceted challenges.

c.   **Adaptive Strategies for Unconventional Threats**:   In response to unconventional threats, military training programs are essential. Adaptive Strategies for Unconventional Threats involve establishing programs focused on dynamic obstacle planning. Realistic training exercises simulate irregular warfare scenarios, allowing military units to practice and refine dynamic obstacle planning and response strategies. This proactive approach prepares forces to navigate the complexities of unconventional threats, emphasizing adaptability and readiness in the ever-changing landscape of modern warfare.

d.   **Public Awareness Campaigns on Information Warfare**:   Recognizing the impact of information warfare, innovative obstacle planning extends to Public Awareness Campaigns. Strategic communication plans are developed to educate the public on recognizing and countering disinformation. Nation-wide campaigns promoting media literacy and raising awareness about the effects of fake news during conflicts empower citizens to discern misinformation, enhancing overall societal resilience against information warfare.

e.   **Collaborative Geopolitical Alliances**:   The complexities of modern geopolitical conflicts necessitate collaborative approaches among nations. Innovative obstacle planning involves fostering Collaborative Geopolitical Alliances, where strategic alliances and intelligence-sharing networks are established. Imagine an international coalition committed to sharing intelligence and coordinating efforts to counter external influences, reminiscent of Cold War collaborations. This collaborative approach enhances obstacle planning against proxy threats in the intricate landscape of geopolitical conflicts.

Conclusion

Throughout history, obstacles have played a pivotal role in shaping military strategies and defining the outcomes of conflicts. From ancient fortifications like the Great Wall of China to the intricate trench network of the First World War, obstacles have evolved in response to technological advancements and strategic needs. The Renaissance introduced field fortifications, adapting to the challenges of gunpowder, while World War II saw the strategic use of anti-tank obstacles, influencing key battles. The Cold War era witnessed the symbolic and physical manifestation of division with the Iron Curtain, impacting global geopolitics. These obstacles, ranging from trenches and moats to concrete barriers and geopolitical boundaries, have demonstrated their historical significance by shaping the battlefield, prolonging sieges, and influencing the course of military history. Their adaptability reflects the ever-changing nature of warfare and the ingenuity of military strategists across different eras.

The contemporary military challenges encompass a multifaceted landscape of modern warfare, demanding integrated obstacle planning. The cyber threat landscape, rooted in historical events like the Stuxnet worm, highlights the evolution from individual hackers to state-sponsored operations. Irregular warfare introduces unpredictability, requiring dynamic obstacle planning against non-state actors and guerrilla tactics. Urban and rural considerations emphasize adaptive

obstacle planning in diverse environments. Information warfare strategies focus on countering psychological operations and disinformation, while proxy conflicts and geopolitical challenges demand nuanced approaches. Hybrid warfare, integrating conventional, irregular, and cyber elements, necessitates comprehensive obstacle planning, and multi-domain challenges underscore the importance of seamlessly deploying obstacles across physical, cyber, and information domains.

The proposed innovative ideas for obstacle planning in modern warfare, including Dynamic Obstacle Networks, Cyber Obstacles, Terrain Shaping, Unmanned Systems, etc represent cutting-edge approaches to enhance military defences. These concepts leverage advanced technologies to create dynamic, adaptable, and resilient obstacle systems that respond effectively to evolving threats. By drawing lessons from history and embracing innovative solutions, military strategists can stay ahead in obstacle planning, ensuring the effectiveness of defences in the complex and dynamic landscape of modern warfare.

Recommendations

Considering the discussed issues few recommendations that might be implemented are as follows:-

a.   **Armed Forces Division (AFD)**:   AFD can incorporate cyber obstacles into military defense strategies, recognize the evolving landscape of warfare, where cyber threats are as significant as physical ones and develop strategies that seamlessly integrate cyber defence measures into overall military defense plans.

b.   **Army Training and Doctrine Command (ARTDOC)**: ARTDOC can be tasked to conduct:-

(1)   Specialized training on the Integration of Dynamic Obstacle Networks. This should encompass practical scenarios and real-time simulations to enhance military personnel's skills in dealing with dynamic obstacles.

(2)   Sequential study periods and workshops to develop a comprehensive understanding of the Dynamic Obstacle Network.

(3)   Initiate training programs to educate military personnel on the seamless integration of cutting-edge technologies, including advanced sensors, artificial intelligence, and robotics, to implement dynamic and adaptive obstacle networks.

c.   **Army Headquarters (AHQ), General Staff Branch (GS Br)**:

(1)   AHQ, GS Br to collaborate with cyber experts to fortify communication networks with robust firewalls, encryption protocols, and deception tactics to counteract cyber threats effectively.

(2)   AHQ, GS Br to allocate resources for research and development in cyber resilience. This involves staying at the forefront of technological advancements in cyber security, including the development of new firewalls, encryption methods, and tactics to deceive potential adversaries in the cyber domain.

(3)   AHQ, GS Br to implement continuous training programmes for military personnel. These programmes should focus on cyber security measures, emphasize the importance of vigilance, recognizing potential cyber threats, and responding effectively. This includes regular drills and simulations to enhance the readiness of the military personnel against cyber-attacks.

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Brief Biography

Lieutenant Colonel Md Faizul Kabir, psc, Engineers was commissioned with 50 BMA Long Course in the Corps of Engineers on 28 June 2004. He attended a number of courses at home. He is a graduate from Defence Services Command and Staff College (DSCSC), Mirpur Cantonment. He has completed Masters in Defence Studies from Bangladesh University of Professionals (BUP), Mirpur Cantonment with distinct credentials. He has a diverse experience of service in different units and organisations. He served in different units and held all the regimental appointments within his capacity. In his service career, he has served as General Staff Officer-Grade 2 at Headquarters 19 Infantry Division. Besides the mandatory courses for his professional career, he attended Basic Intelligence Course. He has participated in United Nations Peacekeeping Mission in South Sudan (UNMISS). Presently, the officer is serving as General Staff Officer Grade-1 (Research) in Military Institute of Science and Technology (MIST), Mirpur Cantonment.

Contribution of Bangladesh Army to Inclusive Education in Chittagong Hill Tracts: Seminal Significance in Strategic Perspective

Major Mohammad Sharif Uzzaman, MPhil, AEC

Abstract

In the context of the Chittagong Hill Tracts (CHT), where ethnic diversity is a defining feature, inclusive education is particularly crucial for fostering harmony and unity among different communities. This paper explored the substantial contribution of Bangladesh Army to promote inclusive education in geographically inaccessible rural communities of CHT and its leverage in consolidating peace and stability. While doing so, primary data of this study have been collected by the author from the regions and zones through interviews and correspondence and secondary data have been collected from articles and researches of home and abroad. This paper has focused on the methodology of Peace and Conflict Impact Assessment (PCIA) to approach the strategy of implementing inclusive education in CHT. Findings indicate that a multi-dimensional approach is required to address societal complexity, cultural diversity, geographical intricacy and political tension of CHT while implementing inclusive education.

Keywords: *Chittagong Hill Tracts, ethnic diversity, inclusive education, Bangladesh Army, peace and stability.*

Introduction

After World War II (1939-45) American political scientists described the concept of Nation Building and the integration of education system as 'inescapable step' for national growth.[1] Since then**,** universally it is acknowledged that to ensure national development all citizens must be included under the equal access of education. 'Education, of the right kind, is the most powerful factor that can be employed for the elevation of the people in every respect'.[2]

It was the commitment of the international community to provide basic education worldwide as stated in the eight Millennium Development Goals (MDGs) which started in 2000 and continued up to 2015. To attain universal primary education is the second of these goals, which is inevitably the challenge of the millennium. Millennium Development Report 2008 also states, most of the time it is children who are the victims of political or social conflict that used to deprive them from quality education. According to Lynn Davies, "the complex emergencies need complex educational responses and Impact assessment is highly required to ensure that the reformation of education system in a particular place has a positive influence for societal cohesion."[3]

In recent years, Bangladesh Army has been playing a pivotal role in promoting inclusive education in the Chittagong Hill Tracts (CHT) region. This strategic initiative not only addresses the educational needs of the local population but also contributes significantly to the broader strategic goals of peace building, development and social cohesion in the region. One of the most

visible contributions of the Bangladesh Army to education in the CHT regions is the establishment and management of army-run schools. These schools, located at Bandarban, Alikadam, Khagrachari, Rangamati, and Guimara serve as crucial educational institutions for local communities. Moreover, a good number of schools of remote areas are regularly receiving assistance in terms of teachers' salary, students' scholarship, infrastructural development, text books, writing materials and so on. This article explores how these initiatives render in promoting social cohesion, addressing historical marginalization, empowering marginalized groups, building trust and stability and preparing youth for the future in the Chittagong Hill Tracts.

Concept of Inclusive Education

UNESCO has addressed the fact that globally the concept of inclusive education has changed from giving emphasis solely on the students with disabilities to giving emphasis on educational access for all. The new concept of Inclusive Education involves all students irrespective of class, caste and religion. All students must have the right to get access to their local school and to actively participate with others. They must be valued as other members of the school community to get access to "a system that delivers a quality education suited to their unique competencies, skills and attributes."[4] At present, inclusive education is, "a process aimed to offering quality education for all addressing the diversity and the different needs and abilities, characteristics and learning expectation of the students and communities eliminating all forms of discrimination."[5]

Figure-1: Principles of Inclusive Education

Source: https://www.sketchbubble.com/en/presentation-inclusive-education.html.
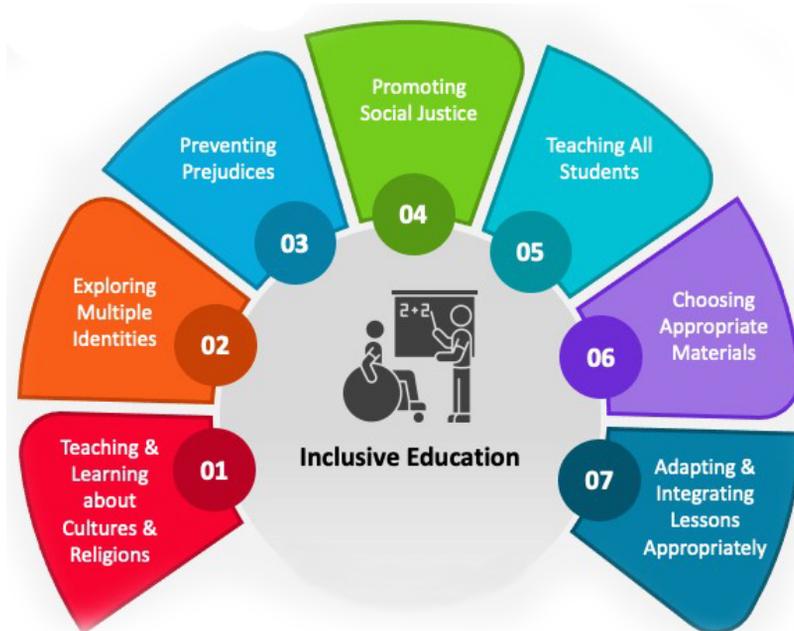
Inclusive education ensures social justice that promotes "equity, participation, respect for diversity, compassion, care and entitlement"[6] and has derived from the concept that education is a basic human right for all children.[7] The key objective of inclusive education is to ensure education for students who attend school but fails to attain passably for different reasons, and also for the students who can't attend school for a various reason.[8] This paper particularly focuses on the area where children who do not attend school, or attend school irregularly, because they live in geographically challenging settings in rural and often remote areas of Chittagong Hill Tracts.

Inclusive Education – one of the Determining Factors of Operational Environment and Conflict Prone Area

According to U.S., Field Manual (FM) 3-24.2: Tactics in Counterinsurgency-2009, the Operational Environment (OE) is "a set of conditions, circumstances and influences that affects the use of capabilities and effects the decisions of the military commander."[9] Today's armed conflicts encompass political, economic and social factors which are considered as important as military capabilities.

Presently, gaining the support of the population is also required for military operations.[10] Moreover, improving the conditions of the local people, knowing and valuing their requirements, sentiments and perceptions largely affects the success of the military operation.[11]

Figure-2: Impact of Education in Conflict Prone Area
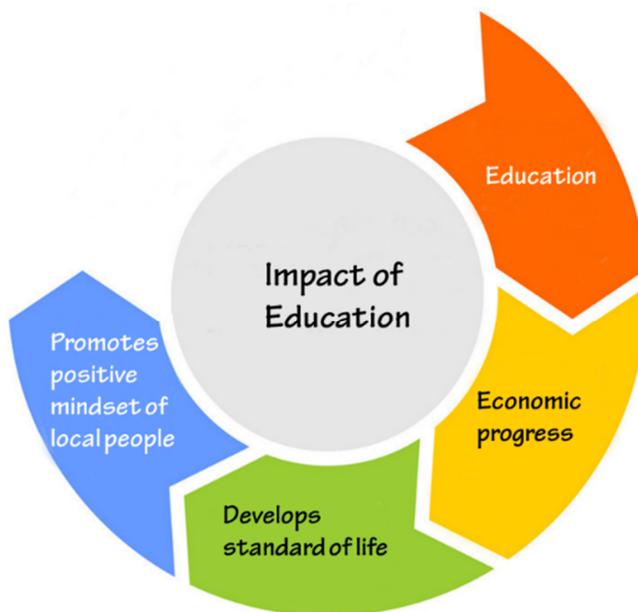
Source: Author's self-construct

Considering the above concepts it can be assumed how significant it is to promote inclusive education in conflict prone area where inclusive education not only improves their life standard but also develops a positive mindset among local people. It is universally acknowledged that education is the driving force to accelerate the economic wheel.
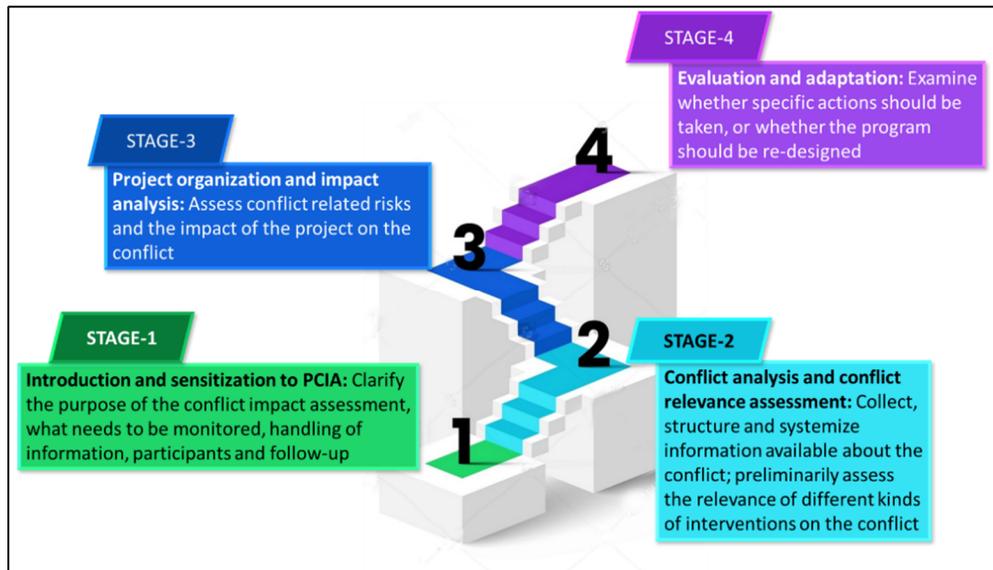
Application of Peace and Conflict Impact Assessment (PCIA)

The success of inclusive educational programmes need to emphasize on the effective policy planning. Peace and Conflict Impact Assessment (PCIA) method provides a methodical approach to ensure the effective policy planning to undertake educational programmes.

According to Bush, "PCIA extends beyond the stated outputs, outcomes, goals and objectives of conventional development projects or programmes in order to obtain an insight into the impact of development programmes in relation to peace-building in conflict prone areas. While the conventional evaluations focus more on projects or programmes in a certain sector."[12]

To attain the positive impact of development programmes, the actor must focus on applying apposite evaluation procedures and methods that are effective to accommodate "the complex, multi-actor and highly interconnected nature of most conflict resolutions and peace building activities." [13]

Figure-3: Four stages of PCIA

Source: N. Schal and Michael B. Becker, *Practitioner's Guide: Peace and Conflict Impact Assessment*, Friedrich Ebert Stiftang, 2005

As illustrated by Bush, education projects may succeed in decreasing tensions between local groups "by creating and institutionalizing non-threatening and constructive environments

that increases neutral contact and decreases misunderstandings by dispelling stereotypes misconceptions."[14] The practice of Government of Northern Ireland Education reform can be a good example in this regard where several steps were made obligatory "as a cross-curricular theme under the name Education for Mutual Understanding (EMU)."[15]

The EMU implies self- respect as well as respect for others, and the improvement of rapport between local groups of diverse cultural traditions and to appreciate how conflict may be handled in non-violent ways.[16]
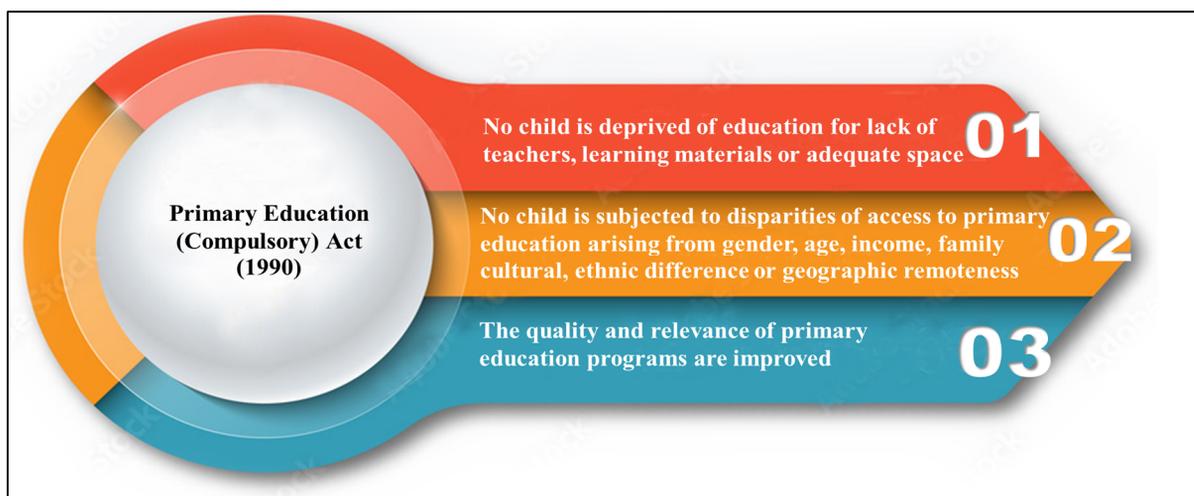
In a conflict prone region, while undertaking a project the actors must evaluate the indicators to assess the impact of the project on peace or conflict of the region. Application of PCIA establishes a baseline from which the educational programmes in general should be initiated and how it should be implemented considering the impact of it in the concerned region.

