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THE TROOPER



THE FIRST EVER MAGAZINE IN SRI LANKA ARMY DEDICATED EXCLUSIVELY TO
ENHANCE PROFESSIONAL KNOWLEDGE OF THE OFFICER CORPS



EDITOR'S DESK



EDITOR'S NOTE

This issue of 'The Trooper' marks the 15th successive publication of the Sri Lanka Armoured Corps by annual magazine.

I am delighted to pen this message as the Chief Editor of this magazine with the responsibilities bestowed upon me as the Commander Armoured Brigade.

This magazine brings you diverse articles related to Armour, Technology SEAL (Sea Air and Land) and Globe, which take you to the modern Technologies, Military Tactics and the prevailing world issues which may definitely concern you during your military career. Over and above, it gives a comprehensive coverage of how we should grow up as cavalymen with more modern and advanced equipment in a world with more complex relationships.

It is believed that the heightening of reading habits would further facilitate you achieving the assigned tasks more efficiently, circumventing the limitations and constraints by transforming challenges into opportunities.

Further, 15th publication onwards 'The Trooper' magazine will be published as e-copy to create and provide a common platform for all other readers to share knowledge. Moreover, a limited number of hard copies will be printed and distributed among the reputed training establishments and libraries.

Finally, whilst appreciating the untiring efforts of the editorial board and all officers who contributed to the magazine through various means, and I wish 'The Trooper' would develop and establish itself as a significant source of information to educate its readers and continue to prosper over the years.

Brigadier A P C R Prematilaka RSP USP ndc

What this is?

'The Trooper' is a professional military magazine published by Sri Lanka Armoured Corps biannually. It is dedicated for, and contains articles relevant particularly to armour, and also of other matters of military importance, and the first professional magazine of that kind in Sri Lanka Army. The aim of this effort is to encourage and provide opportunity for officers to write articles of professional value and a forum to discuss ideas and opinions, thereby to develop intellect prowess of them. initially, the magazine will consist of articles re-produced from worldwide recognized periodicals/ magazines and gradually the contribution from officers would be given priority.

The circulation of 'The Trooper' is focused on officers within the corps. It is believed that information contain herein would be of assistance in conducting officers training and for other activities that are generally focused in encouraging reading habits, discussions and improving the standard of the officers.

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Cover Page: This photograph depicts AFV fleet lined up before Regimental event at Lieutenant General Denzil Kobbekaduwa playground, Rock House Camp, Colombo 15.		





COMMANDER'S HATCH

NEW DIMENSIONS OF LEADERSHIP: BE A DIGITAL LEADER

"Adapt or perish, now as ever, is nature's inexorable imperative." – H. G. Wells

INTRODUCTION

Leadership and the military are practically inseparable, with the military serving as both a legacy and a foundation for leadership principles. Over time, various theories and approaches have been developed to deepen our understanding of leadership.

In the early 20th century, leadership studies were dominated by the Great Man Theory and Trait Theories. The Great Man Theory explains that certain individuals are born with inherent qualities that make them natural leaders, while Trait Theory emphasizes specific personal characteristics that are essential for leadership and to be a leader. Later, behavioral, transformational, and transactional theories emerged to define leadership further. However, it became evident that no single theory fully encapsulates the dynamics of effective leadership and leader.

A famous management philosopher *Peter Drucker* came out with an insightful definition of leader and leadership, emphasizing the ability to inspire and influence others rather than relying solely on born qualities. As he famously stated:

"The only definition of a leader is someone who has followers."

This principle is particularly evident in the military. Soldiers will follow a capable leader anywhere, even under the most challenging battle conditions. While various factors determine the outcome of conflicts, leadership often plays a decisive role. Military history provides many examples of battles won or lost due to the quality of leadership.

The Evolving Nature of Warfare and Leadership

Fundamentally the military operates within the realm of conflict and every manoeuvre on the battlefield aimed at achieving competitive advantage over adversary. Over time, the nature of warfare has evolved significantly from symmetric to asymmetric nature.



Moreover, the traditional tri dimensions of warfare (land, air, and sea) has expanded to five dimensions including new domains space and information. Also warfare has

Progressed from first-generation to fifth-generation, introducing new complexities and challenges. These changes demand an evolution in leadership approaches to address the multifaceted nature of modern conflict effectively.

DEVELOPING DIGITAL LEADERSHIP IN THE MILITARY

In response to these dynamic shifts, contemporary military leaders must develop innovative strategies. Leadership in the modern military requires blend of traditional principles with futuristic approaches to navigate a rapidly changing landscape. In this context, as technology has profoundly transformed warfare, **digital leadership** has become an essential competency needed by any military leader.

The **Manoeuvrist Approach** emphasizes that the most effective way to defeat an adversary is by shattering their will to fight. This concentrates one's strengths against an opponent's vulnerabilities and overwhelming their **capacity to make timely, informed decisions**. In today's context, this often occurs with overloading the commander with information making him uncertain in taking correct decision at correct time. Misinformation, and disinformation by interested parties to create uncertainty and alter perceptions, ultimately affect the cohesion. This is a reality experienced in many countries, including Sri Lanka.

Modern conflicts and threats in the era of VUCA (Volatility, Uncertainty, Complexity and Ambiguity) are no longer determined solely by physical manoeuvres but increasingly by the ability to lead and make decisions in digital domains.

Beyond Basic Digitalization

Digitalization is not merely about using computers or reducing paper use. It encompasses a broad spectrum, including research and development, automation, advanced weaponry, autonomous systems, cyber security, artificial intelligence, and even nuclear arsenal advancements. While powerful nations invest heavily in these areas, countries with limited resources can still harness the potential of their leaders as a force multiplier. Leadership is an organization's most valuable and cost-effective asset.

So What: Be a Digital Leader

Digital Leadership is a leadership style that focuses on implementing digital transformation within individuals, teams, and organizations. Military officers, as leaders in the profession of arms, must harness technological advancements, manage information effectively, and operate within increasingly complex digital domains. This responsibility cannot be left solely to IT officers or directorates.



Ways to Develop Digital Leadership

Identify and Fill ASK (Abilities, Skills, Knowledge) Gaps: Leaders must identify gaps in their own and their organization's digital maturity and address these through training and external collaboration. This includes advancing from basic computer literacy to digital literacy, cyber security, artificial intelligence, and data-driven decision-making. While most of the middle grade officers are from Generation Y and Z and are generally tech- savvy, it is a blessing for military to achieve digital maturity. However, careful use of digital platforms is essential to avoid security breaches which will compromise the national security.

Transform the Organization into a Learning Organization: Transforming the organizational learning to learning organization is paramount. Learning organizations can be better able to respond to external pressures

Be Agile and Accept the Change: Leaders must be agile, embracing contemporary changes while retaining proven military ethics, customs, and leadership attributes. Balancing tradition and innovation is key.