Prevalent Framework of Inclusive Education in Bangladesh

For national development it is imperative to build an educated generation. As a state, Bangladesh is highly committed to respect, defend and accomplish the educational right without discrimination as part of its adherence to number of international human rights treaties such as: the Universal Declaration of Human Rights (UDHR 1948), International Covenant on Economic, Social and Cultural Rights (IESCR 1976), United Nations Convention of the Rights of the Child (UNCRC 1996), International Covenant on Civil and Political Rights (ICCPR 1996). The Constitution of Bangladesh also has granted equal rights to all citizens to all citizens irrespective of sex, age, class, caste, ethnicity and religion.[17]

Following constitutional obligations delineated under Article-17 (Free and Compulsory Education), the Primary Education (Compulsory) Act (1990) stipulates that:

Figure-4: Primary Education Act 1990

Primary Education (Compulsory) Act (1990)

01 No child is deprived of education for lack of teachers, learning materials or adequate space

02 No child is subjected to disparities of access to primary education arising from gender, age, income, family cultural, ethnic difference or geographic remoteness

03 The quality and relevance of primary education programs are improved

Source: https://mopme.gov.bd

This Act facilitated to formulate many subsequent policies and plans of the government such as the National Children's Policy (1994), Operational Framework for Pre-primary Education (2008), National Program of Action for Children (2004-2009), the Child Act 2013 and the Comprehensive Early Childhood Care and Development Policy (2013).

In 2010 Bangladesh introduced the National Education Policy (NEP 2010) which aimed to give emphasis on inclusive education along with other contemporary issues. This policy underscores the necessity of access to education of all diverse groups of children including the children with special needs/disabilities, children of ethnic communities as well of socio-economically underprivileged sectors.

**Figure-5: National Education Policy 2010**

Source: https://moedu.gov.bd
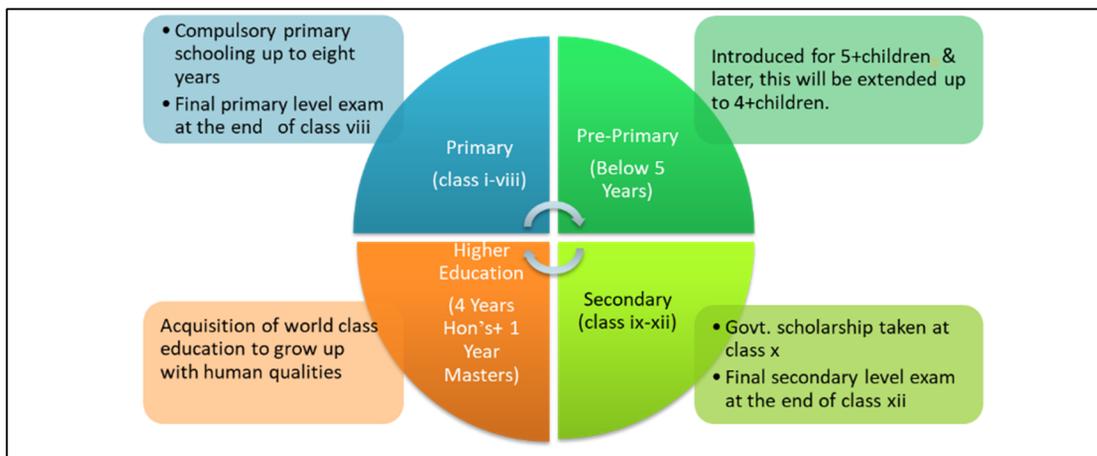
To materialize these national acts and policies, all out endeavours have been undertaken by the government and NGOs with their project-based and multidimensional programmes since the 1990s. Few of these endeavours include the Under-privileged Children's Educational Project (UCEP), the UNICEF Hard to Reach Program, the Reaching out of School Children's Project, the Stipend Project both financed by World Bank and others.[18] Bangladesh Army has also rendered a significant contribution not only in cantonment based areas but also in CHT through formal education as well as multidimensional programmes.

Bangladesh Army in Promoting Inclusive Education in CHT

CHT region is different from other parts of the country not only for its diversity in terms of geographical features, but also for the heterogeneity of tradition and culture of eleven different

Figure-6: Education State in CHT
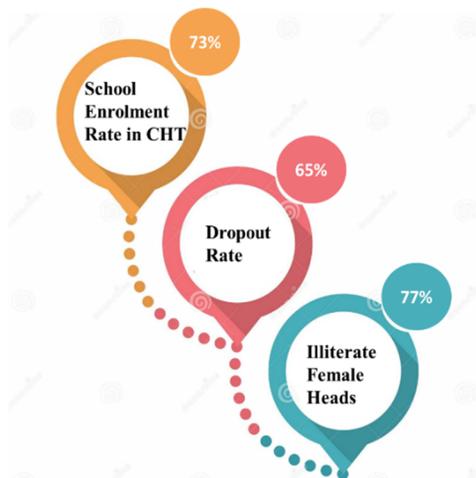
Source: Review of education by the Chittagong Hill Tracts Development Facility (CHTDF) in 2009.[19]

ethnic communities, conflict and displacement spanning over a long period, all have an impact on implementing inclusive education. As the most remote regions in the country CHT lags behind in terms of developmental indicators and access to quality education.[20] The school enrolment rate in CHT is very low, particularly among the remote rural communities.[21] Addressing these challenges, Bangladesh Army has made a significant impact, contributing to the region's educational landscape in several notable ways. In this context, the army run schools of Bandarban, Alikadam, Khagrachari and Guimara region are playing the driving role which are providing quality education and thereby contributing to the local community. These schools and colleges not only provide education to the children of army personnel but also unfold the scope for a significant number of children of ethnic groups.

Chart-1: Participation of Students from Ethnic Group in Army Run Schools of CHT Regions as of August 2024
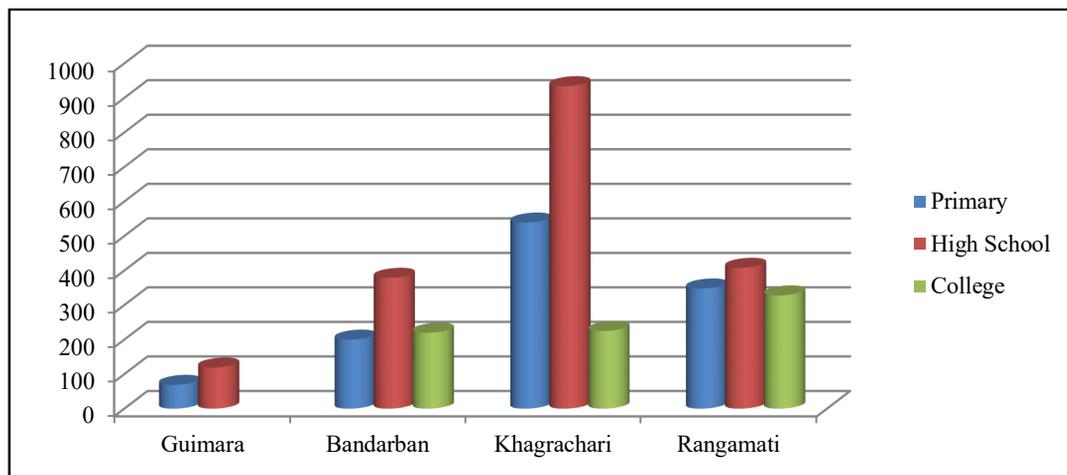
Source: Author's self-construct

These army-run schools have been instrumental in promoting national integration and unity by bringing together students from diverse ethnic and cultural backgrounds. Former students often carry forward this spirit of inclusivity and work towards fostering harmony and understanding in a multicultural society. The impact of these institutions extends far beyond the classroom, as many of their former students have gone on to make significant contributions to various sectors of our country as well as to their respective communities. Many alumni of army-run schools have pursued higher education and established successful careers in diverse fields. Their achievements are the testament to the quality of education and the nurturing environment provided by these schools. Former students of army-run schools are also making significant contributions to community development and social causes. Their commitment to societal well-being reflects the values and principles instilled in them during their formative years.

Besides the Cantonment based educational institutions, Bangladesh Army also significantly contributes to numerous educational institutions situated in remote hilly areas through various grants and support programmes. This assistance includes: salary of the teachers, books, study materials, stationary, school bags, infrastructural renovation and in few cases complete construction of the premise.

a. **Bandarban**: At Bandarban Sadar, Bandarban Cantonment Public School and College is rendering a great service to the diverse communities living in the hilly terrains, ensuring that children of those communities have access to quality education without having to travel long distances. Army Engineer Battalion has constructed Toma Tungi Primary School and Shelokia Para Primary School at remote areas of Thanchi where local people could hardly think about availing education. Army provides various grants in terms of teachers' salary, scholarship and incentives for meritorious students or infrastructural development to a good number schools. At Bandarban Sadar such schools are Langlai Para Govt Primary School and Kocchoptoli Lower Secondary School. At Naikkhongchari such schools are Naikhongchari Girls High School, Naikhongchari Technical School & College, Chakdhala Mohisunnah Dakhil Madrasah, Ashka Fahimul Quran Madrasah, Tafinul Quran Dakhil Madrasah, Eidgah Qawmi Madrasah, Fultoli Govt Primary School, Bahirmath Govt Primary School, Saleh Ahmed Govt High School, Naikhongchari Border Guard Govt Primary School, Chakdhala Govt High School, Chakdhala Govt Primary School, Dochori Lower Secondary School, Haji M A Kalam Govt College, Al Markazul Darus Sunnah Mohila Madrasah, Naikhongchari Wami Academy, Naikhongchari Modinatul Ulum Model Madrasah and so on.

Photos-1 and 2: Educational Assistance by Bangladesh Army at Bandarban

Source: Author's self-collection

b. **Alikadam**:   Alikadam is one of the border regions having border with Myanmar to the south which has population comprising of Bangalees, Mru, Marma and Tripura. Alikadam Cantonment Public School and College being the Army run school has become a beacon of hope for the local people. Army is also looking after Alikadam Kindergarten and Moitri School which offer both primary and secondary education having focus on the structured curriculum that aligns with national education standards while incorporating local cultural elements. Moreover the army elements located at Alikadam provides financial assistance to Janalipara Moitree Primary School, Kloringpara Moitree Primary School, Alikadam Foizul Ulum Madrasah, Lama Child Care Grammar School, Refarpara Atimkhana, Darul Hedaya Tahfizul Quran Madrasah & Atimkhana, Rupshipara Islamia Atimkhana & Hafezia Madrasah, Paschim Shiler Toa Darul Ulum Nurani Madrasah, Noyapara Shiddiquia Dakhil Madrasah, Alikadam Uttor Palongpara Mohiussunnah Darul Quran (Hefzkhana) & Atimkhana, Mudhujhiri Nurani Academy & Atimkhana, Imam Bokhari Tahfizul Quran Nurani Madrasah, Naikkhomukh Prottoyee School, Sangu Durbar Moitree School, Goalmara Sangu Durbar Moitree School and so on.

Photos-3 and 4: Educational Assistance by Bangladesh Army at Alikadam

Source: Author's self-collection

c. **Khagrachari**: At Khagrachari, the presence of Khagrachari Cantonment School and College and Notunkuri Cantonment High School have been instrumental in bridging the educational gap in Khagrachari region. Bangaldesh Army also extends its assistance by all means to many other schools of remote areas. Such educational institutions located at Baghaihat are Sajek Oditi Public School, Bir Uttam M A Gaffar Halder Primary School, Dhrarash Ranjan Non Govt Primary School, Baghaihat Hossainia Sunnia Dakhil Madrasah etc. At Mohalchari such institutions are Mohalchari Shishu Moncho High School (recently elevated to High school from primary school under the supervision of Mohalchari zone), Lemuchari Shantipur Non Govt Primary School, Sathipara Non Govt Primary School, Nunchari Bahadurpara Non Govt Primary School, Joysenpara Bornomala Ideal School etc. Dighinala zone used to provide assistance to Babuchara Kalachad Region Model School and Kobakhali Darul Quran Halima Madrasah & Atimkhana. At Marisha such schools are Kasalong Border Guard Public School, Border Guard Govt Primary School, Proshikkhon Tila Non Govt Primary School, Sajek Junior High School and Masalong Children's Home. Longodu zone provide assistance to Longodu Kindergarten School, Dokkhin Rohmotpur Madrasah and Yarangchari Sena Moitree School.

Photos-5 and 6: Educational Assistance by Bangladesh Army at Baghaihat and Mohalchari

Source: Source: Author's self-collection

d. **Rangamati**: Lakers Public School and College is playing a crucial role for ensuring quality education for local people. Moreover, the zones under Rangamati region are relentlessly contributing to a good number of schools in various means. At Kaptai such schools are Gobaghona non-govt Primary School, Shishu Niketon School and Afsarer Tila Talimul Quran Madrasah Hefzkhana & Atimkhana. Jurachari zone provides assistance to Bonjogichara Govt High School, Bonjogichara Govt Primary School and Fokirachari Lower Secondary School. At Naniarchar such schools are Naniarchar Lower Secondary School, Bogachari Al Amin Junior High School and Bogachari Markazul Maarif Bayezid (R) Nurani Hafezia Madrasah & Atimkhana.

**Photos-7 and 8: Educational Assistance by Bangladesh Army
at Rangamati Sadar and Kaptai**

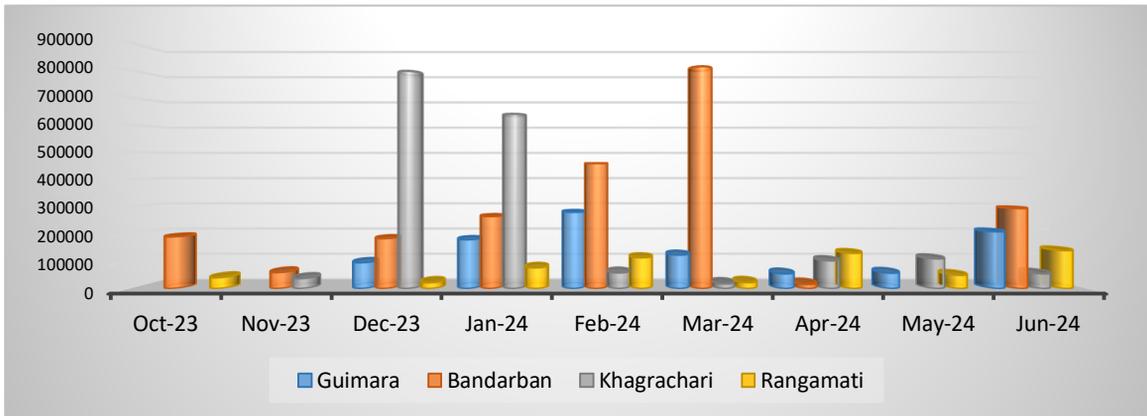Source: Source: Author's self-collection

e.   **Guimara**:   At Shindukchori zone Shaheed Lt Mushfiq High School is being run by Army which has made education accessible to children in remote areas. Army looks after Guimara night School situated at Guimara Sadar. Shindukchari zone provides assistance to Manikchari English School, Shuknachari Govt Primary School, Laxmichari Korimul Hafezia Madrasah & Atimkhana, Moyurkhil Ebtedayee Madrasah, Bainnachara-Manikpur High School and Laxmichari Kindergarten School. These institutions have become the cornerstone of community development, offering both educational and extracurricular activities.

**Photos-9 and 10: Educational Assistance by Bangladesh Army
at Shindukchari and Manikchari**

Source: Author's self-collection

**Chart-2: Grants Provided for Salary of Faculty Members**

Source: Author's self-collection

Impact of Promoting Inclusive Education in CHT

Inclusive education, regardless of ethnicity, religion, gender, or socio-economic status, is essential for promoting social justice and building inclusive societies. Bangladesh Army recognizes the importance of inclusive education as a means of promoting social integration, reducing inequalities and addressing historical grievances in the region.

Chart-3: Grants Provided for Students' Scholarship
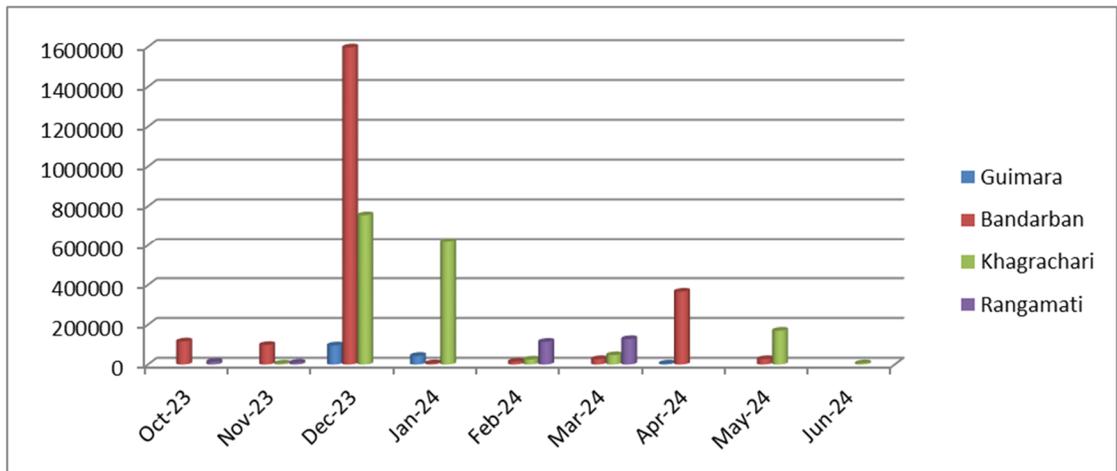
Source: Author's self-collection

a. **Promoting Social Cohesion**:   CHT is home to various ethnic/tribal groups with distinct languages, cultures, and traditions. Inclusive education provides an opportunity to bridge cultural divides, promote understanding, and foster social cohesion among different ethnic communities. By learning together in inclusive classrooms, children from diverse

backgrounds develop empathy, respect and appreciation for each other's cultures, contributing to a more harmonious society.

b.   **Empowering Marginalized Groups**:   Inclusive education initiatives aim to address these inequalities by ensuring equal access to quality education for all children, regardless of their ethnicity, religion, or socio-economic status. Through targeted interventions, Bangladesh Army works to empower and uplift the marginalized communities and promote inclusive development in the region.

c.   **Building Trust and Stability**:   Education is a powerful tool for building trust and stability in conflict-affected regions like the CHT. As local people witness tangible improvements through their educational opportunities, they are more likely to support and cooperate with government efforts, thereby contribute to the achievement of strategic goals such as peace, stability and development in the region.

d.   **Preparing Youth for the Future**:   Inclusive education equips children with the knowledge, skills, and values they need to thrive in a rapidly changing world. By fostering critical thinking, creativity and problem-solving skills, educational institutions prepare youth in the CHT for future employment opportunities and active citizenship.