Incorporate and Collaborate: Integrate digital transformation into all aspects of training, employment, command, and control. Collaboration with external partners can enhance capabilities and resource sharing.

Responsibility of Senior Level Leadership: Senior leadership play a critical role in promoting a digital and technological culture in the military. They must provide opportunities for professional development, research, and innovation among subordinates. Communicating the value of digital leadership is primarily their responsibility.

CONCLUSION

Digitalization will not alter the fundamental realities of warfare but will enhance decision- making and strategic foresight. To address modern complexities and future challenges, military leaders must evolve into digital leaders, blending timeless leadership principles with digital expertise. By doing so, they can secure success on technology-driven battlefields and avert the growing threats of soft-kill strategies prevalent today.

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THE ROLE OF ARTIFICIAL INTELLIGENCE IN MODERN MILITARY OPERATIONS



Artificial intelligence (AI) is set to play a transformative role in the future of military operations, offering significant enhancements across various domains. As modern warfare evolves, the integration of AI technologies becomes increasingly vital for maintaining a strategic advantage.

One of the primary benefits of AI in military applications is its ability to process and analyze vast amounts of data at unprecedented speeds. In combat scenarios, commanders need timely and accurate information to make informed decisions. AI systems can aggregate data from multiple sources, such as satellite imagery, reconnaissance reports, and real-time communications, providing a comprehensive situational awareness that enhances operational effectiveness. This capability allows military leaders to assess threats and opportunities rapidly, leading to more informed tactical and Strategic decisions.

Autonomous systems are another key area where AI makes a significant impact.

Drones and unmanned vehicles equipped with AI can conduct missions ranging from surveillance to logistics without risking human lives. These systems can operate in environments that are too dangerous for personnel, such as conflict zones or hazardous areas. As technology advances, the capabilities of these autonomous systems will expand, enabling them to perform more complex tasks, such as target identification and engagement, which could reshape battlefield dynamics.

AI also enhances predictive analytics, allowing militaries to foresee potential threats and optimize their preparedness.

By analyzing historical data and identifying patterns, AI can help predict enemy movements or the likelihood of certain attacks, enabling proactive measures that enhance national security. In the realm of cyber security, AI is essential for protecting military infrastructure. As cyber threats grow in sophistication, AI systems can identify vulnerabilities and detect anomalies in real-time, automating responses to potential breaches. This capability is critical for safeguarding sensitive data and maintaining operational integrity.

Training and simulation are further areas where AI has proven invaluable. AI-driven simulations provide realistic environments for soldiers, allowing them to practice a wide range of scenarios without the costs associated with live exercises. This approach enhances readiness and adaptability, ensuring that troops are well-prepared for diverse operational challenges. Logistics and supply chain management are also significantly improved through AI applications.

By predicting supply needs and optimizing transportation routes, AI ensures that resources are efficiently allocated and delivered to troops when needed, minimizing delays and maximizing effectiveness.

In summary, the integration of AI into military operations is crucial for enhancing decision-making, operational efficiency, and strategic effectiveness. As militaries worldwide adopt these technologies, AI will redefine how armed forces engage with traditional and asymmetric threats, shaping the future landscape of warfare.

Lt WCN Fernando
Adjutant – 6 SLAC



STRATEGIES FOR UNDERSTANDING AND PREPARING THE SRI LANKAN ARMED FORCES

1. In today's interconnected world, warfare has transcended traditional battlefields, encompassing the digital realm where cyber warfare plays a crucial role. For Sri Lankan soldiers, understanding and preparing for cyber warfare is essential, given the increasing reliance on technology in military operations and the potential threats posed by adversaries.



UNDERSTANDING CYBER WARFARE

2. Cyber warfare involves the use of digital attacks by one nation to disrupt the vital computer systems of another. This can include hacking, phishing, malware attacks, and denial-of-service attacks, among others. These tactics aim to compromise national security, disrupt communication, steal sensitive information, and undermine public confidence.

3. The rise of the internet and digital technology has made military systems more vulnerable to cyber threats. For Sri Lanka, which has experienced its share of conflict and instability, the implications of cyber warfare are particularly relevant. Cyber-attacks can target critical infrastructure such as power grids, transportation systems, and military communications, potentially leading to catastrophic consequences.

THE NATURE OF THREATS

4. Sri Lanka's geopolitical position in the Indian Ocean makes it susceptible to various cyber threats. Potential adversaries may use cyber tactics to gather intelligence, disrupt operations, or spread disinformation. Non-state actors, including terrorist organizations, also pose significant risks through cyber means, employing technology to recruit, fundraise, and coordinate activities.

5. Moreover, the increasing sophistication of cyber-attacks means that adversaries can exploit vulnerabilities in networks, making it essential for military personnel to remain vigilant and informed about the evolving landscape of cyber threats.

KEY CHALLENGES

1. **Rapid Technological Advancements:** The pace at which technology evolves can outstrip the military's ability to adapt, creating gaps in defence and response strategies.
2. **Lack of Cyber Awareness:** Many soldiers may not fully understand cyber threats or how to protect sensitive information, leading to potential breaches.



3. **Resource Constraints:** Limited resources and training in cyber security can hinder the military's ability to develop robust defences against cyber-attacks.
4. **Interconnected Systems:** The integration of various military systems means that vulnerability in one area can compromise the entire network.

PREPARING FOR CYBER WARFARE

6. To effectively counter cyber threats, Sri Lankan soldiers must undergo a comprehensive preparation that includes training, awareness, and strategic planning.
 - a. **Cyber Defence Training:** Regular and specialized training programs should be implemented to educate soldiers about cyber security best practices. This includes understanding common threats, recognizing phishing attempts, and learning how to secure personal and professional devices.
 - b. **Operational Security (OPSEC):** Soldiers should be trained in OPSEC principles to protect sensitive information. This involves understanding what information can be shared publicly and ensuring that communication is conducted securely.
 - c. **Collaboration with Cyber Experts:** Engaging with cyber security experts and government agencies will help military personnel stay updated on the latest threats and defence strategies. Collaborative efforts can strengthen the military's overall cyber resilience.
 - d. **Incident Response Plans:** Developing clear protocols for responding to cyber incidents is crucial. Soldiers should be familiar with these plans to ensure quick and effective action in the event of an attack.
 - e. **Continuous Learning:** Cyber threats are constantly evolving; therefore, ongoing education and training sessions should be a part of military life. This ensures that soldiers are equipped with the latest knowledge and skills to combat cyber warfare.
 - f. **Investment in Technology:** The military should invest in advanced cybersecurity technologies that provide real-time monitoring, threat detection, and response capabilities. This can enhance overall situational awareness and operational readiness.
 - g. **Simulations and Exercises:** Conducting regular simulations of cyber-attack scenarios will help to practice their responses and improve their ability to work under pressure. These exercises can reveal vulnerabilities in existing protocols and facilitate improvements.
 - h. **Public Awareness Campaigns:** Educating not only military personnel but also the general public about cyber threats can create a more secure environment. Awareness campaigns can help citizens understand how to protect themselves online and reduce the likelihood of successful attacks.
 - i. **Policy Development:** Establishing clear policies regarding cybersecurity within the military framework is essential. These policies should outline the responsibilities, protocols, and consequences for breaches of cyber security.





CONCLUSION

7. As Sri Lanka navigates the complexities of modern warfare, the importance of preparing for cyber threats cannot be overstated. Cyber warfare represents a new frontier that requires soldiers to be proactive, informed, and resilient. By investing in training, technology, and collaboration, Sri Lankan military personnel can effectively counter the challenges posed by cyber warfare.

8. Understanding the nature of these threats and implementing comprehensive preparation strategies will not only protect military operations but also contribute to national security in an increasingly digital world. As the landscape of warfare evolves, so too must the skills and strategies of those tasked with defending the nation. Embracing this change will be key to ensuring the safety and effectiveness of the Sri Lankan armed forces in the future.

**Lt SMPPB Samarakoon
Tp Ldr – C Sqn**



RESPONSIBILITIES OF JUNIOR LEADERS IN DEVELOPING THE PUBLIC IMAGE OF THE SRI LANKA ARMY

1. The Sri Lanka Army, like any military organization, plays a crucial role not only in national defence but also in shaping the public image of the country. As junior leaders such as Lieutenants, Captains, and Non-Commissioned Officers, these individuals hold significant responsibilities in fostering a positive image both within the military and in the eyes of the public. The following are key areas where junior leaders contribute to the development of the public image of the Sri Lanka Army:

Professional Conduct and Discipline

2. Junior leaders are the backbone of military operations and often serve as the first line of command. Their personal and professional conduct sets the standard for soldiers under their command. By demonstrating integrity, professionalism, and discipline, junior leaders project an image of a well-structured and capable army. This is particularly important when the Army is involved in public events, humanitarian efforts, or even in everyday interactions with civilians.

3. A lapse in discipline by a junior leader can have widespread negative effects, tarnishing the reputation of the entire military. Therefore, maintaining high ethical standards and adhering to military codes of conduct is essential in shaping public perception.

Community Engagement and Civil-Military Relations

4. Junior leaders are often tasked with engaging local communities during various operations, including disaster relief, civil assistance, or community outreach programs. These leaders act as the Army's representatives on the ground and play a crucial role in bridging the gap between the military and civilians. Positive civil-military relations help build trust and respect between the Army and the public, contributing to a favourable image of the organization.

5. In Sri Lanka, where the military has had significant involvements in both wartime and peacetime activities, junior leaders' efforts in fostering goodwill through respectful communication, cultural sensitivity, and community support are vital for maintaining a positive public image.

Crisis and Disaster Response

6. In times of national emergencies such as floods, landslides, and other natural disasters, the Sri Lanka Army often steps into provide critical support. Junior leaders are frequently on the frontlines of these operations, leading their teams in providing relief, rescue, and recovery services. The efficiency, empathy, and professionalism they demonstrate in these situations significantly influence the public's perception of the Army.

7. By leading with compassion and ensuring effective coordination during crises, junior leaders help reinforce the Army's image as a protector and helper of the nation, rather than just a military force focused solely on security.





Humanitarian Assistance and Peacekeeping Missions

8. Sri Lanka's participation in international peacekeeping missions under the United Nations has placed its Army on the global stage. Junior leaders who participate in these missions are responsible for upholding the Army's reputation abroad. Their interactions with international forces, local populations, and foreign governments play a significant role in developing a global public image of the Sri Lanka Army.

9. By adhering to international laws, respecting human rights, and providing humanitarian assistance where needed, junior leaders help highlight the Army as a responsible and ethical institution. Their conduct can shape how the world perceives Sri Lanka's military and its contributions to global peace.

Training and Mentorship

10. Junior leaders are responsible for training and mentoring the younger soldiers who will eventually rise through the ranks. By instilling values such as duty, honour, and service in these soldiers, junior leaders help cultivate a culture of professionalism within the Army. A well-trained and ethically grounded force is more likely to earn the respect of the public.

11. Furthermore, junior leaders' approach to leadership within the Army has a direct impact on internal morale and unity. A motivated and cohesive military force presents a more positive and capable image to the outside world.

Media Interaction and Public Relations

12. In today's world, the role of media in shaping public perception is undeniable. Junior leaders often interact with the media, whether during military operations, humanitarian missions, or public events. Being articulate, transparent, and respectful in these interactions is crucial for maintaining a positive image of the Sri Lanka Army.

13. Moreover, with the rise of social media, junior leaders need to be conscious of how their personal and professional lives are portrayed online. Negative portrayals, whether intentional or not, can have lasting effects on public perception.

Promoting Diversity and Inclusivity

14. The Army's commitment to inclusivity and respect for all ethnicities and religions is key to its positive image in a multicultural society like Sri Lanka. Junior leaders play a role in ensuring that the Army is seen as a place of unity, free from discrimination or bias. By promoting teamwork and respect among soldiers of different backgrounds, junior leaders help create an image of the Army as a force that represents and protects all Sri Lankans.

CONCLUSION

15. Junior leaders in the Sri Lanka Army have a profound impact on the public image of the military. Through their professional conduct, engagement with communities, crisis management, and participation in both local and international missions, these leaders play a key role in shaping the public's perception of the Army. By upholding the values of discipline, compassion, and professionalism, junior leaders contribute to building trust, respect, and pride in the Sri Lanka Army, both within the nation and on the global stage.

Maj HHKLI Hettihachchi
OC – C Sqn



BMP-2 (Boyevaya Mashina Pekhoty)



BMP-2 Boyevaya Mashina Pekhoty

GENERAL

1. The BMP-2 is a second-generation, Soviet and later Russian infantry fighting vehicle (IFV), developed in the late 1970s as a further development of the BMP-1. The BMP-2 was designed to provide improved firepower, protection, and mobility compared to its predecessor.
2. Several upgrades and variants of the BMP-2 have been developed over the years, including improved armour, enhanced fire control systems, and modernized electronics to keep the vehicle relevant on the modern battlefield. The BMP-2 remains in service in many countries, reflecting its robustness and adaptability as an infantry fighting vehicle.
3. The BMP-2 was developed as a response to the evolving battlefield requirements of the 1970s. The original BMP-1, introduced in the 1960s, was revolutionary as the first true infantry fighting vehicle (IFV), combining the mobility of an armoured personnel carrier (APC) with firepower that could engage both infantry and armoured targets. The Soviet Union initiated the development of an improved version, resulting in the BMP-2. This vehicle intends to address the shortcomings of the BMP-1, providing better anti-armour capabilities and enhanced protection for its crew and passengers.