Challenging Dimensions of Inclusive Education in Bangladesh

In many developing countries, government policy upholds the access to education of all children in their local schools, whereas the reality is different in remote places. In case of Nepal, a study found that children in the marginalized community faced major barriers to their schooling which included: prevalent poor resources in rural public schools; language barrier for the natives who don't speak Nepali Language; Parent's non-supportive attitude for poverty and the tradition of early marriage for girls. These limitations of Nepal have few proximities with those of Bangladesh where different languages of various tribes, lack of parental support due to poverty in spite of a government incentive for primary education create barriers in implementing inclusive education. Therefore, to materialize inclusive education overcoming few barriers have become great challenges for Chattogram Hill Tracts.

a.   **Geographical Barriers**:   The hilly and rugged terrain of the CHT poses significant logistical challenges, making it difficult to build and maintain schools, transport students, and provide consistent support services. Inadequate transportation options further isolate communities, affecting students' ability to regularly attend school.

b.   **Socio-cultural Heterogeneity**:   Unlike other parts of Bangladesh, CHT is different where minority groups of diverse ethnic population concentrated. Inclusive education program must address the issues of different cultures, geographical challenges maintained by different groups. Socio-cultural heterogeneity within same area create challenge in many cases while conducting educational programmes in CHT.

c.   **Language Barrier**: Bangladesh is mostly known as a homogenous and monolingual country, though there are 27 indigenous communities across the country. As part of Inclusive Education Program, Bangladesh Government has introduced Mother Tongue-based Multi Lingual Education (MTB-MLE) at the pre- primary school level, starting in 2017 in five major local languages – Chakma, Marma, Tripura in the CHT region and Garo and Padri in the plain-land ethnic communities.[22]

d.   **Insufficient Teachers**:   As suggested by Forlin (1998), teachers need to be fully aware and engaged in an inclusive approach to catering for diversity, supportive with the ideology of inclusive education.[23] The CHT region suffers from acute shortage of qualified teachers. The scarcity is exacerbated by the remoteness of many areas, which makes it difficult to attract and retain skilled educators.

e.   **Lack of Training**:   Teachers available in the remote areas often lack access to ongoing professional development and training programmes.

f.   **Inadequate Schools**:   Many areas in the CHT have insufficient schools to meet the educational needs of the population. Students have to travel long distances to attend school.

g.   **Scanty Infrastructural Facilities**:   Many schools in the CHT suffer from inadequate infrastructure, including poor building conditions, lack of proper sanitation facilities, and insufficient classroom furniture and teaching materials.

h.   **Economic Constraints**:   High levels of poverty in the region limit families' ability to support their children's education, including purchasing supplies or covering other costs associated with schooling. Limited financial resources for education result in inadequate funding for schools, teachers' salaries and necessary educational materials and infrastructure.

Ways to Mitigate the Challenges and Recommendations

Addressing the challenges requires a multi-faceted approach involving government support, community involvement and targeted interventions to create an inclusive and effective educational environment in the Chittagong Hill Tracts.

a.   **Unified Educational System**:   A unified educational system needs to be applied where a collaboration of different education systems and curriculum can create an inclusive culture and values of social justice, positive attitudes and respect for all citizens (e.g. the poor, women, ethnicity, religious minority and physically challenged people).

b.   **Teachers' Training**:   Teachers need to be befittingly trained and equipped to create friendly learning environments to ensure unified education system. McDonald and Tufue-Dolgay found that teachers in such remote locations need training and professional

development to understand how to implement inclusive practices and how to apply resources that are relevant and effective for a particular culture.[24]

c.   **PCIA Approach**:   To ensure inclusive education in CHT, we may consider Peace and Conflict Impact Assessment (PCIA) process which involves systematical analysis of educational interventions that may affect peace and conflict dynamics in the region. The PCI approach will facilitate educational initiatives to contribute positively to social cohesion without affecting existing tensions.

d.   **Awareness Raising Campaigns**:   Awareness campaigns are required engaging local leaders, headmen, karbaris, parents, and community members to foster a supportive environment for inclusive education.

e.   **Increased Budgetary Allocations**:   More Budgetary allocations or funding will help improve educational infrastructure, hiring and training teachers and providing necessary educational materials. Funds are to be allocated equitably across different regions, with a focus on remote and underserved areas to address disparities in educational access and quality.

f.   **All-out Effort**: Bangladesh Army may collaborate with local communities, government agencies, civil society organizations, and international partners to develop innovative solutions and mobilize resources effectively to ensure inclusive education. Strengthening coordination mechanisms, investing in teacher training and capacity building, expanding educational infrastructure, and promoting intercultural dialogue are essential steps towards ensuring the success of inclusive education initiatives in the CHT.

Conclusion

The role of Bangladesh Army to inclusive education in the Chittagong Hill Tracts holds immense significance in the strategic perspective contributing to societal change. The Army-run schools have become centres of excellence, promoting educational opportunities for children from all backgrounds. By promoting education as a tool for peace building, reconciliation, and social cohesion, Bangladesh Army not only enhances the well-being and opportunities of individuals in the region but also advances broader strategic goals of stability, development and inclusivity. Moving forward, sustained efforts and collaboration from all stakeholders will be essential to overcome challenges and build a brighter future through inclusive education in the CHT.

This paper has considered the challenges of geographical inclusive education in rural and remote areas of CHT. Many of these challenges have already been mitigated. The culture of silence is beginning to break down through growing consciousness of inclusive education (laws and legislature of inclusion) by students, teachers, parents and community members. Increasingly, Inclusive education is receiving acceptance in the communities. Greater confidence and solidarity has been achieved amongst students, teachers and parents to form supportive educational

environments. More interactions are occurring through various extracurricular activities and sharing of cultural traditions, organised to improve cultural peace and harmony. These significant efforts of Bangladesh Army have not only increased literacy rates substantially but also fostered a sense of hope and progress in the region extensively which will leverage to move forward towards a shining future.

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Brief Biography

Major Mohammad Sharif Uzzaman, MPhil, AEC was commissioned on 28th June 2006 with 25th BMA Special Course in the Army Education Corps. He completed graduation and post-graduation from Department of English, University of Dhaka. He attained MPhil from Bangladesh University of Professionals. Apart from mandatory military courses, he has completed Junior Officers' Course-28 in India. He has been endowed with 'Distinguished Instructor' for his commendable service as an Instructor at BMA. Under the blue helmet he served in MONUSCO with 20 E Bengal. He was one of the co-editors of *History of Bangladesh Army*. At present, he is serving as General Staff Officer Grade-2 (Education) at Headquarters 24 Infantry Division.

Engaging Generation Z in National Defence: Opportunities and Challenges for Bangladesh Army

Major Md Akther Hossan, psc, AEC

Abstract

This paper explores the strategic opportunities and challenges for Bangladesh Army in engaging Generation Z (Gen Z) - a demographic known for its technological proficiency, adaptability, and strong sense of social responsibility. As Bangladesh's youth becomes increasingly influential, it is essential for the Army to utilize their potential for national defence, both in terms of operational efficiency and public relations. The study highlights several key opportunities, including leveraging Gen Z's technological skills for military modernisation, strengthening public relations through social media, fostering innovation through their entrepreneurial mindset, and contributing to humanitarian missions. However, the paper also addresses significant challenges that may hinder effective engagement. These include a potential mismatch between Gen Z's values and the traditional military culture, concerns over their short attention spans and reliance on digital devices, risks associated with the misuse of social media, and mental health challenges. In addition, misconceptions about military careers, often shaped by popular media, may deter this generation from considering a future in the armed forces. The study also provides actionable recommendations for Bangladesh Army, such as launching a digital-first recruitment strategy, establishing a Cyber and Technology Unit, expanding mental health services and emphasising social responsibility initiatives. By addressing these opportunities and challenges, Bangladesh Army can effectively integrate Gen Z into its ranks, ensuring a robust and modern defence force for the future.

Keywords: *Generation Z, Bangladesh Army, technological proficiency, military modernisation, public relations, humanitarian missions, recruitment, social media, mental health, innovation.*

Introduction

In an era marked by rapid technological advancements and evolving societal values, engaging Generation Z in national defence has become crucial for modern military organisations. Generation Z, commonly referred to as 'Gen Z' and defined as individuals born between 1997 and 2012,[1] represents the youngest cohort of adults and teenagers. This generation is unique and has grown up in a digitally saturated environment, which has shaped their characteristics, values, and behaviours distinctively from previous generations.[2]

Gen Z is often characterised by their technological prowess, individualism, and commitment to social causes like climate change and equality. They are digital natives, fluent in social media and other online platforms, and tend to value self-expression, diversity, and

authenticity.[3] These traits make them both an asset and a challenge for national institutions like the military, which historically have been built on discipline, hierarchy, and tradition.[4]

The purpose of this article is to explore the opportunities and challenges the Bangladesh Army faces in engaging Gen Z in national defence. It will also discuss the defining characteristics of this generation, assess how their values align or contrast with military culture and offer recommendations for bridging the gap between Gen Z and Bangladesh Army.

Gen Z's ability to mobilise large groups and advocate for meaningful change demonstrates their potential for leadership within the military. With a global outlook and a focus on innovation, Gen Z can help Bangladesh Army navigate the complexities of future warfare while upholding values that resonate with modern society.

Generational Groups

The following Figure illustrates the key generational groups relevant to this study, including Gen Z:-

Figure-1: Understanding Generations

Generation Alpha
Born: 2013 to Present

Generation Z
Born: 1997 to 2012, Age in 2024: 12 to 27

Millenials
Born: 1981 to 1996, Age in 2024: 28 to 43

Generation X
Born: 1965 to 1980, Age in 2024: 44 to 59

Baby Boomer
Born: 1946 to 1964: Age in 2024: 60 to 78

Source: Author's self-construct

As depicted in the Figure, these generational cohorts span a wide age range, from children in Generation Alpha to Baby Boomers in their senior years. Gen Z and Millennials, in particular, are of prime age for recruitment and participation in national defence efforts.

One of the key reasons for engaging Gen Z lies in their technological proficiency. As digital natives, Gen Z has grown up with smartphones, social media, and the internet, which equips them with advanced skills in technology that can be leveraged in modern warfare, particularly in areas like cybersecurity, data analysis, and remote operations.[5] Their comfort with digital platforms also means they are more adaptable to new tools, such as drones, AI-driven defence systems, and other innovations being integrated into military operations.

Moreover, Gen Z is deeply motivated by social responsibility and purpose-driven work.[6] This generation wants to understand the broader impact of their efforts and is particularly drawn to careers that align with meaningful causes, such as protecting national sovereignty and contributing to global security. The military, if positioned correctly, offers them a platform to achieve these goals. By stressing the Army's role in disaster response, peacekeeping, and national resilience, military institutions can appeal to their desire to make a tangible difference.[7]

This article is structured to explore how the Bangladesh Army can engage Gen Z effectively. It begins by defining Gen Z and describing their digital proficiency and values. It then moves to discuss the opportunities their tech skills and social responsibility offer to the military, followed by the challenges, such as the generational gap and differing views on authority. Case studies provide examples of successful global and local strategies, and the paper concludes with recommendations for long-term engagement and adaptation.

Understanding Gen Z

In order to fully understand Gen Z, it is helpful to compare their context, behaviours, and consumption patterns with previous generations. This following comparison (Table-1) shows how their unique experiences have shaped their outlook and priorities, particularly their digital fluency, social awareness and preferences for authenticity and inclusivity:-

Table-1: Generational Comparison: Context, Behaviour and Consumption Trends

| Generation	Baby Boomers (1940–59)	Gen X (1960–79)	Gen Y (Millennials, 1980–94)	Gen Z (1995–2010)
Context	• Postwar • Dictatorship and repression	• Political transition • Capitalism and meritocracy dominate	• Globalization • Economic stability • Emergence of internet	• Mobility and multiple realities • Social networks • Digital natives
Behaviour	• Idealism • Revolutionary • Collectivist	• Materialistic • Competitive • Individualistic	• Globalist • Questioning • Oriented to self	• Undefined ID • 'Communaholic' • 'Dialoguer' • Realistic
Consumption	• Ideology • Vinyl and movies	• Status • Brands and cars • Luxury articles	• Experience • Festivals and travel • Flagships	• Uniqueness • Unlimited • Ethical

Source: Jacques Bughin et al, *Artificial Intelligence: The Next Digital Frontier*, McKinsey Global Institute Study, 2017

As this comparison shows, Gen Z differs significantly from earlier cohorts. Unlike Baby Boomers, who were shaped by postwar ideals, or Gen X, who focused on material success, Gen Z values uniqueness, ethical adherence and social connection through digital platforms. These traits are essential for Bangladesh Army to consider when strategising engagement with this tech-savvy and socially responsible generation.

In Bangladesh Gen Z forms a significant portion of the population. With over half of Bangladesh's 169 million people under the age of 24, a considerable part of this cohort falls within the Gen Z age range.[8] As digital natives, this generation has grown up in a rapidly changing technological and social environment, distinguishing itself from previous generations through its deep integration with technology and global culture.[9]

Gen Z in Bangladesh is more educated than previous generations, as seen in the high enrolment rates in schools. The Gross Enrolment Ratio (GER) for primary education, which measures total school enrolment regardless of age, shows a steady increase, with the total rate growing from 93.7% in 2005 to 110.48% in 2022. Meanwhile, the Net Enrolment Rate (NER), which tracks the percentage of children of the official school age enrolled, also improved, reaching 97.52% for boys and 97.81% for girls by 2022. At the same time, the dropout rate for primary education has significantly decreased, from 47.2% in 2005 to just 13.95% in 2022.[10] The following figure shows these statistics visually:-

Figure-2: Comparison of Educational Indicators for Gen Z in Bangladesh: 2005 vs 2022
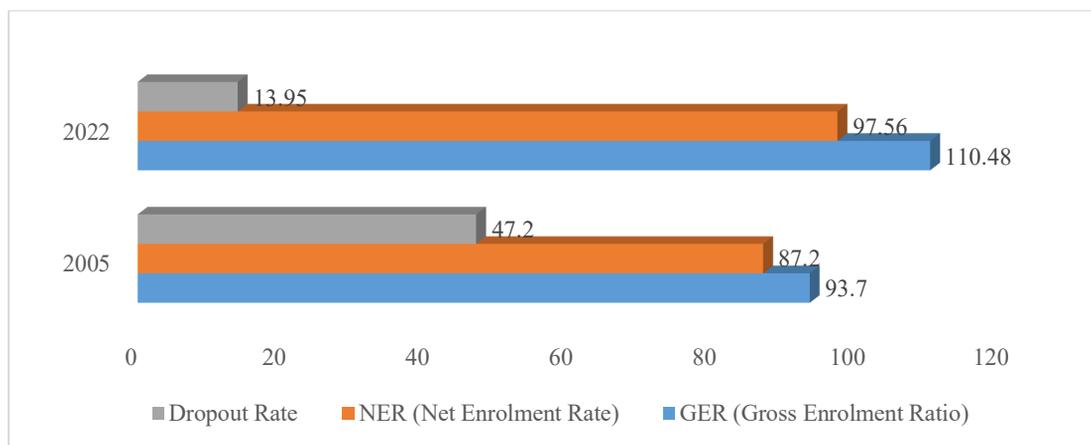
Source: Author's self-construct

Gen Z in Bangladesh is shaped by both traditional cultural values and the rapid technological changes they've grown up with. This generation is known for its strong sense of social justice, activism, and desire for authenticity. They are more likely than previous generations to challenge societal norms.[11]

Gen Z exhibits distinct behavioural patterns and values that set them apart from previous generations. Social media plays a crucial role in shaping Gen Z's behaviour. The constant stream of information from platforms like Facebook, Instagram, and TikTok has made Gen Z more aware of global issues, but it has also increased their vulnerability to stress and anxiety. However, the same technology that connects them to the world also contributes to a shortened attention span and a tendency to procrastinate, particularly when it comes to academic and professional responsibilities. Growing up in an era of rapid technological advancement, they are well-versed in digital devices, the internet, and various social media platforms. Gen Z expects digital tools and platforms to be integrated into their learning experiences, often preferring video-based and interactive content over traditional methods.[12]

Gen Z has a unique educational background and aspirations shaped by their digital upbringing and exposure to global trends. This generation places a strong emphasis on practical, skills-based education that prepares them for the rapidly evolving job market. Many Gen Z students pursue traditional higher education, but there is a growing interest in alternative pathways like vocational training, online courses, and entrepreneurship.[13]

In terms of aspirations, Gen Z tends to prioritise career flexibility and personal fulfillment. They are motivated by both intrinsic factors, such as passion for their field, and extrinsic factors, including financial stability and job security. Despite their aspirations, challenges such as access to quality education, socio-economic disparities, and the high cost of tertiary education often hinder their progress. This has led many students to explore non-traditional education paths, including entrepreneurship, which is gaining popularity among Gen Z in Bangladesh.[14]

Thus Gen Z stands out due to its digital fluency, social activism and strong educational background. Their experiences with rapid technological advancements and exposure to global trends have shaped their unique values, including a preference for authenticity, inclusivity and social responsibility. As this generation transitions into leadership roles and becomes an essential part of the workforce, understanding their characteristics is crucial for institutions like Bangladesh Army to successfully engage and utilise their potential.

Opportunities for Bangladesh Army

Engaging Gen Z in Bangladesh Army's activities offers numerous strategic advantages that can increase both operational efficiency and public engagement. The unique characteristics of Gen Z—technological proficiency, social responsibility and adaptability—present several opportunities for the Army to utilise their strengths. Below are keyways the Army can benefit from involving Gen Z:-

    a.   **Utilising Gen Z Talent Inside and Outside the Army for Technological Advancement**:   Gen Z, both within and outside Bangladesh Army, holds immense potential to drive technological advancements in military operations. Their natural

proficiency in digital tools, cultivated in the digital age, can be harnessed to support the Army's modernisation efforts.

The following data shows the scale of digital adoption in Bangladesh and offers a glimpse into the technological landscape that Gen Z is navigating.