ARMAMENT

4. The primary armament of the 30mm 2A42 auto cannon is capable of firing both high-explosive and armour-piercing rounds and is secondary as the 7.62mm PKT coaxial machine gun. The BMP-2 can be equipped with an ATGM (Anti-Tank Guided Missile) launcher, usually the 9P135M launcher with the 9M111 Fagot (AT-4 Spigot) or 9M113 Konkurs (AT-5 Spandrel) missiles.
5. The key improvement in the BMP-2 over its predecessor was the introduction of the 30mm 2A42 auto cannon. This weapon provided a significant increase in range and firepower, capable of engaging a wide variety of targets, including enemy infantry, light vehicles, and low-flying aircraft. The 2A42 auto cannon can fire at a rate of 200 to 300 rounds per minute, with an effective range of about 2,000 to 4,000 meters, depending on the type of ammunition used. The inclusion of an ATGM



launcher has enhanced its capability to engage armoured vehicles at long ranges, giving the BMP-2 a considerable anti-tank capability.

DESIGN AND PROTECTION

6. The BMP-2 features welded steel armour, providing protection against small arms fire and shell splinters. However, it offers limited protection against heavier weapons and anti-tank-guided missiles.

- **Mobility:**

- **Engine:** The BMP-2 is powered by a UTD-20S1, 6-cylinder, 4-stroke, liquid-cooled diesel engine, producing 300 hp.
- **Speed:** It has a maximum road speed of 65 km/h and can reach up to 7 km/h in water. Torsion bar suspension ensures excellent cross-country mobility.

- **Capacity:**

- The BMP-2 can carry a crew of 3 (commander, gunner, and driver) and up to 7 infantrymen in the rear compartment.

- **Amphibious Capabilities:**

- The BMP-2 is fully amphibious, capable of crossing rivers and lakes without preparation. It uses its tracks for propulsion in the water.

- **Revised Layout:**

- The BMP-2 retained the basic layout of the BMP-1 but it was introduced with some changes to improve functionality and crew safety. The commander is moved to a position behind the gunner, giving him access to better observation and control of the battlefield.
- The troop compartment has been slightly modified to accommodate seven infantrymen instead of the eight in the BMP-1. This has been done to provide more space and comfort for the troops.

- **Enhanced Protection:**

- While the armour remained relatively light to maintain mobility, the BMP-2's design incorporated additional armour protection in critical areas, particularly around the turret. This has helped increase the vehicle's survivability against small arms fire and shell fragments.

- **Improved Mobility:**

- The BMP-2 maintains excellent cross-country mobility than its predecessor, with the ability to traverse rough terrain and obstacles with ease. Its amphibious capabilities enable it to conduct river crossings and operate in environments where bridges or other infrastructure might be compromised.



OPERATIONAL HISTORY

7. The BMP-2 entered service with the Soviet Army in the early 1980s and quickly became one of the most widely used IFVs in the world. It saw extensive service in various conflicts, including:

- **Soviet-Afghan War (1979-1989):**

- The BMP-2 was heavily used by Soviet forces during the war in Afghanistan. Its ability to provide fire support and transport troops in the rugged terrain of Afghanistan made it an essential asset. However, it also highlighted some of the vehicle's vulnerabilities, particularly to anti-tank weapons and mines.

- **Gulf War (1990-1991):**

- The BMP-2 was used by Iraqi forces during the Gulf War. Coalition forces encountered these vehicles during operations, and while the BMP-2's firepower posed a threat, its relatively light armour made it vulnerable to modern anti-tank weapons.

- **Chechen Wars (1994-2000):**

- The BMP-2 was extensively used by Russian forces during the First and Second Chechen Wars. The urban combat conditions in Chechnya exposed the vehicle's vulnerabilities to RPGs and improvised explosive devices (IEDs), leading to significant losses.

- **Sri Lankan Civil War (1983 – 2009)**

- The BMP-2 (Boyevaya Mashina Pekhoty), a Soviet-designed infantry fighting vehicle (IFV), was indeed involved in the Sri Lankan Civil War, particularly during its final stages in 2009. The BMP-2s were a part of the Sri Lankan Army's mechanized infantry units and played a significant role in the humanitarian operation aimed at defeating the Liberation Tigers of Tamil Eelam (LTTE).

- **Ongoing Conflicts:**

- The BMP-2 continues to see service in various conflicts around the world, including in Syria, Ukraine, and other hotspots. Its versatility, ease of maintenance, and availability in large numbers ensure that it remains a key asset for many armed forces.

MODERN VARIANTS AND UPGRADES

1. BMP-2D:

- This variant includes additional armour plating and an appliqué armour kit for enhanced protection, particularly against mines and RPGs. However, the added weight reduces its amphibious capabilities.

2. BMP-2M:

- A modernized version featuring upgraded optics, a new fire control system, and the ability to fire the more advanced Kornet anti-tank guided missiles. The BMP-2M also includes improvements to the vehicle's electronics and communication systems.



3. BMP-2K:

- A command variant with additional radio equipment and navigation aids. The BMP-2K is designed to serve as a command vehicle for unit commanders, providing better battlefield awareness and coordination capabilities.

4. International Variants:

- Various countries have developed their own upgraded versions of the BMP-2, often incorporating locally produced equipment and systems. For example, India has produced the BMP-2 Sarath, which features enhancements tailored to the needs of the Indian Army.

GENERAL SPECIFICATIONS

Alternative Designations	BMP M1981, Yozh (Russia), & Sarath (India)
Country of Origin	USSR
Role	Infantry fighting vehicle
Date of Introduction	1980
Crew	3 (commander, gunner, driver) + 7 passengers
Combat Weight	15.76 tons (14.3 mt)
Ground Pressure	8.96 psi (0.63 kg/cm ²)
Overall Length	22.05 ft (6.72 m)
Overall Width	10.33 ft (3.15 m)
Overall Height	8.04 ft (2.45 m)
Ground Clearance	18 in (480 mm)
Engine	300 hp (224 kw) UTD-20 V-6 diesel
Range	373 miles (600 km)
Fuel Capacity	122 gal (460 l)
Road Speed	40 mph (65 km/h)
Cross Country Speed	22 mph (35 km/h)
Swim Speed	4 mph (7 km/h)
Fording Depth	Amphibious
Grade	60%
Side Slope	30%
Trench Crossing	8.2 ft (2.5 m)
Vertical Wall Climb	2.3 ft (0.7 m)
Armour	Turret front: 0.9 in (23 mm) Turret side: 0.75 in (19 mm)
Hull side: 0.63 - 0.71 in (16 - 18 mm)	
Explosive Reactive Armour	Available
NBC Protection System	Collective
Smoke Equipment	Vehicle engine exhaust smoke system. Six smoke grenade launchers.



ARMAMENT

TYPE	MOUNT	TYPICAL AMMO LOAD
30mm 2A42 Automatic Gun	Turret; dual-belt feed	500. HEI-T, Frag-HE, AP-T, APDS-T, APFSDS-T
7.62mm PKT Machine Gun	Coaxial to main gun	2,000
9P135M1/M3 AT-4/AT-5 ATGM Launcher.	Tube-launched; dismountable	5. AT-4, AT-4B, AT-5, AT-5B



Intensive Training Session – Professional AFVs Driver Course at Automotive and Gunnery Squadron - Kokavil



EVOLUTION OF MILITARY TECHNOLOGY

INTRODUCTION

Military technology encompasses a diverse array of weapons, equipment, structures, and vehicles specifically designed for warfare. It involves not only the knowledge necessary for the development and construction of such technologies but also their effective application in combat, as well as maintenance and replenishment. This field integrates advancements in engineering, electronics, information technology, materials science, and robotics to devise innovative solutions for contemporary military operations.

From sophisticated weaponry and vehicles to surveillance systems and communication networks, military technology is vital for national security and strategic planning. Key focus areas include unmanned systems, artificial intelligence, cyber warfare, and missile defence, each playing a significant role in a rapidly changing landscape where technological advancements dictate the dynamics of conflict. Investments in military research and development lead to breakthroughs that enhance combat readiness while also improving humanitarian efforts and disaster response capabilities. As global threats evolve, the significance of cutting-edge military technology becomes increasingly critical, underscoring the need for nations to adapt and innovate in response to emerging challenges.

In parallel with advancements in infantry tactics, the evolution of armour has mirrored these developments. Tank technology has been fundamental to modern warfare since its introduction during World War I. Engineered to endure enemy fire while delivering mobility and firepower, tanks have seen a significant evolution over the years. Today, they embody a sophisticated amalgamation of engineering prowess, firepower, and advanced technology tailored to meet the demands of modern combat.

Originally conceived to overcome the stalemate of trench warfare, tanks have experienced numerous design and functional transformations. Early models were characterized by their slow pace and unwieldy nature; however, innovations in armour protection, weaponry, and mobility have transformed modern tanks into highly adaptable platforms capable of operating effectively across diverse environments.

The evolution of military technology has profoundly influenced the course of history, shaping conflicts and transforming the nature of warfare. From primitive weaponry to state-of-the-art advancements, each era has introduced innovations that have redefined military strategy and capabilities. This progression has been driven by the pursuit of strategic advantage and the impact of technological innovation.



In ancient times, basic implements such as spears and bows were utilized, which later evolved into more sophisticated weapons like swords and crossbows. The introduction of gunpowder in the 9th century marked a revolutionary shift in warfare, leading to the development of cannons and firearms and transitioning combat from hand-to-hand encounters to ranged engagements.

The Industrial Revolution ushered in unprecedented advancements, including the establishment of railroads and telegraphs that significantly improved logistics and communication. The 19th century witnessed the emergence of ironclad ships and machine guns, which drastically altered the dynamics of naval and ground combat. The introduction of tanks during World War I further transformed battlefield strategies, enabling more mobile and armoured forms of warfare.

World War II accelerated technological progress with innovations such as radar, jet aircraft, and nuclear weapons. These developments resulted in complex and destructive forms of warfare, fundamentally altering military strategies and global power relations. In the late 20th and early 21st centuries, technology continued to evolve with the advent of computers and the internet. Precision-guided munitions, drones, and cyber warfare have emerged, facilitating remote engagement and surveillance. The concept of network-centric warfare emphasizes real-time information sharing, thereby enhancing decision-making on the battlefield.

Today, military technology encompasses artificial intelligence, robotics, and advanced cyber capabilities, further reshaping the nature of conflict. As technological advancements persist, they are likely to influence future military strategies while raising ethical questions regarding the implications of autonomous systems and the evolving nature of warfare. The interplay between technological innovation and military strategy remains a defining characteristic of human conflict.



The Evolution of U.S. Army Communications

Source: <https://www.linkedin.com/pulse/evolution-us-army-communications-from-tri-tac-unified-michael-kell-s2a3e>



ANCIENT WARFARE: THE DAWN OF TECHNOLOGY

Early military technology was marked by rudimentary weapons and defensive structures. The advent of tools such as bows and arrows, spears, and chariots enhanced both range and effectiveness in combat. Additionally, the construction of fortifications, including walls and castles, underscored the significance of defence.



Figure 1: From Stone Tools to Guns: A Timeline of Ancient Weapons

Source: <https://www.discovermagazine.com/technology/from-stone-tools-to-guns-a-timeline-of-ancient-weapons>

Gunpowder and Firearms. The invention of gunpowder in the 9th century revolutionized warfare. By the late Middle Ages, the emergence of cannons and firearms enabled armies to breach fortified walls and engage enemies from a distance. This transformation necessitated new tactical approaches and contributed to the decline of traditional knight-based combat.

Industrial Revolution: Mass Production and Logistics. The Industrial Revolution brought significant advancements in military technology. Mass production facilitated the creation of more sophisticated weaponry, including rifled guns and artillery. Innovations in steam power and railroads enhanced logistics, allowing for quicker troop movements and improved supply lines, fundamentally altering military strategy.

World War: Technological Arms Race. The World Wars were characterized by unprecedented technological innovation. Tanks, aircraft, and submarines became central to military operations. World War I introduced trench warfare and chemical weapons, while World War II saw the development of radar, jet engines, and nuclear weapons. The utilization of these technologies transformed the scale and intensity of warfare.

Cold War: Space and Cyber Warfare. The Cold War era was marked by an arms race and the development of advanced technologies, including intercontinental ballistic missiles (ICBMs) and nuclear submarines. The Space Race led to innovations in satellite technology, enhancing reconnaissance and communication. Additionally, the emergence of cyber warfare began to reshape military operations, highlighting the importance of information and technology in modern conflicts.



21st Century: Precision and Automation. In contemporary times, military technology prioritizes precision, mobility, and automation. Drones and unmanned systems offer reconnaissance and strike capabilities without endangering human lives. Advanced weaponry, such as precision-guided munitions, minimizes collateral damage while maximizing effectiveness. Additionally, artificial intelligence and machine learning are becoming integral to decision-making processes and logistics.

Future Trends: AI and Autonomous Systems. Looking ahead, military technology is expected to focus on further integration of AI and autonomous systems. These innovations hold the promise of enhancing situational awareness, improving logistics, and facilitating real-time decision-making on the battlefield. However, ethical considerations regarding autonomous warfare will need careful navigation.