Table-2: Digital Adoption and Use in Bangladesh (Early 2023)

Category	Data (January 2024)	Percentage of Population
Internet Users	77.36 million	44.5%
Social Media Users	52.90 million	30.4%
Cellular Mobile Connections	188.6 million	108.5%

Source: Digital 2024: Bangladesh, Data Report

The high internet users and widespread use of mobile devices offer significant potential for the Army to tap into Gen Z's technological proficiency. With over 44 million social media users and nearly 67 million internet users, the Army can use these platforms not only for recruitment but also for developing digital literacy, cybersecurity awareness and operational efficiency. A study (2023) reveals that while Gen Z is aware of cyber risks, their practical application of security measures is inconsistent.[15]

Those within the Army can bring their digital fluency to areas like cyber defence, intelligence gathering and AI-based surveillance. Moreover, Gen Z professionals and entrepreneurs outside the Army can collaborate on innovation initiatives. Startups and tech-savvy individuals can support military research and development by introducing advancements in AI, robotics, and data analytics that can be integrated into Army logistics and strategic operations.

b.   **Strengthening Public Relations and Recruitment**:   Gen Z's natural affinity for social media can be a powerful asset in boosting the Bangladesh Army's public relations efforts. By engaging this generation in social media campaigns or as ambassadors for military careers, the Army can reach a wider, younger audience. By highlighting the Army's contributions to peace and development in regions like the Chittagong Hill Tracts (CHT)—where they have built infrastructure, promoted education and ensured stability— social media campaigns can showcase the Army's positive role in nation-building.[16] A relevant real-life example of using social media to strengthen public relations comes from the British Army's 'This is Belonging campaign', which started in 2017. This campaign effectively used social media platforms like Instagram to showcase the authentic, human side of military life.[17]
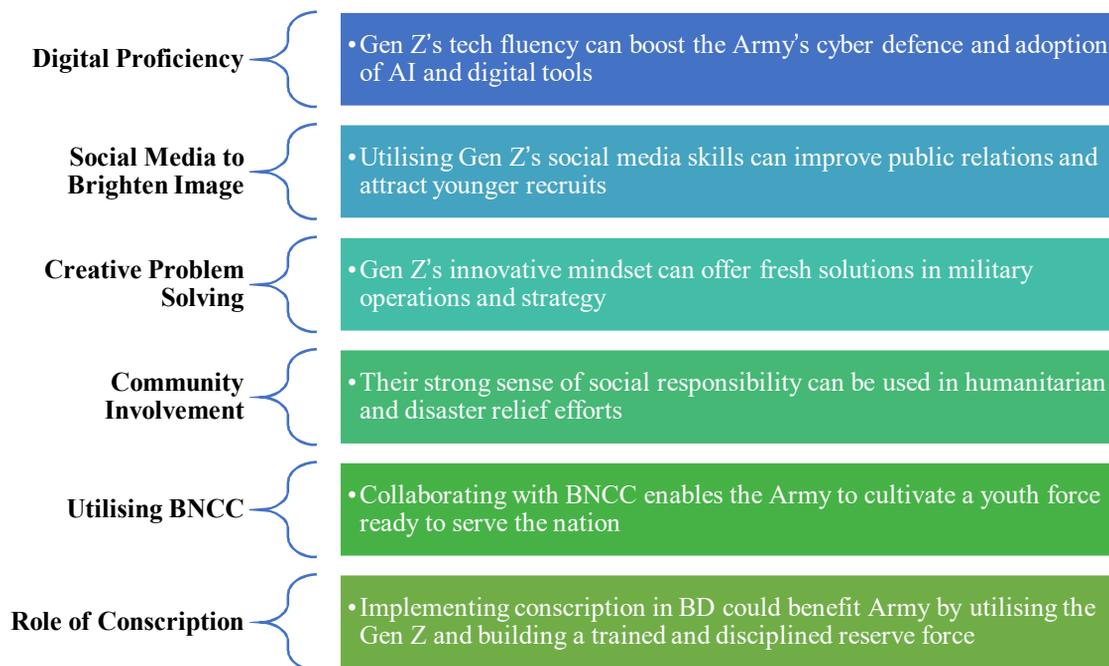
c.   **Utilising Gen Z's Entrepreneurial Mindset for Military Innovation**:   Gen Z's entrepreneurial mindset and creative problem-solving abilities can bring fresh perspectives to military operations. Engaging them in activities such as innovation workshops or strategic planning sessions can introduce new approaches to long-standing challenges in defence logistics training and resource management. For example, their familiarity with digital collaboration tools and data analytics can help streamline internal communication and decision-making processes within the Army. For instance, institutions like the U.S. Army's School of Advanced Military Studies (SAMS) have incorporated creative problem-solving exercises such as wargaming, science fiction scenarios and design-based approaches to address complex military challenges.[18]

d.   **Contributing to Community and Humanitarian Missions**:   Gen Z's strong sense of social responsibility aligns well with the Bangladesh Army's ongoing humanitarian and disaster relief operations. By involving Gen Z in these missions, the Army can not only increase its manpower but also benefit from their enthusiasm for making a difference. During the 2024 floods in Chattogram region, the Bangladesh Army led rescue operations, distributed relief supplies, and restored infrastructure in flood-affected areas. Meanwhile, Gen Z volunteers played a crucial role in providing essentials and emotional support to affected communities.[19] This generation's dedication to environmental sustainability can also be used in Army-led tree plantation drives, clean water initiatives, or rural development projects.

e.   **Strengthening Defence Preparedness Through the Bangladesh National Cadet Corps (BNCC)**:   The Bangladesh National Cadet Corps (BNCC) plays an important role in preparing Gen Z for national defence by nurturing leadership, discipline and civic responsibility among students. BNCC, a tri-service organisation, recruits cadets from schools, colleges and universities and trains them in military skills, disaster management and national service.[20] Thus, this organisation acts as a bridge between the military and civilian sectors. Bangladesh Army can collaborate closely with BNCC to tap into this trained and disciplined youth force. By expanding BNCC activities, such as leadership camps, military training and volunteer services, the Army can nurture citizens who are prepared to serve the country both in peace and conflict.

f.   **Exploring the Role of Conscription in Building a Defence-Ready Force**: Conscription, or mandatory military service, is a model used by several countries to strengthen their defence capabilities by engaging civilians in military training. Switzerland, renowned for its high quality of life, maintains a citizen-militia system where compulsory military service plays a key role in fostering civic responsibility and promoting national unity across its diverse linguistic and ethnic communities.[21] Introducing conscription in Bangladesh could be a viable option for building a defence-ready force from Gen Z as it will provide valuable military exposure while contributing to national defence strategies.

Figure-3: Key Opportunities for the Bangladesh Army to Engage Gen Z

Digital Proficiency	• Gen Z's tech fluency can boost the Army's cyber defence and adoption of AI and digital tools
Social Media to Brighten Image	• Utilising Gen Z's social media skills can improve public relations and attract younger recruits
Creative Problem Solving	• Gen Z's innovative mindset can offer fresh solutions in military operations and strategy
Community Involvement	• Their strong sense of social responsibility can be used in humanitarian and disaster relief efforts
Utilising BNCC	• Collaborating with BNCC enables the Army to cultivate a youth force ready to serve the nation
Role of Conscription	• Implementing conscription in BD could benefit Army by utilising the Gen Z and building a trained and disciplined reserve force

Source: Author's self-construct

So, engaging Gen Z offers the Bangladesh Army significant opportunities to modernise its operations and strengthen public relations. By employing Gen Z's technological skills, social responsibility and innovative mindset, the Army can improve its cyber capabilities, streamline problem-solving and effectively respond to humanitarian crises.
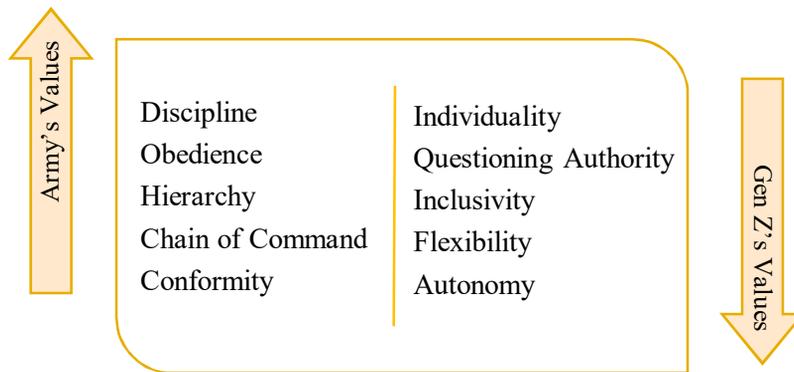
Challenges in Engaging Gen Z

Engaging Gen Z presents several challenges for the Bangladesh Army, as this generation's values, preferences, and technological habits differ significantly from previous cohorts. The Army must address these challenges to effectively engage and integrate Gen Z into its ranks. Below are some of the specific hurdles the Bangladesh Army might face:-

a. **Mismatch Between Traditional Military Culture and Gen Z's Values**: Gen Z tends to prioritise individuality, inclusivity, and flexibility, which can clash with the rigid, hierarchical structure of military life. The Army's strong emphasis on discipline, obedience, and chain of command may not align well with Gen Z's desire for personal freedom and questioning authority.

For example, the Army's strict rules regarding appearance, behaviour and decision-making may deter young recruits who value autonomy and creativity. As seen globally, militaries like those in the U.S. and U.K. have struggled to retain young recruits from Gen Z because they found it difficult to adjust to the more authoritarian nature of military service.[22]
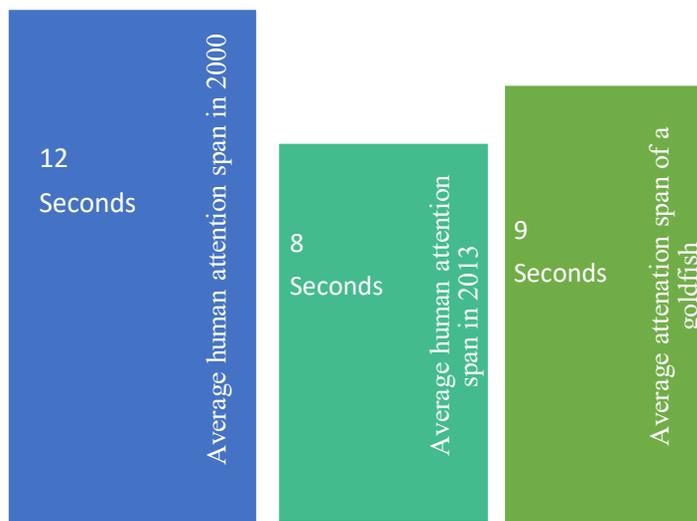
Figure-4: Conflicting Values Between Gen Z and the Military

Army's Values

Discipline
Obedience
Hierarchy
Chain of Command
Conformity

Individuality
Questioning Authority
Inclusivity
Flexibility
Autonomy

Gen Z's Values

Source: Author's self-construct

b.   **Short Attention Span and Digital Distractions**:   Over the years, studies have shown a concerning decrease in the average human attention span, primarily due to the fast-paced digital environment that Gen Z has grown up in. In fact, the average attention span is now reported to be less than that of a goldfish.[23] The Bangladesh Army's long training programmes, which require focus and perseverance, may struggle to engage this cohort fully. Young recruits may find it hard to adapt to the Army's restrictions on personal device use during training and operations. In an article published in 2020, it was observed that constant digital connectivity impairs cognitive tasks, and military trainees are increasingly distracted due to the overwhelming presence of smartphones and social media, which affects their focus during prolonged exercises.[24]

Figure-5: Human Attention Span is Now Shorter Than a Goldfish's

12 Seconds — Average human attention span in 2000

8 Seconds — Average human attention span in 2013

9 Seconds — Average attenation span of a goldfish

Source: Author's self-construct

c.   **Risk of Exposing Sensitive Military Information via Social Media**: As Gen Z frequently shares personal content on social platforms, there is an increased risk of unintentionally leaking sensitive military information. For example, during *Exercise Hamel* (2016), a large-scale military exercise conducted by the Australian Defence Force (ADF), its members unknowingly exposed critical data such as troop locations and equipment through social media posts.[25] Such risks highlight the need for Bangladesh Army to implement strict digital protocols to prevent security breaches.

d.   **Mental Health Concerns and Stress Management**: Gen Z is more likely to report mental health concerns than previous generations, with anxiety and depression being the most prevalent issues. A 2022 survey revealed that 42% of Gen Z adults had a diagnosed mental health condition, and 1 in 4 reported having more bad days than good within a month.[26] In recent years, militaries worldwide, including in Bangladesh, have had to introduce strong mental health support systems to address this issue. The Combined Military Hospitals and Armed Forces Medical Colleges of Bangladesh also offer well-organised mental health services, with 0.43 mental health inpatient beds per 100,000 population.[27]

e.   **Misconceptions Shaped by Media and A Distorted View of Military Careers**: One of the critical challenges in engaging Gen Z with military careers is their limited exposure to what the military truly entails, leading to misconceptions. Many view military service through the lens of popular media, which often portrays it as focused solely on combat and high-risk operations.[28] Without clear and engaging communication, the Army risks losing potential recruits who may not be aware of the educational and career development opportunities it offers. As seen with other nations, creative marketing campaigns targeting Gen Z are necessary to dispel myths and convey the diverse roles within the military.[29]

Figure-6: Key Challenges for the Bangladesh Army to Engage Gen Z

•**Cultural Mismatch**	•Gen Z values individuality and flexibility, which often conflict with the military's rigid, hierarchical structure
•**Digital Distractions**	•Gen Z's short attention span and constant use of smartphones may impact focus during lengthy military training
•**Risk of Sensitive Information Exposure**	•Gen Z's active social media use increases the risk of inadvertently leaking sensitive information through geo-tagged posts or oversharing
•**Mental Health Concerns**	•High levels of anxiety and depression in Gen Z require strong mental health support within the Army
•**Lack of Awareness**	•Misconceptions about military careers deter potential recruits

Source: Author's self-construct

Case Studies

Across the globe, countries have found innovative ways to benefit from the engagement of Gen Z in their national defence sectors by capitalising on their technological expertise, adaptability and digital fluency.

In the United States, Cyber Command (USCYBERCOM) was created in 2009 to harness the digital skills of Gen Z in defending against cyber threats. It includes various branches like the Army Cyber Command, Navy Fleet Cyber Command, and the Marine Corps Cyberspace Command, all founded in 2010. These units recruit for roles such as Cyber Warfare Technicians and Cyber Operations Specialists.[30] Another standout initiative is the Army Esports Team, which utilises online gaming platforms to engage with potential Gen Z recruits. This approach has improved recruitment.[31] It allows the Army to connect with young people in a setting where they are comfortable which lead to greater interest in military careers. The integration of these recruits into key cybersecurity roles has significantly improved national defence efforts.

In South Korea, where conscription has existed since 1957 and requires male citizens between the ages of 18 and 35 to perform compulsory military service, the military has taken a different approach by intertwining mandatory service with digital influence. Recognising Gen Z's deep connection to smartphones, the South Korean military has allowed soldiers to share their service experiences online.[32] This has helped to build a positive image of military service among young people.

These two examples show how engaging Gen Z in national defence has not only strengthened military operations but also brought wider social and economic benefits. By aligning military needs with the unique strengths of Gen Z, countries around the world are building more adaptable, innovative and digitally competent defence forces.

Recommendations

Here are some recommendations that Bangladesh Army can implement to attract young talents and can utilise their skills for the welfare of the country.

a. **Leverage Digital Recruitment**: The Bangladesh Army should adopt digital recruitment campaigns using social media and online platforms to connect with tech-savvy Generation Z, highlighting career growth and modern opportunities.

b. **Emphasise Tech-Driven Roles and Opportunities**: Stressing roles in cybersecurity, drone operations, and artificial intelligence can attract Gen Z recruits who are interested in cutting-edge technology. Establishing tech-focused units within the Army, similar to United States's Cyber Command (USCYBERCOM) and UK's 13th Signal Regiment, will create a pathway for young recruits with technological expertise.

c.   **Promote Social Responsibility and Humanitarian Work**: Gen Z is highly motivated by social causes, so emphasising the Army's involvement in disaster relief, peacekeeping, and environmental initiatives will align with their values. Heartfelt acts, like Lance Corporal Kazi Sujan using his knee as a step to help flood victims in Fatikchhari, show the Army's commitment to humanitarian service, which resonates strongly with younger generations seeking to contribute to meaningful causes.[33]

d.   **Implement Flexible Career Pathways**: Offering short-term enlistment options, internships, and part-time roles can make military careers more attractive to Gen Z, who values flexibility and career growth. Structured programmes for continuous learning and skill development will further improve retention.

e.   **Strengthen Mental Health and Well-being Support**: Gen Z places significant importance on mental health. The Bangladesh Army should offer comprehensive support, including counseling services and mental health programmes, to help recruits manage the stresses of military life.

f.   **Expand Collaboration with BNCC for National Defence Training**: The Bangladesh Army should deepen its partnership with the Bangladesh National Cadet Corps (BNCC) by establishing joint training programs that prepare young cadets for both military and civilian defence roles. Leadership camps, disaster management exercises, and voluntary service initiatives could be expanded to provide cadets with more hands-on experience in areas like cybersecurity, logistics and humanitarian missions.

These recommendations will enable the Bangladesh Army to attract young talent and effectively harness their potential for both national defence and the welfare of the country.

Conclusion

Gen Z offers Bangladesh Army a great opportunity to modernise and strengthen its capabilities. This generation, shaped by technological advancements and a commitment to social causes, brings unique strengths in areas like cybersecurity, innovation and community engagement. By strategically engaging them through digital-first recruitment, tech-driven roles, and flexible career pathways, the Army can attract a new generation of recruits eager to contribute.

However, the challenges of aligning traditional military structures with Gen Z's values, such as the need for autonomy and the importance of mental well-being, require careful consideration. The Army must adapt its recruitment processes, training programmes, and internal support systems to resonate with this generation. Failure to do so may result in difficulties with retention and engagement.

By embracing the recommendations outlined, Bangladesh Army can not only attract but also retain Gen Z recruits. This engagement will help the Army evolve into a more technologically advanced and socially responsive institution, aligned with the needs of both national security and

global peacekeeping efforts. Ultimately, integrating Gen Z into national defence will not only improve operational efficiency but also create a generation of young leaders dedicated to the country's progress.

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Brief Biography

Major Md Akther Hossan, psc, AEC was commissioned with 30th BMA Special Course in the Army Education Corps on 24 December 2008. He completed his Honours and Master's degrees in English Literature from the University of Dhaka. He is also a graduate of the Defence Services Command and Staff College, Mirpur. He has served as General Staff Officer (Grade-3) at Headquarters 111 Infantry Brigade and Headquarters 14 Independent Engineer Brigade. He also served as Instructor at Army Medical Corps Centre and School, as well as at Bangladesh Military Academy. He participated in the United Nations Peacekeeping Mission in the Democratic Republic of Congo as a CIMIC officer with BANBAT 1/20. The officer has also completed Diploma B2 level in French from Alliance Française, Dhaka, and served as an interpreter in the Central African Republic with BANBAT-6 and BANBAT-7. The officer is pursuing MPhil higher research study programme in BUP. Currently, he is serving as General Staff Officer (Grade-2) at Education Directorate, Army Headquarters.