Figure 2: Ancient Times to Modern Warfare
Source: <https://www.ar500armor.com/blog/body-armor-history/>



FUTURE AND MODERN TRENDS IN MILITARY TECHNOLOGY

The landscape of military technology is rapidly evolving, propelled by innovation and the necessity to adapt to emerging threats. Below are some key modern trends and future developments that shape the military landscape:

Artificial Intelligence and Machine Learning. AI is revolutionizing military operations by facilitating data-driven decision-making. Contemporary militaries are integrating machine learning algorithms for predictive analytics, logistics optimization, and threat detection. AI-driven systems can process vast amounts of data from multiple sources, thereby enhancing situational awareness and operational efficiency.

Unmanned Systems and Focus on Counter-drone Technology. Unmanned Aerial Vehicles (UAVs), Unmanned Ground Vehicles (UGVs), and Unmanned Underwater Vehicles (UUVs) are becoming integral to military strategy. These systems can perform reconnaissance, logistics, and combat missions while minimizing risks to personnel. The trend is shifting toward greater autonomy, enabling these vehicles to operate independently in complex environments. Drones are increasingly important for several reasons such as for:

- a. **Real-time Logistics:** Drones can provide live video feeds anywhere on the battlefield without relying on satellite imagery.
- b. **Targeting:** Unlike artillery, drones can precisely target specific areas, vehicles, and personnel.
- c. **Suppression:** Drones can be employed to suppress missile and air attacks.



Figure 1: MQ-25 Stingray Drone (Autonomous Refuelling Aircraft)
Source: <https://explodingtopics.com/blog/military-technology-trends>



Cyber Warfare and Cybersecurity.

Military personnel categorize cyber warfare as part of "the grey zone," which lies between peaceful routine operations and conventional warfare. As militaries become more dependent on digital networks, the significance of cyber warfare and cybersecurity has escalated. Nations are investing in both offensive and defensive capabilities to safeguard critical infrastructure against cyber threats. This includes developing robust cybersecurity measures and engaging in information warfare to influence public perception and disrupt enemy operations. For instance, a cyberattack in 2021 targeted a Florida water plant, threatening to poison residents by introducing dangerous levels of lye into the drinking water.



*Figure 2: Florida City Water Plant
Source: Greenberg, A. (2021, February 8).*

Hackers and cyber terrorists, whether acting on behalf of other nations or independently, have demonstrated the capability to compromise critical infrastructures such as electric grids and communication systems.

Directed Energy Weapons. Directed energy technologies, such as lasers and microwave weapons, are emerging as viable solutions for defence against aerial threats, including drones and missiles. These systems offer precision targeting with minimal collateral damage and the potential for lower operational costs compared to traditional munitions.

Advanced Robotics and Automation. Robotics has the potential to reshape the battlefield by providing advanced capabilities for logistics, bomb disposal, and medical support. Automated systems are being developed to enhance soldiers' effectiveness, reduce fatigue, and perform dangerous tasks in hazardous environments, paving the way for more efficient operations.

Hypersonic Technologies. Hypersonic weapons, capable of travelling at speeds greater than Mach 5, pose new challenges for defence systems. Countries invest in developing these weapons, which can evade traditional missile defences due to their speed and manoeuvrability. This arms race is reshaping military strategy and international relations.



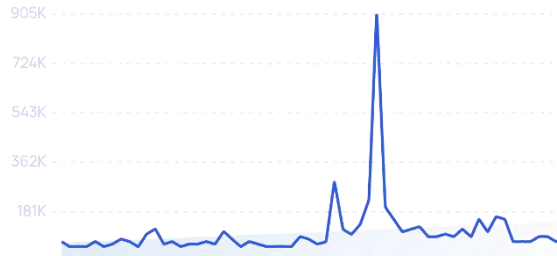


Figure 3: Search Volume for 'Hypersonic Speed' Rises 25% in 5 Years.

Source: <https://explodingtopics.com/blog/military-technology-trends>

Notably, hypersonic missiles can fly at low altitudes and manoeuvre in flight, making them nearly impossible to track with current missile defence systems.

Enhanced Soldier Systems. Modern soldiers are being equipped with advanced technologies designed to enhance their battlefield capabilities. This includes wearable sensors for health monitoring, augmented reality systems for improved situational awareness, and integrated communication systems that bolster coordination and effectiveness.

Network-Centric Warfare. The shift towards network-centric warfare emphasizes the importance of interconnected systems and real-time data sharing among military units. This approach enhances collaboration and situational awareness, allowing commanders to make informed decisions quickly based on accurate, up-to-date information.

Sustainability and Green Technologies. In light of growing concerns about climate change, militaries are exploring sustainable practices and technologies. This includes the development of energy-efficient systems, electric and hybrid vehicles, and alternative fuel sources aimed at reducing environmental impact while increasing operational resilience.



MODERN TRENDS OF TANK TECHNOLOGY

Tank technology represents a significant milestone in military advancements. It continues to evolve, driven by progress in engineering, materials science, and combat strategy. Modern tank technology focuses on enhanced mobility and firepower, advanced armour, and improved situational awareness. Innovations include Active Protection Systems (APSs) that intercept incoming threats, Unmanned Aerial Vehicles (UAVs) for reconnaissance, and integrated battlefield networks for real-time data sharing. The use of lighter composite materials enhances speed and fuel efficiency while maintaining protective capabilities. Furthermore, advancements in fire control systems allow for precise targeting and engagement at greater distances. Hybrid propulsion systems are also being explored to extend operational range and reduce logistical burdens. Overall, modern tanks are evolving to become more versatile, survivable, and effective across various combat scenarios by incorporating digital technologies and automation.

Active Protection Systems (APS). Active Protection Systems are designed to detect and neutralize incoming threats, such as anti-tank missiles and grenades. These systems use sensors to identify threats and deploy countermeasures, such as projectiles or jamming techniques, to intercept them before impact, significantly enhancing a tank's survivability.

Advanced Armor Solutions. Modern tanks incorporate next-generation armour technologies, including composite materials and reactive armour. Innovations like modular armour allow for quick upgrades and customization based on mission requirements. Additionally, research into nanotechnology and lightweight materials aims to improve protection without significantly increasing weight.

Autonomous and Semi-Autonomous Operations. The integration of autonomy is becoming increasingly prevalent in tank technology. Semi-autonomous systems can assist human operators in navigation, targeting, and threat detection. Fully autonomous tanks are in the experimental phase, with potential applications for reconnaissance and logistics in high-risk environments.

Enhanced Firepower. Modern tanks are equipped with more powerful and versatile weapon systems. Innovations include smoothbore cannons, which offer greater accuracy and range, as well as the integration of smart munitions that can adjust their trajectory mid-flight. Some tanks are also being outfitted with missile systems to engage targets at longer distances.

Situational Awareness and Networking. Modern tanks are increasingly reliant on advanced sensors and communication systems to improve situational awareness. Integration with battlefield networks allows for real-time data sharing among units, enhancing coordination and effectiveness. Technologies like augmented reality displays provide crews with critical information about threats and terrain.

Hybrid and Alternative Propulsion Systems. To enhance operational flexibility and reduce logistical burdens, some modern tanks incorporate hybrid or electric propulsion systems. These



technologies can improve fuel efficiency and reduce the thermal signature of the vehicle, making it less detectable on the battlefield.

Human-Machine Interface (HMI) Improvements. Advancements in human-machine interfaces enhance crew efficiency and comfort. Touchscreen controls, voice commands, and intuitive displays streamline operations, allowing tank crews to focus more on tactical decision-making rather than complex controls.

Simulation and Training Technologies. As tank technology progresses, so does the necessity for effective training methods. Virtual and augmented reality systems are being employed for crew training, enabling soldiers to practice scenarios in a safe environment. This technology can improve readiness while reducing the time required for traditional training approaches.

CONCLUSION

Military technology significantly influences warfare, national security, and global dynamics. It has evolved rapidly, shaping the strategies, tactics, and outcomes of conflicts throughout history. From ancient weaponry to contemporary innovations such as drones, artificial intelligence, and cyber warfare, technology continuously transforms the landscape of military operations.

While advancements in military technology can enhance defence capabilities and deter potential aggressors, they also raise ethical, political, and humanitarian concerns. The proliferation of advanced weaponry can escalate conflicts, contribute to arms races, and potentially destabilize regions. Moreover, the development of autonomous systems and artificial intelligence presents moral dilemmas regarding the role of human decision-making in critical life-or-death situations.

In conclusion, military technology plays a vital role in modern security; however, it must be managed carefully through international cooperation, legal frameworks, and ethical considerations to ensure that its advantages do not lead to increased risks or unintended consequences. Responsible development and deployment are crucial for maintaining global peace and stability.

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POWER OF COMBINED ARMS TACTICS IN MODERN WARFARE

Countries' militaries play critical roles in National Security and International Affairs, determined by their distinct histories and strategic agendas. As technology advances, governments adapt to new problems, ensuring that their military capabilities are in line with current threats and operational requirements. To protect the biosphere of a state, almost every country maintains the three branches of Army, Navy and Airforce within their governments. Different branches each offer special advantages. The Army's ground forces offer stability and heavy firepower, the Navy's naval forces maintain maritime security, and the Air Force's swift strike capabilities and reconnaissance are provided. When these components are combined, overall effectiveness in accomplishing mission objectives is maximized. The seamless integration of the Army, Navy, and Air Force is often critical to the success of modern military operations. These branches can respond to a variety of issues in a variety of operating situations and accomplish strategic objectives more quickly and effectively by combining their special talents and resources. Maintaining operational dominance and agility in the face of changing threats requires this integrated approach.

From the beginning of World War 1 in 1914, powerful countries such as the UK, USA, Germany and France began engaging with combined armed strategies by mixing all three branches of the armed forces and the idea of joint operations emerged. These types of operations entail the coordinated use of forces from several branches to carry out missions more effectively. This method increased operational flexibility and also maximized the qualities of each service. One of the most successful combined armed operations was "Operation Overload" executed in July 1944. The goal was to capture the coastal line of France by a large-scale invasion by Allied forces against the Atlantic wall constructed by the Axis-German forces. Almost 133,000 troops engaged in the amphibious assault with the support of Naval gunfire by the Navy, Air Strikes and Air Surveillance by the Air Force.

The Army, Navy, and Air Force of Sri Lanka have a long and intricate operational history that has evolved significantly over the years. The collaboration between these three branches had been particularly evident during the protracted battle with the Liberation Tigers of Tamil Eelam (LTTE). The plans and tactics used during this operation demonstrated the efficiency of joint operations across land, sea, and air and showcased the capabilities of the armed forces.

The entire military forces faced a distinct set of difficulties as a result of the civil war in Sri Lanka, which broke out in the early 1980s and continued until 2009. The LTTE was well-known for its innovative use of asymmetric warfare, guerilla tactics, and even its naval operations. However, the Sri Lankan military was prepared to handle conventional weapons. To confront these challenges, the Sri Lankan military devised a policy that strongly emphasised inter-service cooperation. This allowed for more effective responses to the conflict's fluid and shifting nature.

THE IMPORTANCE OF COMBINED OPERATIONS

The Army, Navy, and Air Force are the three military branches and their capabilities are integrated through combined operations, which are crucial to modern combat. It is possible to quickly adapt combined operations to changing battlefield conditions. For example, air support can be quickly provided for close air support if ground forces find unexpected resistance, while naval forces can give artillery support from offshore, and this capacity to carry out joint operations is a strong deterrent to enemies. Demonstrating collaborative qualities can fortify partnerships and convey



military preparedness. Asymmetric warfare is a common method used in modern battles where traditional military strategies may not be adequate. A more adaptable reaction is made possible by combined operations, which combine naval power for logistical support, air support for quick strikes, and ground forces for stability. Joint activities can provide a broad range of assistance in humanitarian emergencies. The Army can offer ground support, the Air Force can carry out airlifts, and the Navy can convey supplies via ships, demonstrating a coordinated response to international difficulties.

The concept of combined operations where the Army, Navy, and Air Force work together was pivotal in the Sri Lankan military strategy. This approach was designed to maximize the strengths of each service branch while compensating for their individual weaknesses. The Navy played a critical role in controlling the sea routes used by the LTTE for smuggling weapons and supplies. In contrast, the Air Force provided vital air support and intelligence, while the Army engaged in ground operations.

A hallmark of this strategy was evident in ‘Operation Riviresa’ in 1995, which aimed to recapture the Jaffna Peninsula. This operation illustrated the effectiveness of joint operations: the Army advanced on land, the Navy secured the waters, and the Air Force conducted aerial surveillance and support. This synergy not only enhanced operational efficiency but also reduced the risk of friendly fire incidents and civilian casualties.

COMBINED TACTICAL INNOVATIONS

The modern period of combat has been profoundly altered by the combined tactical advances of the Army, Navy, and Air Force, which have improved operational effectiveness and responsiveness. The creation of integrated artillery, naval gunfire, and airstrikes for coordinated fire support and real-time communication between ground forces and air/naval assets is made possible by advanced targeting systems. During the Iraq War, the deployment of Forward Observers enabled the seamless integration of close air support with artillery and naval gunfire, enhancing accuracy and effectiveness. The combination of infantry and naval troops allowed them to capture and quickly attack coastal areas. Securing beachheads involved the use of helicopters, landing ships, and close air support.