The Three Zeros Theory and Its Strategic Alignment with Bangladesh Army: Ways to Sustainable Development and Inclusive Growth

Major Mohammad Moinul Islam Khan, RVFC

Abstract

The Three Zeros Theory—Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions—propounded by Nobel Laureate Professor Dr. Muhammad Yunus offers a plan to address global challenges. This study looks at how well the theory fits with what the Bangladesh Army aims to accomplish focusing on the country's growing issues of poverty, joblessness, and carbon output. The analysis starts by exploring Bangladesh's social and economic situation to find out if the Three Zeros Theory can be applied effectively. It subsequently examines how the Army could integrate these ideas into its strategies for sustainable and inclusive growth. The study also discusses the potential challenges and opportunities, offering insights from global examples and suggesting new guidelines for implementation of the theory.

Keywords: Three Zeros Theory, strategic alignment, Bangladesh Army, sustainable development, inclusive growth.

Introduction

What if the Bangladesh Army was able to accomplish something other than combat? By applying the Three Zeros Theory, the Army can combat climate change, ensure that everyone has access to employment, and reduce poverty. As a result the country will achieve sustainable progress and people of all walks of life will have a bright future. To guarantee that all individuals may develop and contribute to this advancement, new theories and concepts are vital in determining the course taken by the nation and large institutions such as the Army. Developed by Nobel Laureate Professor Dr. Muhammad Yunus,[1] one such idea is the Three Zeros Theory, which marks a paradigm shift intended to address some of the most urgent issues facing humanity.[2] The Three Zeros Theory wants a world with no poverty, everyone having a job, and no more extra carbon in the air. The core of this idea is to create collective progress, where a strong economy works hand in hand with fairness for all and environmental care, rather than competing against each other.[3]

Zero Poverty envisions a world where sustainable businesses ensure that no one is left in poverty, providing everyone with the resources needed to support themselves. Zero Unemployment aims at ensuring that everyone, in particular the marginalized populations, has access to decent work and innovative employment opportunities. Zero Net Carbon Emissions addresses climate change by encouraging economic growth that takes care of the environment. The Bangladesh Army plays a vital role in national development beyond its defence duties, engaging in infrastructure projects and community support. Enhancing the Army's contribution to social and environmental progress can be achieved by including the Three Zeros: eradicating poverty, generating

employment and cutting carbon emissions. This may involve implementing programs designed to enhance financial security for soldiers, provide job opportunities and support sustainability initiatives. The study examines how the Bangladesh Army can effectively address environmental issues, unemployment, and poverty through the application of these strategies. By doing so, it aims to facilitate comprehensive growth and establish a model for other organizations, thereby underscoring the significance of this study.

The paper aims to explore how the Three Zeros Theory can be strategically aligned with the Bangladesh Army's efforts to promote sustainable development and inclusive growth. It starts by analysing Bangladesh's socio-economic challenges—rising poverty, unemployment, and carbon emissions—setting the stage for aligning the Three Zeros Theory with the Bangladesh Army's strategy, supported by relevant global examples. Following this, the analysis explores how the Bangladesh Army can be strategically aligned with the Three Zeros Theory. After that, discussion will shift to looking at how the theory may be implemented to further the objectives of the Bangladesh Army. The paper will then address the impact assessment and outcomes resulting from the integration of the theory. Finally, the paper will address the challenges and opportunities related to implementing the theory. Future directions and policy recommendations will conclude the paper. This paper will only focus on integration of Three Zeros Theory in Bangladesh Army instead of other stakeholders of the society.

Theoretical Foundation

The Current Status of Poverty, Unemployment, and Net Carbon Emissions in Bangladesh

In Bangladesh, the share of people living under the national poverty line[4] has grown more than the inflation rate in the past decade (Figure-1).[5] This pattern shows that poverty is getting worse quicker than prices are going up, which makes people more likely to become even poorer.

Figure-1: Percentage of the Population Living Below the National Poverty Line and Inflation Rate of Bangladesh (July 2014-June 2024)
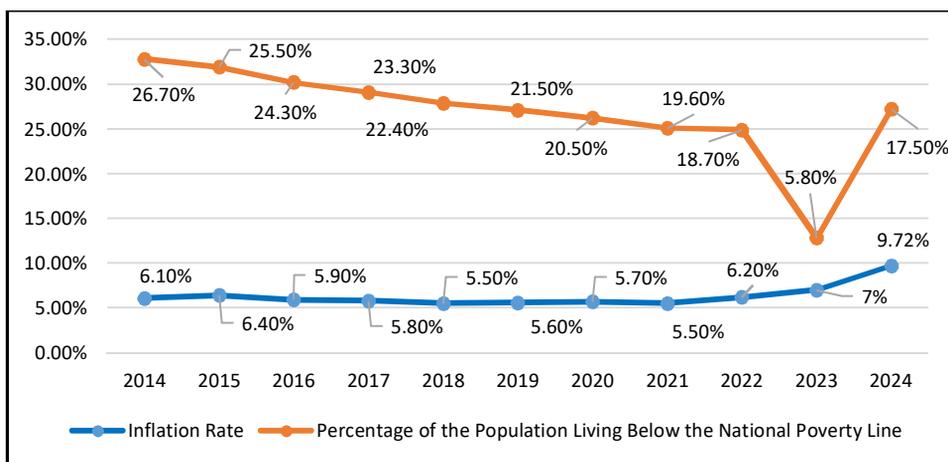
Source: World Bank and Bangladesh Bureau of Statistics, 2024

The unemployment rate in Bangladesh has raised in the last ten years (Figure-2).[6] This shows that a significant portion of workers is unemployed, which often points to a slowing economy.

Figure-2: Unemployment rate in Bangladesh (2014-Jun 2024)
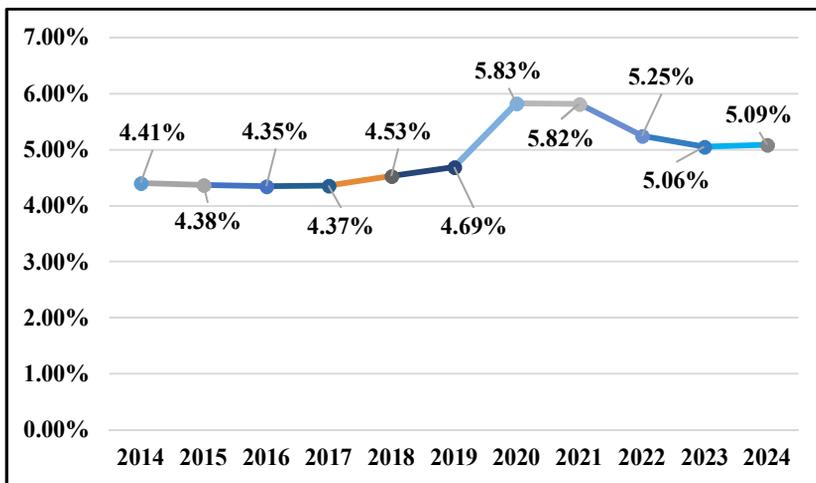
Source: World Bank and Bangladesh Bureau of Statistics, 2024

Bangladesh has seen its net carbon emissions almost double over the last ten years. This has made climate change worse and affected economic growth. This has led to lower productivity, damage to the environment, and fewer resources as shown in Table-1 below:-[7]

Table-1: Fossil Carbon Dioxide (CO_2) Emissions in Bangladesh (2014-2023)

Year	Fossil CO_2 Emissions (Million Tons)	CO_2 emissions change	CO_2 emissions per capita	Population	Population change	Share of World's CO_2 emissions
2014	75.65	5.26%	0.48	157,964,929	0.92 %	0.21%
2015	84.63	11.88%	0.53	159,383,179	0.90 %	0.23%
2016	92.88	9.74%	0.58	160,811,932	0.90 %	0.26%
2017	100.20	7.88%	0.62	162,186,147	0.85 %	0.28%
2018	109.98	9.77%	0.67	163,523,103	0.82 %	0.30%
2019	107.16	-2.57%	0.65	164,913,055	0.85 %	0.30%
2020	99.78	-6.89%	0.60	166,298,024	0.84 %	0.28%
2021	105.32	5.55%	0.63	167,658,854	0.82 %	0.29%
2022	109.08	3.57%	0.64	169,384,897	1.03 %	0.30%
2023	120.00	10.04%	0.68	172,954,319	1.52%	0.30%

Source: https://www.worldometers.info/co2-emissions/bangladesh-co2-emissions

Discussion of the Three Zeros Theory

The Three Zeros Theory, which Nobel Laureate Professor Dr. Muhammad Yunus came up with advocates how societies tackle big problems and changes. This theory aims to achieve three big goals: Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions (Figure-3). Each part of this theory focuses on a key area of sustainable growth and fair society giving us a full plan to create a balanced and inclusive community.

Figure-3: The Three Zeros Theory Model
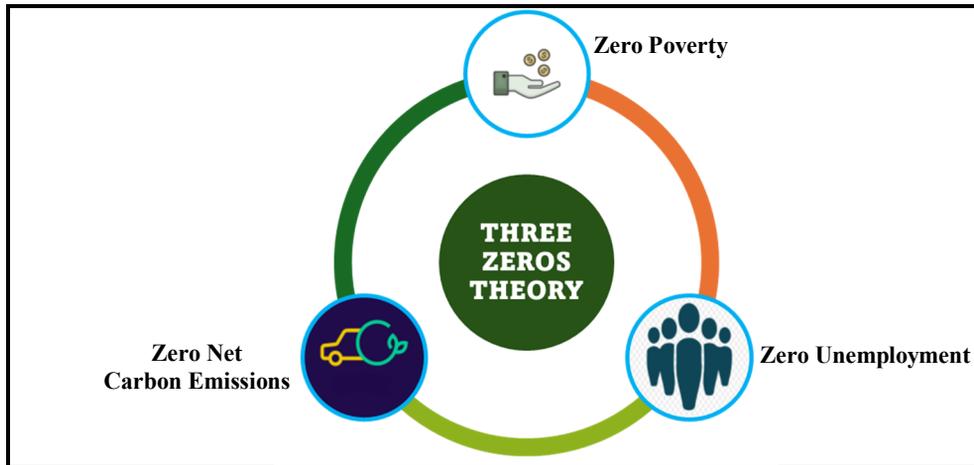
Source: Author's self-construct

The main basis of the Three Zeros Theory, Zero Poverty focuses on wiping out poverty by giving power to people and communities. Unlike methods that often create reliance on charity and aid, Zero Poverty supports business models that enhance self-reliance. These models open doors for people to earn money by tackling problems with solutions. By enabling people to lift themselves out of poverty through social business, dignity and self-reliance for all can be ensured.[8] The theory addresses the causes of poverty to achieve economic stability and growth in long-term.

The idea of Zero Unemployment, part of the Three Zeros Theory, aims to give jobs to everyone focusing on roles that help people grow and it stresses the need to encourage people to start businesses improve their skills and come up with new business ideas. This creates job opportunities in places with high unemployment or saturated job market. By fostering entrepreneurship and social business, we can provide meaningful employment opportunities for everyone, turning unemployment into a relic of the past.[9] This approach aims to enhance economic resilience and social stability by ensuring employment as a guarantee rather than a possibility. It also aims to help steady growth and long-lasting prosperity.

'Zero Net Carbon Emissions is not just an environmental goal but a necessity for survival.'[10] It highlights how crucial it is to maintain the environment by reducing the carbon footprint of economic activities to fight climate change. To achieve this, we need to switch to renewable energy, improve energy efficiency, and adopt sustainable production methods. By

balancing any leftover carbon emissions with reduction efforts like reforestation, the goal is to grow the economy without harming the environment.

Bangladesh needs the Three Zeros Theory because it offers a way to tackle key challenges like growing poverty, joblessness, and carbon output. It seeks to ensure the prosperity and stability of the nation by promoting progressive governance, sustainable economic growth and environmental protection.

Historical and Strategic Context of Bangladesh Army

After its origin in the battlefield in 1971, Bangladesh Army has been crucial to the country's development, far beyond its defence role. It has helped build infrastructure, respond to disasters and improve lives while supporting policies to boost the economy.

Over the years, the Bangladesh Army has made a big impact on social and environmental problems through different programmes. It has helped recover illegal arms, launched operation against sabotage, hoarding, smuggling, manage disasters giving aid and rebuilding after floods and cyclones hit (Table-2). The army has also worked on building projects like roads, bridges, and houses, which has given boost to economic growth. Also, its efforts to protect the environment such as planting trees and managing water, support larger initiatives to maintain sustainability.

Table-2: Role of Bangladesh Army in different situations (1971-2022)

Year	Situations	Army's Contribution
1971	Bangladesh Liberation War	Rendered vital operational role, provided critical support during the war, including medical aid and logistics.
1974	State of Emergency	Recovery of illegal arms, action against sabotage, hoarding, smuggling.
1988	Floods	Deployed troops for rescue operations, distributed relief supplies and assisted in rebuilding infrastructure.
1991	Cyclone (Gorky)	Led rescue and relief operations, established temporary shelters, and assisted in rebuilding efforts.
1998	Floods	Engaged in rescue missions, provided emergency supplies, and helped reconstruct damaged infrastructure.
2004	Cyclone (Sidr)	Conducted search and rescue missions, delivered relief aid, and supported rebuilding efforts in affected regions.
2007	Cyclone (Fani)	Coordinated relief operations, provided medical assistance, and helped repair damaged infrastructure.
2014	Floods	Involved in disaster response operations, distributed relief materials, and supported local communities in recovery.
2018	Cyclone (Titli)	Assisted in evacuation, provided relief aid and contributed to the restoration of affected areas.
2020	Cyclone (Amphan)	Led emergency response efforts, delivered aid, and supported rebuilding initiatives in severely impacted areas.
2022	Floods	Engaged in large-scale rescue operations, provided essential supplies, and helped rebuild affected infrastructure.

Source: Author's self-construct

Expanding Bangladesh Army's role in sustainable development may be achieved by integrating the Three Zeros Theory. The Army may go beyond its conventional responsibilities and contribute towards Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions by utilising its resources and expertise.

Comparative Analysis of Military and Development Models

Around the world many military organizations have started projects that align with goals for sustainable growth and social change. For instance, 'The U.S. Department of Defence's (DoD) recognizes the reality of an emerging climate crisis that is impacting their installations, equipment, and forces. Effectively responding to the challenges of climate change requires both adaptation actions to prepare for the inevitable impacts from climate change, as well as mitigation measures to reduce greenhouse gas (GHG) emissions and enhance military capability.'[11] The British Army has also taken part in community projects and has been working to make their strategies more environmentally friendly. 'The MOD's (Ministry of Defence) Sustainable Communities and Fairer World aim is: For the delivery of defence capability to contribute to the creation of a fairer world, more sustainable UK communities, and an environment in which people can fulfil their potential.'[12]

Global military institutions show that confronting societal challenges can enhance operational effectiveness. The Three Zeros Theory gives the Bangladesh Army a framework that matches national development objectives. This mix of military strategy and sustainable development uses the Army's strengths in organisation, resource management, and community work setting a standard for wider societal impact.

This comparison shows how Bangladesh Army can lead by example. It proves military institutions can help sustainable development and inclusive growth while performing their traditional roles. By using the Three Zeros Theory's ideas, the Army can have a bigger impact on national development. It can also set an example for adding social and environmental goals to military work.

Strategic Alignment with Bangladesh Army

Integrating Zero Poverty Objectives: Bangladesh Army is well-equipped to tackle poverty with smart strategies. By targeting Zero Poverty, it can use its resources to create jobs and support community growth, which could lead to steady incomes through beneficial social enterprises (Figure-4).

Figure-4: Integrating Zero Poverty Objectives
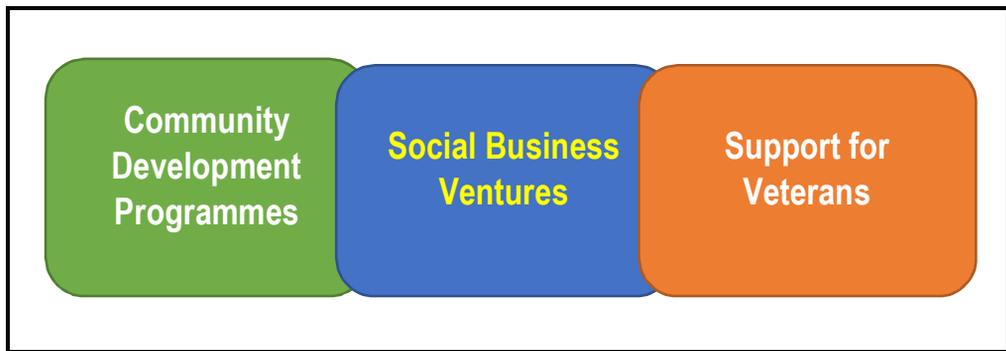
Source: Author's self-construct

a.   **Community Development Programs**:   Bangladesh Army can really enhance community development by concentrating on crucial infrastructure and services where they're needed most. Collaborating with local communities could create jobs and enhance living conditions. For example, starting training programs in construction, agriculture, or technology could help people find steady, long-term work.

b.   **Social Business Ventures**:   The military can benefit service members and the community by adopting social business models. Creating local businesses, like farm cooperatives or small factories, helps provide stable jobs and boost the community's economy. By reinvesting profits back into the area, these businesses help reduce poverty and support persistent growth.

c.   **Support for Veterans**:   After completing service life, veterans require effective support. Programs offering career counselling, job placement, and entrepreneurship training can help veterans apply their skills in the outside job market. Working together with self-businesses and government organizations may also lead to unique employment opportunities that ensure veterans are reintegrated.

Achieving Zero Unemployment: Military and Civilian Opportunities: A comprehensive strategy for serving members of the armed forces, their families, and those leaving the service is necessary to achieve zero unemployment. The Bangladesh Army can put in place a number of initiatives and regulations to guarantee employment security and generate prospects in the armed forces and the civilian world (Figure-5).

Figure-5: Achieving a Zero Unemployment Model
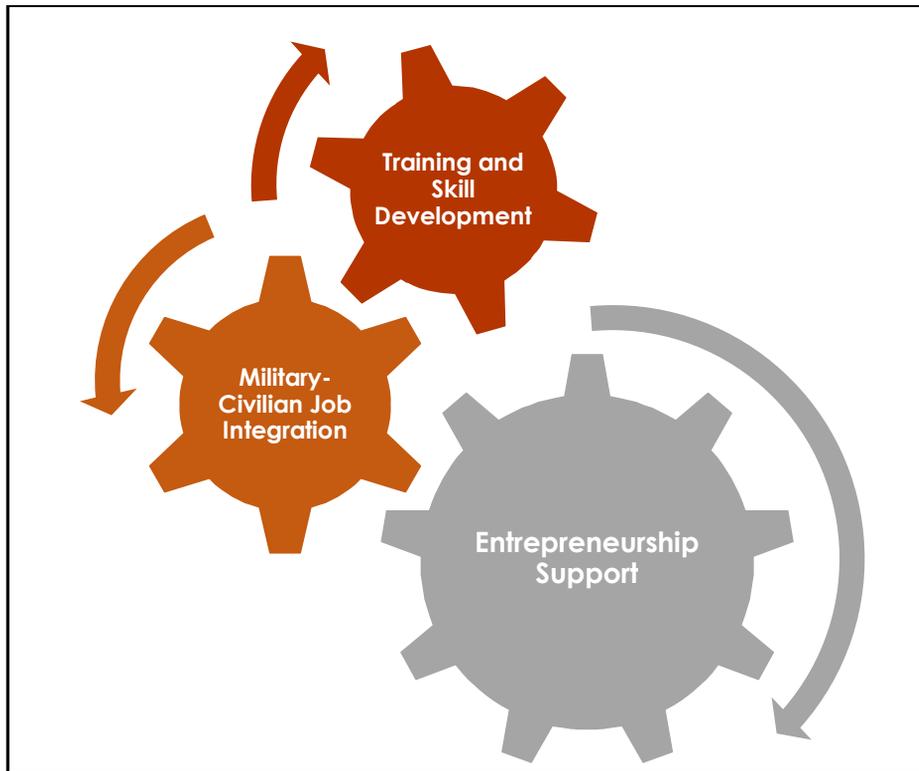
Source: Author's self-construct

a.   **Training and Skill Development**:   Investing in training and skill development for military personnel has a big impact on their future job prospects. Offering programs in fields like tech, engineering, and management helps soldiers adapt their abilities to civilian careers. This type of support makes their transition smoother and boosts their chances of success in the job market. This approach not only builds their expertise but also makes their transition to civilian careers smoother. Overall, it's a valuable way to support their long-term career growth.

b.   **Military-Civilian Job Integration**:   Working with private sector companies and government organizations can make job placement better for military personnel and veterans. By collaborating with industry leaders, the military can set up job fairs, internships, and apprenticeships that match military skills. These efforts help close the gap between military and civilian jobs making good use of skills gained in the armed forces.

c.   **Entrepreneurship Support**: Supporting entrepreneurship among soldiers and veterans can be a key step toward achieving zero unemployment. The military can enhance entrepreneurial efforts by providing seed funding, offering business mentorship,

and granting access to essential resources. This help can allow individuals to launch their businesses, which creates new jobs and boosts economic growth in their communities.

Implementing Zero Net Carbon Emissions: The goal of reaching zero net carbon emissions is key to fight climate change and ensure sustainable development. Bangladesh Army can start various green projects and sustainable practices to cut its carbon footprint and promote environmental care (Figure-6).

Figure-6: The Dimensions of Reducing Carbon Emissions
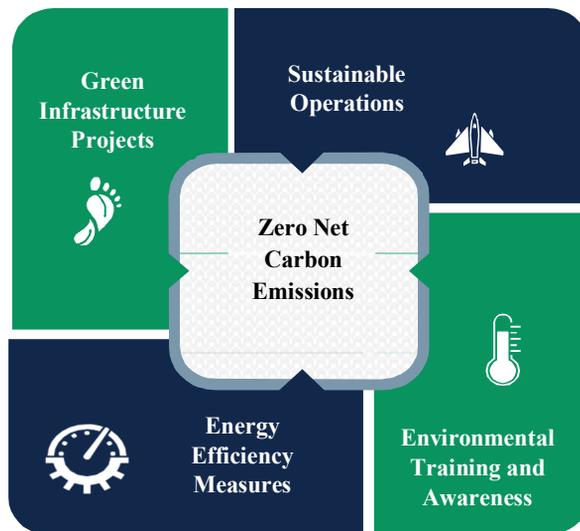
Source: Author's self-construct

a.　**Sustainable Operations**:　Army can integrate sustainability into its operational strategies by embracing practices that minimize environmental impact. This includes reducing waste production, implementing recycling programs, and using eco-friendly items. Army can also prioritize fuel-efficient vehicles and optimize supply chains to reduce emissions.

b.　**Environmental Training and Awareness**:　Promoting a culture that values nature requires teaching soldiers about environmental conservation and the significance of lowering carbon footprints. The military may encourage soldiers to adopt eco-friendly practices in their personal life as well as when they are serving by including environmental education into their training. This method aids in fostering a feeling of environmental responsibility.

c.　**Energy Efficiency Measures**: Army can decrease carbon emissions by using energy-efficient practices in its facilities and operations. It can invest into energy-saving tech, like LED lights, eco-friendly heating and cooling systems, and clean energy sources

such as solar panels. Regular checks on energy use and smart resource management will enhance efficiency and help sustainability in the long run.

d.   **Green Infrastructure Projects**:   Participating in green projects, such as planting trees and developing green spaces, can reduce carbon emissions and benefit the environment. The Army can team up with environmental groups and local communities to launch efforts that improve biodiversity and strengthen ecosystems. This approach supports both environmental and community health.

Following the Three Zeros Theory, the Bangladesh Army can play a crucial role in advancing national development and improving its operations. Addressing these goals tackles important social and environmental issues and sets a positive example for other organizations. This strategy promotes broader, sustainable growth.

Implementation Framework

Strategic Planning and Policy Integration: Bangladesh Army's objective and the Three Zeros Theory should be effectively aligned, which requires careful strategic planning and strong policy integration. This multi-step method will easily incorporate Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions into Army's operational framework (Figure 7).

Figure-7: The Implementation Framework
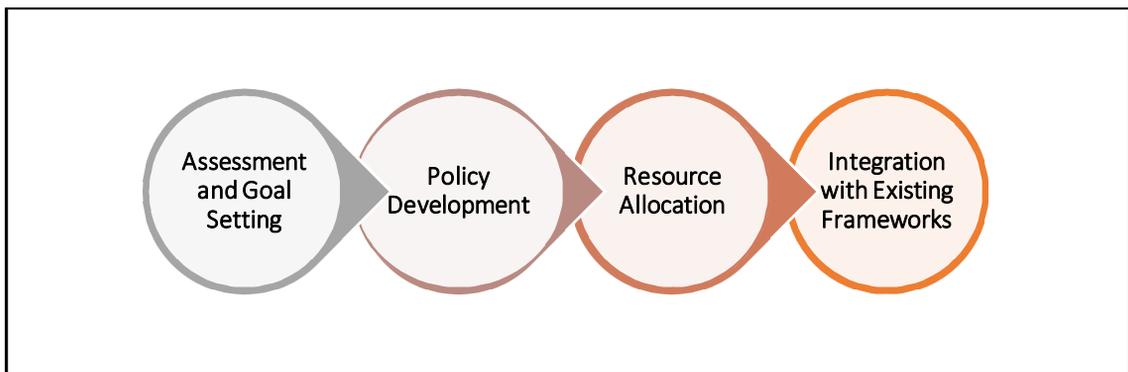
Source: Author's self-construct

a.   **Assessment and Goal Setting**:   Strategic planning involves looking over current procedures to identify any gaps related to the Three Zeros goal. This involves evaluating existing poverty reduction programs, employment plans and drills within the Army. After that, each part should have clear measurable targets that align the army's objectives.

b.   **Policy Development**:   Once goals are set, the next step is to develop and implement strategies to achieve them. Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions need the creation of comprehensive plans with precise tasks, required resources,

and an action plan. The policies should tackle the distinct obstacles that army encounters and integrate mechanisms for monitoring advancements and adjustments.

c.   **Resource Allocation**: To make the Three Zeros Theory work, the army needs to assign the necessary resources. This involves ensuring adequate funding, bringing in skilled personnel, and using the right technology. It's important to set aside enough money and recruit the right experts for the job. The army might also need to rearrange existing resources or seek additional support from government and private sectors.

d.   **Integration with Existing Frameworks**: The army should blend the new policies and strategies with its current frameworks and procedures. This ensures that putting the Three Zeros Theory into action enhance and supports ongoing operations instead of duplicating efforts or causing conflicts. Integration might include updating training systems, modifying operational procedures and aligning with national development policies.

Pilot Projects and Case Studies

Testing pilot projects plays a key role to check and improve the plans created to match the Three Zeros Theory. These projects give useful lessons about how well the suggested ideas work and what impact they have. They help to identify what works best and what needs to get better are highlighted below:-

Pilot Project Examples

a.   **Community Development Initiatives**: A possible pilot project might start a community growth programme in rural areas. It would aim to create jobs and make living better. This project may include infrastructure construction, vocational training and social business establishment that help people. The results of this test would show effectiveness of these actions to reduce poverty and improve the economy.

b.   **Sustainable Practices in Army Operations**: Another pilot project could focus on implementing sustainable practices within a specific army base or facility. This plan might have an impact on adopting energy-efficient technologies, implementing waste reduction programs and promoting green procurement practices. The results would offer valuable insights into how these actions have an impact on the Army's total carbon emissions and operational capability.

c.   **Case Studies**: Examining similar projects done by other military organisations can offer useful insights. For example, the U.S. Army's work in sustainable energy and community engagement can serve as helpful benchmarks and strategies to adapt to Bangladesh context.

Role of Leadership and Institutional Support

After setting goals, the next step is to develop and carry out plans to achieve them. For objectives like Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions, it's important to outline specific steps, gather the needed resources, and set a timeline. The plans should address the unique challenges and include ways to measure progress and make necessary adjustments.

a.   **Leadership Commitment**: Top military leaders may advocate the Three Zeros Theory as part of the Army's strategic objectives. It requires formulating a clear vision, setting priorities, and actively supporting initiatives through engagement and advocacy. Leaders may also motivate the troops and get everyone on the same page with these goals ensuring a shared commitment to achieve them.

b.   **Institutional Frameworks**: For effective implementation, it's crucial to set up strong support systems. This involves creating teams to manage how the Three Zeros Theory is integrated into army operations. These teams need to have the right authority and resources to oversee the process, track progress, and handle any issues that come up.

c.   **Stakeholder Engagement**: It is also important to communicate with external stakeholders which include the government, non-government organizations as well as the communities. Interaction with these stakeholders may afford additional resource, skill and support for the implementation activities. It also supports the objective of ensuring that the goal of integrating the initiatives to the national and regional development agendas is achieved.

To align the Three Zeros Theory with Bangladesh Army, strategic coordination and policy alignment are key factors. Pilot projects, strong leadership, and institutional support will drive successful implementation. Therefore, by replicating the same, the army shall be able to foster sustainable development and inclusiveness which is likely to influence the rest of the institutions.

Impact Assessment and Outcomes

Evaluating the Impact on Poverty Reduction: Evaluating the Bangladesh Army's poverty reduction efforts involves examining both tangible outcomes and personal experiences. This means tracking the number of people impacted, improvements in income, and the overall well-being of soldiers and their families. These insights help measure the success of such initiatives.

Metrics for Measuring Poverty Reduction: To measure poverty alleviation, focus on improvements in housing, access to services, and income. Surveys are crucial for understanding how social enterprises and community programs are making a difference. It's also important to see if vocational training leads to new jobs or business ventures. This helps provide a complete picture of the impact.

Results: Effective poverty reduction initiatives should markedly improve the standard of living for army personnel and their families, as evidenced by better access to affordable housing, healthcare, and education. Detailed reports and case studies provide insights into the impact, showcasing successes and identifying areas for improvement.

Employment Outcomes and Economic Benefits

To evaluate employment programs in Bangladesh Army, review how many jobs are provided, how secure they are, and the effect on soldiers and veterans' finances. This involves assessing how these jobs support their economic stability and long-term well-being.

Analysis: Key metrics for evaluating employment programs include job placement rates, retention rates and new employment opportunities. The success of the job placement program, for example, might be determined by monitoring the number of placements that result in long-term employment through partnerships between the military and businesses.

Economic Benefits: Employment initiatives provide more than just immediate job creation; they help stabilize and grow the economy by offering soldiers career opportunities and expertise. The success of these programs can be seen in veterans' long-term career growth and their positive impact on local economies. Additionally, businesses started by veterans can further enhance regional economies and support community development.

Environmental Impact and Sustainability Achievements

Progress toward Zero Net Carbon Emissions is measured by examining how effective environmental initiatives are and their role in reducing the army's carbon footprint. This involves checking how well these efforts lower emissions and contribute to achieving the desired reduction goals.

Assessment: Key metrics include reductions in energy consumption, decreases in greenhouse gas emissions, and the implementation of sustainable practices. For example, tracking the adoption of renewable energy sources and improvements in energy efficiency within army facilities can provide insights into the progress towards carbon neutrality.

Achievements: Employment programs do more than create jobs; they boost economic stability and growth by giving soldiers valuable career opportunities. Success is reflected in veterans' long-term career progress and their positive effects on local economies. Furthermore, businesses launched by veterans can further stimulate regional economies. These initiatives also contribute to overall community development.

To evaluate the impact of the Three Zeros Theory on the Bangladesh Army, focus on its effects on poverty reduction, job creation, and environmental efforts. This assessment shows how well the army supports sustainable development and inclusive growth. It helps confirm that the army's actions are in line with the Theory's goals.

Challenges and Opportunities

Operational and Structural Challenges: Implementing the Three Zeros Theory in the Bangladesh Army can be challenging. Integrating these new goals with the existing focus on defence and security may face resistance or logistical issues. Successfully adding poverty reduction, job creation, and environmental sustainability requires careful planning and adjustments to current practices.

Resource Allocation: To support new initiatives without affecting core duties, the army needs to allocate adequate resources. Balancing the budget and staff between routine military tasks and new projects can be challenging. This is particularly true with limited funds and competing priorities.

Change Management: Resistance to change can be a substantial challenge. Officers and soldiers who are used to their traditional roles might need time and support to adapt new plans that focus on social and environmental goals. Effective ways to handle change, like training and talking to people, are key to overcoming resistance and ensuring smooth implementation.

Opportunities for Enhancing Military-Societal Synergy

Even with these challenges aligning the Three Zeros Theory with the Bangladesh Army's objectives presents substantial opportunities to enhance military-societal harmony. The army's special role allows it to connect military and civilian sectors leading to wider benefits for society.

Community Engagement: The Army's involvement in community-building projects can strengthen its bonds with local populations. By using its organizational skills and assets, the army can improve social welfare. It can meet local needs through infrastructure improvements and job training programmes.

Environmental Stewardship: The Army's commitment to sustainability can lead the way for other organisations. By adopting green practices and cutting its carbon footprint, the Army sets a strong example. This influence can encourage broader environmental responsibility across different sectors.

Job Creation and Skill Development: Focusing on job creation and skill development can have a big impact. Partnering with businesses and educational institutions helps the army find job placements and fosters career development. This contributes to the overall economic stability and growth of the nation.

Conclusion

Introducing the Three Zeros Theory of Professor Dr. Muhammad Yunus to Bangladesh Army's strategy would cause a revolution by aligning military modus operandi with the country's growth goals. The theory's three main ideas—no poverty, no joblessness, and no net carbon

output—give a solid base to reach wide-spread growth that lasts and tackles today's big issues. By implementing these concepts into its work, the Bangladesh Army could go beyond its usual job and become a key player for social and environmental advancement in Bangladesh.

The Three Zeros Theory provides a framework that connects economic growth with social fairness and environmental care. The Bangladesh Army can help reduce poverty by starting community projects and supporting veterans as they transition to civilian life. To tackle unemployment, the army can offer training, assist with job placement, and promote entrepreneurship among soldiers and veterans. On the environmental front, the Zero Net Carbon Emissions principle calls for the army to lead by example through sustainable practices, energy efficiency, and green infrastructure, thereby reducing its carbon footprint and setting a benchmark for others.

Aligning the Three Zeros Theory with Bangladesh Army's objectives poses challenges, such as resource constraints and resistance to change, but offers significant potential for military-societal synergy. The army's role in community development, environmental stewardship, and job creation can drive national progress toward a more equitable and sustainable society. Successful implementation requires strategic planning, clear goals, and tailored policies. Pilot projects can assess feasibility, guiding necessary adjustments. Leadership is crucial; senior military leaders must champion this integration, motivating personnel to embrace these objectives. Collaboration with government agencies, NGOs, and the private sector can further enhance the army's impact.

Integrating the Three Zeros Theory into Bangladesh Army's strategy creates a compelling model for sustainable development and inclusive growth. As the army tackles social and environmental issues, its impact reaches far beyond traditional military roles, helping build a fairer and more prosperous Bangladesh. This innovative method opens the door for more social advancement by setting a new standard for how institutions should balance expansion and defence.

Future Directions and Policy Recommendations

In view of the foregoing following are the recommendations:-

a.   Create a plan that links the Three Zeros goals with military objectives. Make sure it includes specific targets, practical steps, and ways to measure progress.

b.   Provide training for military personnel to equip them with the skills needed to implement the Three Zeros goals.

c.   Be a partner with government agencies, NGOs, and businesses to access extra resources and expertise, strengthening the Army's efforts.

d.   Establish systems to monitor progress, identify successes and challenges, and keep everything aligned with the Three Zeros goals.

Notes and References

1. Globally renowned personality Professor Dr. Muhammad Yunus (b. 28 June, 1940) is the pioneer in offering microcredit to the poor and down-trodden mainly women. He completed his undergraduate in 1960 and post- graduate studies in 1961 from the Department of Economics, University of Dhaka. Beginning his professional career in the Bureau of Economics, Dhaka University he joined as a Lecturer in Economics in Chittagong College and then successfully pursued PhD research study programme having been awarded Fulbright Scholarship. During the Liberation War in 1971 he organised Citizens' Committees and the Bangladesh Defence League in America. He also served as an Assistant Professor of Economics at Middle Tennessee State University in Murfreesboro, TN. Coming back to Bangladesh he served as Chairman of the Department of Economics, Chittagong University. On 2 October 1983 he founded the Grameen Bank and subsequently formed a number of companies like Grameen Byabosa Bikash, Grameen Kalyan, Grameen Shakti, Grameen Telecom, Grameen Healthcare Trust, Grameen Care Services, Yunus Social Business Centre in Bangladesh to address diverse issues of poverty and development. In October 2006 Dr. Yunus was awarded the Nobel Peace Prize, along with Grameen Bank for their efforts to create economic and social development. Other notable awards he also won are- President's Award (1978), the Ramon Magsaysay Award (1984), Central Bank Award (1985), Independence Award (1987)- the highest national Award of Bangladesh, the World Food Prize (1994), the Sydney Peace Prize (1998), He has to his credit some publications viz. *A World Without Poverty, Social Business and the Future of Capitalism* (2008), *A World of Three Zeros: the new economics of zero poverty, zero unemployment and zero carbon emission* (2017). The unique contribution of Dr. Yunus is that he has harnessed the power of the free market to solve the problems of poverty, hunger and inequality confronted by the poorest of the poor. He was appointed as the Chief Adviser of the Interim Government of Bangladesh on 8 August, 2024. Contribution and achievements of Prof. Dr. Yunus finds its apt expression in the remarks of world famed newspaper *Los Angeles Times*, "Muhammad Yunus is a practical visionary who has improved the lives of millions of people in his native Bangladesh and elsewhere in the world."

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Brief Biography

Major Mohammad Moinul Islam Khan, RVFC was commissioned in the Remount Veterinary and Farm Corps in 2009. He completed DVM from Sylhet Agricultural University and is presently pursuing MS in Microbiology at Bangladesh Agricultural University. He has served in various capacities, including as an Instructor at Bangladesh Military Academy and in RVFC units. He underwent specialized training in war dog deployment, including courses in Pakistan. He participated in UN Peacekeeping Mission in the Central African Republic. At present, he is serving as Acting Second-in-Command of Military Farm Trishal in 19 Infantry Division.

Integration of Small Group Operations in Bangladesh Army to Meet the Requirement of Future Warfare

Major Touhidul Islam Mannan, SGP, psc, Infantry

Abstract

Bangladesh (BD) Army is evolving in the sectors of armament as well as in doctrine. As such, it has modernised its inventory to align with future threats and equipment. The concept of Small Group Operations (SGO) in Army doctrine has enormous opportunities in the war-fighting technique. Moreover, the BD Army found its importance and effectiveness during the Liberation War of 1971. In addition to that, recently, few modern Armies have incorporated it into their doctrine. BD Army is also researching its suitability, challenges, and mitigation plans. At this backdrop, the significance of SGO from the historical perspective and analysis of current doctrine is highlighted here. The advantages from the historical perspective and challenges from current doctrine were found out. Then, this research focused on the probable road map for those challenges. Finally, this writer focuses on the influence of SGO to meet the requirements of future warfare. Thereby, it is qualitatively and quantitatively shown that integration of the SGO in BD Army will enable to meet the requirements of future warfare. Last but not least, the paper suggested a few recommendations that need to be implemented to achieve the desired outcome.

Keywords: Small Group Operations (SGO), war-fighting technique, doctrine, operational plan, future warfare.

Introduction

The characteristics of future warfare have restricted the manoeuvre of a large quantum of troops for both defender and attacker. Therefore, there is a trend to reduce the numerical size of manoeuvre units and provide speed and stealth in most of the armies of the world. Again, the war of attrition has been replaced by effect-based operation. Thus, SGO has a direct influence on modern countries' strategic build-up. Historically, there are numerous examples where SGO, which is unconventional in nature, has gradually developed and got an expected effect on the war, and weaker opponents defeated large conventional armies. Be it against Afghanistan during Soviet occupation (1979-89), BD during the Liberation War (1971), or the Hezbollah standoff with Israel throughout the 1980s as well as this militia group's sustained guerilla campaign in 2000 which turned into open confrontation by 2024, all conflicts hold testimony to the effectiveness of small group tactics against large conventional forces. BD may also have to resort to the same in the future as her potential adversaries are numerically and economically superior.

The history of warfare is replete with examples where innovative ideas have been the critical factor in deciding the fate of the battle. Considering the geostrategic importance and the

country's potential adversaries, BD Army is considering integrating such an innovation as the SGO concept within her operational plan. This SGO, alongside the conventional and Unconventional Warfare Forces (UWF), will be conducted to embroil the enemy into a dilapidated situation as soon as she crosses the border.

Battlefields of the future are likely to be tumultuous, passionate and destructive. They most likely cover larger territories. Future warfare will be characterised by short and intense, high lethality, restricted support, unconventional warfare and terrorism, non-linear operation, etcetera. To meet these requirements, only conventional war-fighting will not be sufficient. The recent history of warfare bears myriads of evidence that employment of the infantry in SGO brought desired results along with lessons for the future. Adhering to those lessons and preparing the army for the SGO requires a clear concept of employment, material preparedness, support method, and most importantly, integration into the training framework, among others.

The paper will initially focus on the dimensions of employment of SGO by examining evidence from historical perspectives to find plausible employment scopes. Subsequently, it will suggest measures to integrate the SGO in BD Army in the parlance of employment in future warfare. Finally, it will discuss how this integration can meet the requirements of future warfare.

Dimensions of Employing SGO from the Historical Perspective and Challenges of Future Warfare

From the historical examples, it is evident that the dimensions of employing SGO are vast. Here, it also focuses on the challenges of future conflict by discussing different dimensions of employing SGO.

Historical Perspective of SGO

Hezbollah in Lebanon: This battle is examined at all the military institutions worldwide as a new type of conflict that necessitates new and unheard-of definitions of how to fight and win. Everyone was amazed by the triumph of Hezbollah against the Israeli forces. The military analysts were certain that the Israeli Defence Force (IDF) had suffered a substantial loss and that Hezbollah's military and political success was absolute and incontestable. Hezbollah's departure from classical guerrilla-based operation technique to quasi-conventional warfare was a driving force in sustaining the war for 34 days after Israel invaded Lebanon in 1982.[1] During Lebanon's Civil War (1975-90) Hezbollah engaged in sophisticated attacks against Israel which created a new dimension in the era of modern warfare and promoted the concept of SGO. Hence, the success of SGO in modern battles cannot be denied.

Vietnam War: The Vietnam War (1957-75) against the U.S. Army is a striking example of employing SGO. The North Vietnamese utilised small group tactics against the technologically and materially superior U.S. Army. They utilised the terrain and creative SGO tactics. As a result, the world's superpower was unable to defeat the relatively inferior force of North Vietnam. Vietnam War-the longest war in which US took part-was without battlefronts and was different

from any previous war ever fought by the U.S. Armed Forces. This difference made it difficult for American civilians and military policymakers to develop an effective strategy. The American attrition strategy and tactics that won the war in Korea were doomed to fail in Vietnam.[2]

Conflict in Afghanistan: The First Anglo-Afghan War (1839-42) was a classic example of an asymmetric conflict in which the weaker side successfully applied its strength to its opponent's weaknesses.[3] Because of the disparity in power between them and their foe, which is often a government with a far greater military force, the Taliban in Afghanistan used SGO tactics. Harassment and ambushes by small groups effectively eliminated government forces and civilian populations without being detected.

Sri Lankan Army's Northern Offensive: The Sri Lankan Army's northern offensive against the Liberation Tigers of Tamil Eelam (LTTE) following the SGO techniques was successful.[4] They were able to vanquish the LTTE as a result. A case study found that to incorporate SGO tactics into their military doctrine, the Sri Lankan government launched a significant military change, which enabled them to defeat the LTTE in 2009.

SGO in Other Armies

Indian Army: The Indian Army can conduct SGO on multiple levels. Each standard infantry battalion has a Ghatak Platoon that can conduct such operations.[5]

Pakistan Army: Recently, the Pakistan Army has followed SGO in their doctrine, where each division has its light commando battalion. This battalion is capable of performing unique missions. Moreover, they conduct operations in small groups, increasing adaptability and creating battlefield fluidity.[6]

Sri Lankan Army: The Sri Lankan Army employed this strategy in the Northern Offensive against the LTTE. It is a prominent example in the contemporary era. They succeeded in their unconventional war against the LTTE by adopting this strategy.[7]

U.S. Army: The U.S. Army followed special operations forces that can perform missions in small groups. Each unit has undergone considerable training in both small-unit tactics and general combat. For a range of general special operations missions, each is helpful. However, each special operations unit receives training primarily for certain missions. The U.S. Army, for instance, has ranger battalions. The rescue of the U.S. Prisoners of War (POWs) at Cabanatuan was a World War II U.S. Army Ranger's operation and a classic example of a joint special operations mission of small groups that was incredibly planned and executed. The operation against the POW camp at Cabanatuan would be known as the 'Great Raid.'[8]

Broad Operational Concept of SGO

BD Army is yet to publish any doctrine regarding the SGO. Military doctrine of BD Army provides a broad guideline for conducting operations behind enemy lines and creating fluidity in

the battlefield. Still, it does not provide specific guidance to achieve them at different levels of war.[9] But the concept of SGO is already widely practised in the form of Command Post Exercise (CPX) or Field Training Exercise (FTX) at different tiers of army. Employment of skilled soldiers in small groups will strike where the opponent will hurt most. Besides, number of groups may remain limited initially but should increase when the enemy has extended her reach. Moreover, it will restrict the opponent's freedom of movement on the battlefield. The operation will start after the enemy has crossed the IB and extend their reach inside the enemy's territory. SGO will mostly rely on hit-and-run tactics and will avoid getting inextricably engaged with the enemy to cause casualties to the enemy, harass them, attack their decision-making cycle and create fluidity in the battlefield.

Dimensions of Employing SGO

Considering the historical perspective and SGO technique of other armies, the dimensions of employing SGO can be summarised by considering the document of the study period of an Infantry Division. The dimensions of employing SGO are as following:-

a. Attack/destroy enemy high-value targets (bridging assets, missile platforms) and opportunity targets at flanks/rear of enemy echelons.

b. Raid tank/APC formations/concentration and gun positions.

c. Special/armed reconnaissance task in hostile or denied environments to collect or verify information of operational significance.

d. Preliminary operations like driving enemy protective patrol, destroying enemy defensive post, securing RV etc.

e. Acting as Forward Air Controller (FAC) for friendly Close Air Support missions.

f. Provide battle damage assessment following own air interdiction missions or counter-bombardment missions by medium artillery.

g. Can be employed to conduct the link-up operation with special/commando force deep inside an enemy territory or behind the enemy line.

Characteristics of Future Warfare

Operations of War, a publication of BD Army identifies the most essential characteristics for future battlefields. Wars will be costly affairs in terms of economics, society and politics. Moreover, current and upcoming technological advancements will support these developments in lethality and destructiveness. Future operations for BD Army will also be characterised by movement and manoeuvre. Moreover, the primary targets of future enemy interdiction operations will be logistic communication networks and bases. In virtually all future battles, the army will encounter terrorists, guerrillas and saboteurs. This is a cost-effective strategy for adversary

forces that pose a danger to the security and continuity of operations. Again, due to the nature of modern warfare and the expansive geographical range (land, sea and airspaces) of Areas of Operations, it is imperative that land forces fight as joint teams with the Navy and Air Forces, as well as with civilian authority representatives. Deep reconnaissance, long-range fires, air mobility and unconventional forces will blur the distinction between front and rear and compel all units to adopt all-round defence and be self-reliant.

Suggested Measures to Integrate SGO to Overcome Integration Challenges

Challenges of Integrating SGO

Absence of Specific Doctrinal Guidelines and Employment Principles: The units of the existing Infantry Division may face difficulties conducting the Security Zone operation and, subsequently, the main defensive battle with the existing doctrinal layout.[10] Conforming to the doctrine will entail internal reorganisation, the allocation of more weapons and equipment, and the organisation of trained small groups.

Figure-1: Response to Challenges (Absence of Specific Doctrinal Guidelines and Employment Principles)
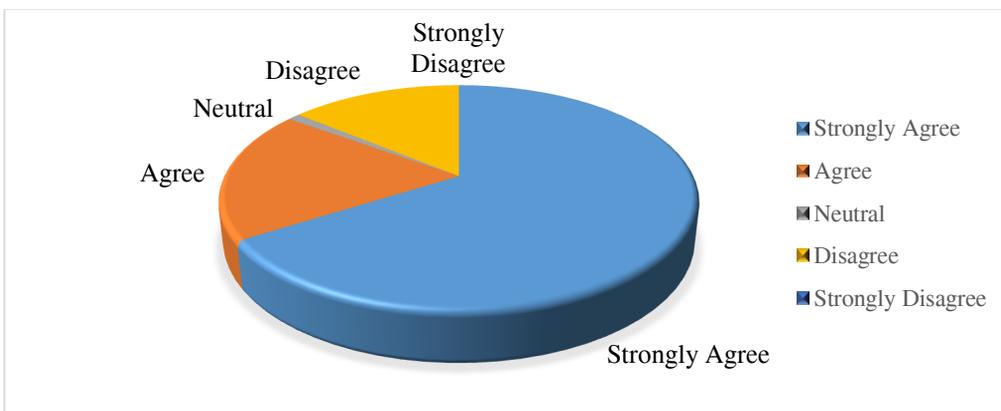

Source: https://www.google.com/search?q=Challenges+of+Integrating+SGO&rlz
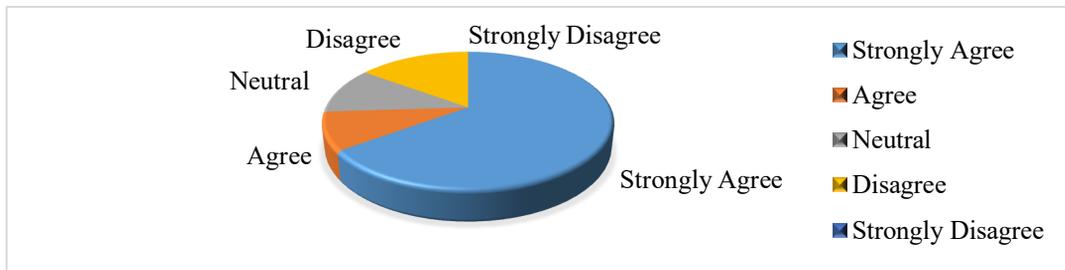
Difficulties in Force Generation: Force generation for SGO will always be a matter of concern. Moreover, no uncommitted assets exist at the division and brigade level for conducting SGO.[11] Shedding the troops from the infantry battalion will not only weaken the defence but also decrease the offensive capability in the defensive operation of the ground troops. Moreover, troops rotation and reinforcement will also be difficult for conducting SGO.

Lack of Special Training: The SGO team will be effective if its members, such as snipers, explosives experts, communication specialists, and artillery observers are able to execute their responsibilities with flawless precision. Currently, there is a deficiency of specialists in the majority of units, according to the current need. Moreover, the SGO team should have knowledge on adversary Counter-SGO capability. To increase the operational capability, troops should undergo realistic training.

Figure-2: Response to Challenges (Lack of Special Training)

Absence of Modern Weapons and Equipment Suitable for SGO: In present TO&E, no special arms, explosives, or equipment are authorised for SGO. Depending on the task, small groups should be armed with RPGs, shoulder-controlled missiles, hand-held rocket launchers and communication equipment, along with other things. For correct target acquisition and a wide range of surveillance, the SGO team should be provided with drone capability also. Figure-3 shows relative study on absence of modern equipment at unit level.

Figure-3: Response to Challenges (Absence of Modern Weapons and Equipment)
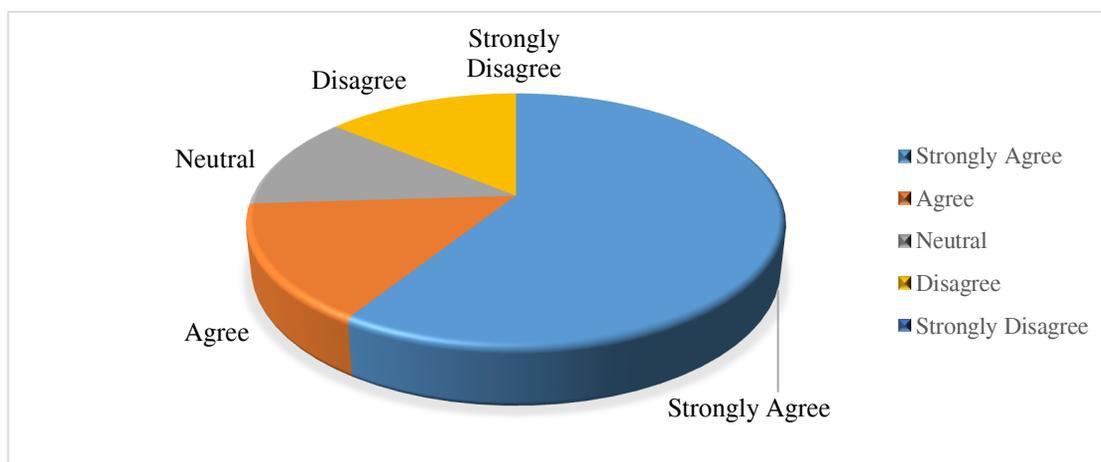
Absence of Clear Logistic Guideline: Detail logistic guideline is another impediment to conducting SGO. Problems of logistics, supply of ammunition, and mobility of the SGO team need a specific guidelines. During the survey, 74% of respondents (Figure-4) opined that a standard infantry battalion needs specific guidelines in relation to the logistics of the SGO team.

Figure-4: Response to Challenges (Absence of Clear Logistic Guideline)
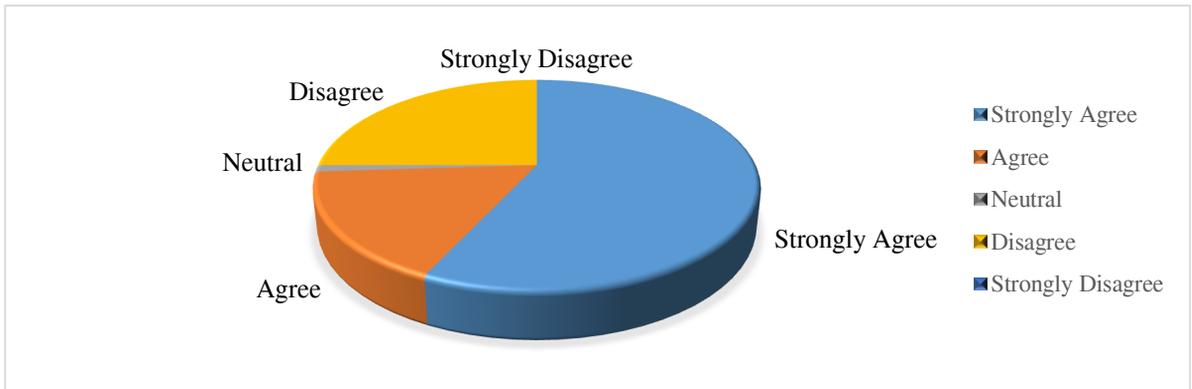
Source: https://www.google.com/search?q=Response+to+Challenges+%28Absence+of+Clear+Logistic+Guideline

Suggested Measures of Integration

Force Generation: Considering budgetary constraints and the financial implication of recruiting additional force, different options for force generation can be proposed for SGO from the existing resources of BD Army. As per the writer's opinion and the survey conducted, conventional troops will be more effective in conducting SGO than unconventional forces or composite forces of conventional and unconventional. One of the options for organising SGO can be where four platoons from each infantry unit may be detailed for conducting SGO, and there will be about 36 small groups in a formation. In this case, the unit's and brigade's defensive capabilities will be weakened because the defence pattern will be compromised, and the battalion's defence will lack integrity. Another option is to have a separate SGO company consisting of 3 x platoons formed under each infantry Brigade HQ. In this case, command, control, cooperation, communication among groups, and HQ operations will be simplified. However, as per the writer's opinion and the survey conducted, the most preferred option is for a separate dedicated SGO platoons to be integrated into each infantry battalion of forward brigades. The troops will be shed from the depth brigade. However, every Infantry battalion should have the capability to form at least 2 x SGO platoons. The platoon will be composed of specially trained personnel (snipers, Anti-Tank Weapon (ATW)/Anti-Tank Guided Weapon (ATGW) crews, artillery observers, explosives specialists, and medical assistants) from the entire battalion. The platoons may remain attached with the infantry battalions of forward brigades and operate in their Area of Responsibility (AOR). Thus, the forward brigade will be able to hold the ground in full strength. Moreover, 6 X SGO

platoon will be able to operate in the formation AOR at a time without weakening the defence of the forward brigades. A Focus Group Discussion (FGD) was organised where members opined for the last option. Moreover, during the survey, 73% of respondents found the last option is suitable for BD Army considering all the factors.[12]

Operational Employment Guidelines: The platoon will operate independently as the lowest formation. Normally, platoons should not further be subdivided for independent deployment. The platoon's responsibilities will be assigned by the division commander. However, depending on the circumstances, a platoon may be directly tasked by the Brigade HQ. The platoon commander will direct the actions of the sections in accordance with orders received from a higher HQ. When deployed, they will be operating from deep bases. Depending on the type of targets, the sections or platoons may be provided with extra weapons and equipment. The employment of SGO platoon will be a critical decision on the part of the Division/Brigade Commander. The force will operate at any phase of the battle depending on the situation and overall operational plan.

Logistics: Three principles will guide the logistics support of the small group operation force. These include minimal reliance on conventional logistical systems, self-sufficiency, and reliance on local resources. However, pre-stocking combat supplies in remote and inaccessible areas prior to the outbreak of war may be one way to mitigate the problems to a significant degree. However, if the teams operate beyond IB, pre-stocking of combat supplies should be near the International Boundary (IB). Moreover, maximum utilisation of local resources and captured enemy resources should be made.

Communication: Communication needs within the small group force and beyond should be met using any available means, including conventional signal equipment, when required by operational necessity. The small group force should utilise maximum improvisation for internal communication. Furthermore, the team should be given with modernised communication system for the best possible output.

Training of Troops: Extensive training is required so that small group forces can make quick conclusions when the large-scale operation is planned and rapidly disperse before the enemy can retaliate. The training for small group operation force may include sustaining the conventional and unconventional logistic systems, explosive handling and special engineering task, survival training, knowledge of threat forces, riverine warfare, first aid, battlefield intelligence, knowing foreign languages, knowledge of the strategic environment, sniper training, drone operator, and search and rescue, etcetera.

Incorporating SGO to Meet Future Warfare Requirements

At present, incorporating SGO to meet future warfare exigencies is a demand of time. It is evident from the earlier discussions that the significance of SGO from historical perspectives and other armies to meet the requirements are immense. Therefore, an endeavour will be taken to find out how the integration of SGO in the BD Army can meet the requirements of future warfare.

Incorporating SGO to Meet Future Warfare Exigencies

     Effective Against Short and Intense Battle: The future warfare will be short and intense; therefore, BD Army must be prepared to fight intensely. SGO team will be very effective in a short and intense battle because it will weaken the enemy's most vital target and bring the deadliest effect. Figure-5 shows the responses of the effectiveness of SGO in a short and intense battle.

Figure-5: Response to Effectiveness of SGO in a Short and Intense Battle
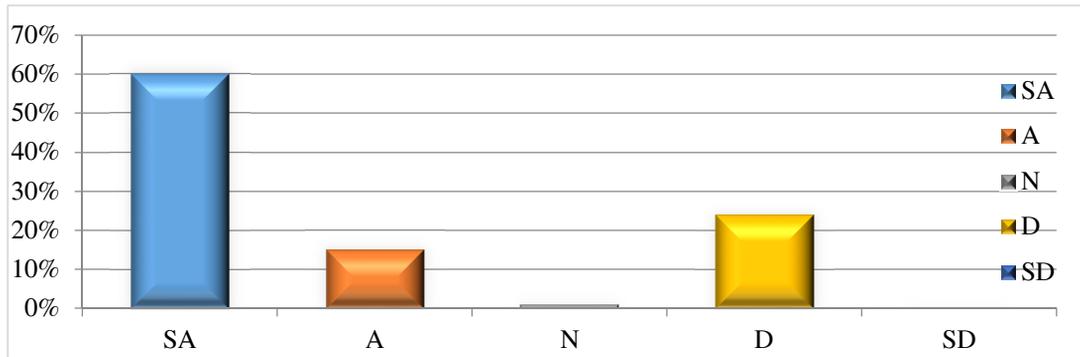
Source: https://www.google.com/search?q=Response+to+Effectiveness+of+SGO+in+a+Short+and+Intense+Battle

     Attrition Role: If the SGO team is sent forward, they will be able to weaken the enemy and bring them with less force ratio. Thus, the defender will be able to repulse the attack. In light of this, if the possible superior-strength opponent can be sufficiently attrited, they will be unable to attack without reinforcements. Moreover, in a short, intense battle, any reinforcements will be extremely costly, as maintaining armies and especially fighting wars in the future will be extraordinarily expensive. A case study found that Hezbollah's attack against IDF following small group tactics caused maximum attrition, which helped shape the battlefield.[13]

Figure-6: Response to Influence of SGO in attrition role
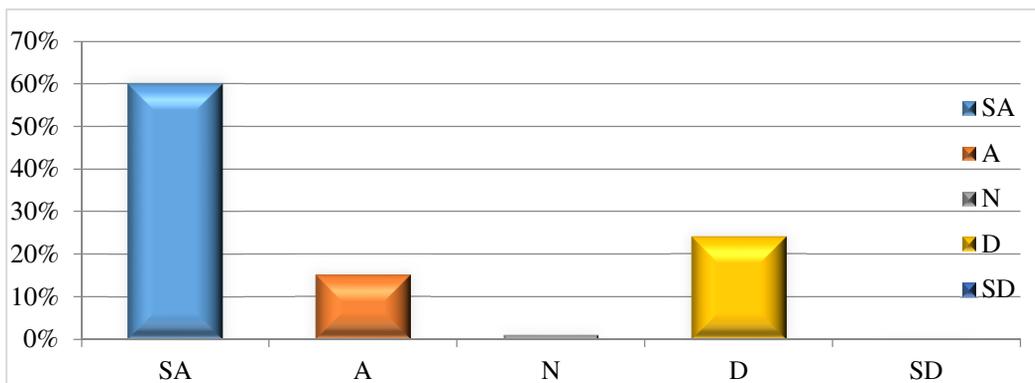
Source: https://www.google.com/search?q=Response+to+Influence+of+SGO+in+attrition+role

Moreover, the SGO team is found very effective to attrite the enemy behind the enemy line in Computer Assisted Exercise (CAX). A CAX is conducted by SWORD simulation software (Customised for BD Army as AWGSS) in Army War Game Centre (AWGC) where the result of engagement (in terms of attrition) between the SGO team and different adversary targets within a def framework is obtained. In that exercise, the SGO platoon could successfully destroy the adversary target e.g., the ammunition point and logistic convey. At the same time, the SGO company could successfully neutralise the artillery gun position.

Increasing the Strength: As a force multiplier, the BD Army should use a variety of unconventional or new strategies to reduce the enemy's numerical advantage. During the early phases of a war, troops in depth locations may sit idle. Those troops can be used before the main defensive location. Additionally, a conflict may not always break out on every front. The troops from the dormant area can be used to carry out SGO. If done traditionally, more troops would be needed to achieve the same goals that a SGO team can.

Effective Against Highly Lethal Enemy: Future warfare will be highly lethal and destructive with a lethal, precise, and advanced weapon system. Therefore, the SGO team can be a good option to weaken the lethal force with advanced weapon systems. SGO force can operate behind the enemy line to destroy the enemy's advanced weapon system, gun position, ammunition of lethal weapon, command and control system, etcetera thus making the main force weaker and less lethal. So, integrating well trained and well-equipped SGO team in the infantry division can be a suitable option for enhancing its capability to fight future warfare characterised by high lethality.[14]

Figure-7: Response to Effectiveness of SGO Against Highly Lethal Enemy


Source: https://www.google.com/search?q=Response+to+Effectiveness+of+SGO+Against+
Highly+Lethal+Enemy
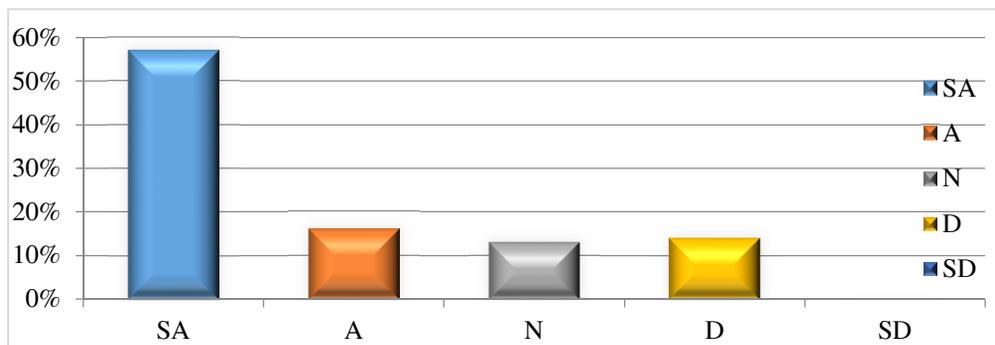
Effective in Restricted Support: Logistic lines of communication and bases will be the primary focus of future enemy interdiction operations. Modern armies rely heavily on large-scale logistical support; if this support is severed or disrupted, the intensity of operations will be substantially decreased, and the enemy will gain the decisive initiative and freedom of action. Therefore, SGO will be an effective option in this regard. This force is capable of interdicting and

disrupting the enemy's communication lines, as well as conducting operations with a restricted support system.

Effective Against Terrorism and Unconventional Warfare: In almost all future conflicts the army will find itself involved with terrorists, guerrillas, and saboteurs. This is a cost-effective means for opposing forces that threaten the security and continuity of operations. In future operations, BD Army has to counter these where SGO is the best-suited option. If the SGO team is adequately trained and equipped, they will be very effective against terrorism, guerrilla warfare, and unconventional warfare. For example, a case study found that Sri Lanka Army Northern Offensive following the SGO technique was highly effective against terrorism and unconventional forces.

Figure-8: Response to Effectiveness of SGO Against Terrorism and Unconventional Warfare
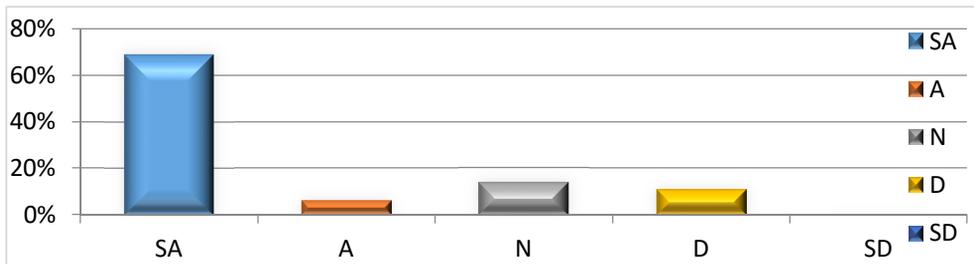
Source: https://www.google.com/search?q=Response+to+Effectiveness+of+SGO+Against+Terrorism+and+Unconventional+Warfare

Effective in Non-Linear Operation: BD Army will fight non-linear operations in the future where SGO will create a fluid situation. A defensive force cannot guard all the routes of ingress. Hence, to create a fluid situation in the area of responsibility, SGO will play an important role. SGO forces can take an unconventional approach because they will move on a small scale using unique manoeuvres. Thus, they will be able to adopt the unconventional strategy.[15]
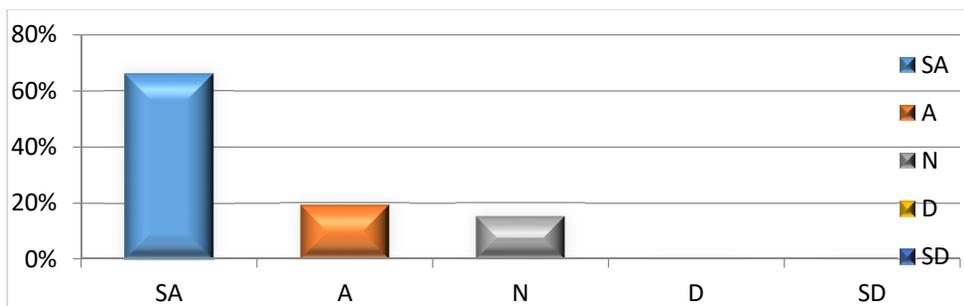
Figure-9: Response to Effectiveness of SGO in Non-Linear Operation

Source: https://www.google.com/search?q=Response+to+Effectiveness+of+SGO+in+Non-Linear+Operation
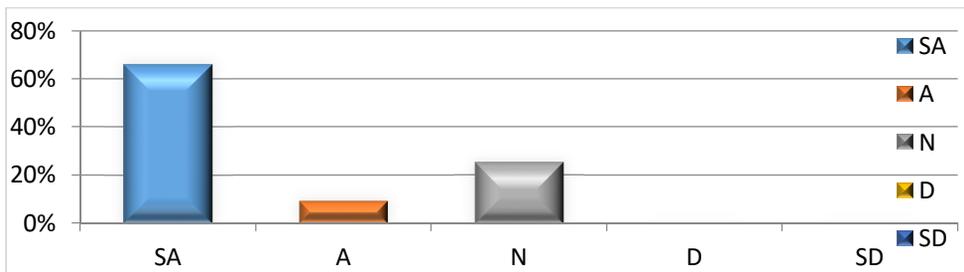
Upsetting Enemy's Decision-Making Cycle: "Wars are fought and won by men and not machines" is a truism, which will be even more decisive in deciding the outcome of future campaigns and battles. The phase line is vital in determining if an infantry unit will succeed in any offensive action. The goal of the defender, in contrast, is to thwart the enemy's time strategy. To disrupt the adversary's time plan, the SGO team can cause fatalities or provoke the opponent's decision-making cycle.

Figure-10: Response to Effectiveness of SGO in Upsetting Enemy's Decision-Making Cycle

Source:https://www.google.com/search?q=Response+to+Effectiveness+of+SGO+in+Upsetting+Enemy%2%80%99s+Decision-Making+Cycle

Conclusion

The history of war is full of instances where radical innovations largely determined the success or failure of a conflict. Thinking about the country's geostrategic importance and prospective adversaries, BD Army is incorporating a cutting-edge idea like the SGO concept into her operational strategy. This SGO will be used in to confine the enemy as soon as she crosses the border or across the border in a precarious circumstance.

BD Army's doctrine, technology, and equipment are all designed to fight conventional wars and may not be sufficient to handle the difficulties of the future battlefield. As previously stated, it is time to study the SGO as a whole in order to apply the principle of economy of force in the context of future warfare. An analysis was carried out through the officers of BD Army as well as overseas officers to find out the challenges of integrating SGO. Moreover, FGDs and interviews also suggested the operational guideline and employment principles for the integration of SGO in BD Army.

History finds the SGO concept quite successful against superior military power in several conflicts which include the Afghan Mujahideen, Hezbollah, Sri Lankan Army, and BD Freedom Fighters. In addition, the SGO group could adapt to the situation by making good use of the terrain, employing successful small-group tactics, and exploiting the enemy's vulnerabilities. It is obvious that BD Army needs to develop the capacity to overcome overwhelming odds and still survive to

fight back given the characteristics of future warfare. Hence, SGO can be a viable solution to handle the issues of future conflict.

It is clear from the study that carrying out SGO in the current organisational structure of a divisional framework is rather difficult. Firstly, SGO does not have any defined employment principles or theological principles. The murky areas for carrying out these kinds of operations will always be the lack of advanced weapons and training. Furthermore, there are no explicit logistical principles or rules. To have a good understanding of SGO, a thorough analysis of the difficulties' mitigation was carried out. The explanation above also makes it clear that SGO will have a significant impact on fighting in the future. SGO is also capable of successfully impacting the enemy's decision-making process. There will be specialised people in every infantry division, allowing the commander a lot of flexibility. Technology is expanding globally; thus, mass concentration might not be beneficial. Future fighting will instead become more aggressive by employing a lesser force at the appropriate moment and place. Integration of SGO will be a suitable choice to increase the BD Army's ability to manage the issues of future warfare.

Recommendations

SGO concept is demanding for BD Army, but relatively radical approach. Based on the requirements of future warfare, the feedback from the interviewers, overseas officers, and other BD officers coupled with case study and FGDs, the following recommendations can be made for incorporating SGO in BD Army:

   a.   A board of officers under Army Training and Doctrine Command (ARTDOC) may be formed to ascertain the practical impact of SGO and its effect on operational performance and recommend modifications.

   b.   More study and research can be carried out through the formations to find out the feasibility of incorporating SGO in the BD Army.

   c.   A board of officers may be formed to include the required training to implement SGO in different cadres and courses.

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Brief Biography

Major Touhidul Islam Mannan, SGP, psc, Infantry was commissioned in 28th Bangladesh Infantry Regiment with 62nd BMA Long Course on 23rd June 2010. He is a graduate of the Defence Services Command and Staff College, Mirpur. He also completed Master of Social Science in Security Studies from Bangladesh University of Professionals (BUP). He served in two Infantry Battalions and held all the regimental appointments within his capacity. As a staff, he served as Grade-2 Staff Officer (Simulation Operations) in the Army War Game Centre and Grade-2 Staff Officer (Joint Operations) in the Prime Minister's Office, Armed Forces Division. He also served as an Instructor at the Bangladesh Infantry Regimental Centre. Apart from the mandatory courses, he attended the Mid-Career Course in Pakistan. He participated in the United Nations Peacekeeping Mission in the Central African Republic as Platoon Commander. He was awarded with Sena Gourab Padak (SGP) for rendering remarkable contribution to Operation Uttaran at Chittagong Hill Tracts. Prior to the present appointment, he served as Private Secretary to Principal Staff Officer (PSO) of the Armed Forces Division. He is the incumbent Grade-2 Staff Officer (Coordination) to Chief of General Staff (CGS) of Bangladesh Army.

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