An important component of the Sri Lankan military's policy was the idea of integrated operations, in which the Army, Navy, and Air Force collaborate. The goal of this strategy was to balance each service branch's unique shortcomings while maximizing each branch's strengths. The Navy was essential in keeping the LTTE's maritime channels under control as they smuggled supplies and weaponry. On the other hand, the Army conducted ground operations, and the Air Force supplied crucial air support and intelligence.

For example, during ‘Operation Pawan,’ a joint operation conducted by the Indian Peace Keeping Force (IPKF) against the LTTE, the army carried out ground assaults backed by airstrikes from the Air Force and naval blockades by the Navy. This multifaceted strategy played a key role in upsetting the logistics and supply networks of the LTTE, which mostly depended on sea transportation. In these operations, the use of technology also became more and more crucial. Eventually, the Sri Lankan Air Force started using technologies for aerial reconnaissance and surveillance, giving ground forces useful intelligence. The military was able to keep a close eye on the activities of the LTTE and launched pre-emptive strikes against important targets due to these technological advances,



The Air Force conducted close air support, Battle Area Interdiction (BAI), reconnaissance, and surveillance missions to offer vital air assistance during ground offensives as well. For example, during ‘Operation Riviresa,’ the air force had to spot enemy positions and give ground commanders up-to-date intelligence. The safe and efficient advancement of the Army depended on this knowledge. Furthermore, the ground forces' operational reach was increased by the ability to operate in previously unreachable places, thanks to the deployment of helicopters for troop transport and logistical support.

In coastal locations and during amphibious assaults, the Navy played an important role in aiding the operations. To stop LTTE reinforcements from entering the fighting zones, naval boat-controlled sea channels, and beachheads and supplied fire support during landings. This cooperation ensured that ground forces faced minimal outside threats while carrying out their tasks. The Navy successfully cut off the LTTE's maritime supply routes during ‘Operation Pawan,’ freeing the Army to concentrate on their ground assault without having to worry about getting resupplied by sea.

CONCLUSION

Although most countries maintain Army, Navy and Air Force as separate branches, powerful countries such as the USA, UK, India, Russia, etc., maintain Army Aviation and Navy Aviation which are separated from Independent Air Forces and the ground forces often maintain specialized troops for inshore and riverine battles. This enables different branches to deploy quickly into battles more efficiently while improving the flexibility of command and control. However, maintaining independent branches still helps to improve the defensive and offensive advantages, as each branch is responsible for protecting each part of the biosphere with the relevant training and tactics.

Apart from Operation Riviresa and Operation Final Offensive, several other operations were conducted by the Sri Lanka Army such as Operation Jayasikuru, Operation Agnikeela, Operation Final Offensive and Operation Thrivida Pahara which the tri-forces performed combined tactics to achieve objectives. Despite the fact that some operations such as ‘Operation Thrivida Pahara’ were not successful, the combination of the armed forces proved to be effective against the LTTE.

The last stages of the fight in 2009 saw the greatest success of coordinated operations. ‘Operation Final Offensive,’ which saw the Army, Navy, and Air Force collaborating to destroy the last LTTE strongholds, was initiated by the armed forces. Ground forces could advance with the assistance of naval gunfire, as the airstrikes targeted vital LTTE infrastructure. The LTTE was ultimately defeated as a result of this operation, which demonstrated the value of combined Sea, Air and Land tactics. But the fight also brought to light certain difficulties. Rapid decision-making was frequently at odds with interbranch bureaucratic procedures. Effective communication along with strong leadership was necessary to guarantee that every unit was operating under the same strategic direction. The efficacy of combined tactics and strategies was demonstrated throughout the operational history of the Sri Lankan Armed Forces. With the improvement of Sea, Air, and Land integration, armed forces will be able to address the current threats more efficiently. In addition to improving military performance, joint training exercises such as ‘Operation Cormorant Strike’ which the tri-forces conducted yearly for joint training purposes, help to ensure that Sri Lanka is prepared for any challenges that may arise in the years ahead.



TURNING POINT OF EASTERN WAR: BATTLE OF KURSK

Taking place between July 5 and August 23, 1943, the Battle of Kursk is considered one of the most important battles of World War II. It demonstrated the change of momentum from the Axis powers to the Soviet Union and signalled a turning point on the Eastern Front. This article explores the battle's strategic significance, significant moments, and long-term effects.

BACKGROUND

The Eastern Front had grown into a massively significant and expansive battlefield by 1943. Due in large part to the tenacity displayed at Stalingrad, where the German Sixth Army was surrounded and routed in early 1943, the Soviet Union, suffering from early defeats in 1941 and 1942, had started to recover. This triumph inspired Soviet troops and prepared the ground for a counteroffensive to retake the lost ground.

Adolf Hitler's German High Command aimed to recover the initiative in the East. Operation Citadel, a focused assault on the Kursk salient, which protruded into German-held territory, was to be launched. The objective was to reestablish German supremacy on the Eastern Front by encircling and destroying Soviet forces. Securing the area's crucial rail and supply connections was another goal of the attack.

The Soviets had foreseen the German attack, according to their reconnaissance and information. They developed a comprehensive defence plan, setting out tank traps, building intricate fortifications, and creating minefields under the direction of General Georgy Zhukov. To exhaust the German forces in a war of attrition, the Soviet command concentrated on transforming Kursk into a fortified stronghold.

For Operation Citadel, the Germans gathered a powerful force of roughly 900,000 soldiers, 2,700 tanks, and 2,000 aircraft. The goal of this force concentration was to guarantee an immediate and resounding victory. With the arrival of modern Panther and Tiger tanks, the Germans hoped to gain a significant technological advantage. The Soviets, on the other hand, had some 1.3 million soldiers, 3,600 tanks, and 2,500 aircraft. Their better terrain knowledge and well-prepared locations strengthened their defences. To overwhelm the invaders with their numbers and logistics, the Soviets sought to entice the Germans into a drawn-out conflict.

COMMENCEMENT OF THE BATTLE

The German attack on the northern flank on July 5, 1943, marked the beginning of the fight. The Red Air Force was better prepared than in previous battles, but the Luftwaffe launched a massive aerial operation to destroy Soviet air defences. The Soviet soldiers, who had successfully strengthened their positions, fiercely resisted the German advance.

German forces achieved considerable progress in the early going, particularly on the northern front close to Prokhorovka. However, the Soviets gradually undermined German advances by using a policy of reserves and counterattacks. Brutal tank battles were a defining feature of the conflict, particularly the one at Prokhorovka on July 12, in which hundreds of tanks engaged in direct action, causing significant casualties on both sides.



After the first two weeks of combat, things started to change. Due to intense opposition and an unrelenting Soviet counteroffensive, the Germans found their momentum stagnating. The Wehrmacht started to have logistical problems as the Germans advanced farther into Soviet lines, overtaxing their supply lines.

THE COUNTER OFFENCE

The Soviets began Operation Kutuzov, a counteroffensive to encircle the German soldiers near Orel, on July 12, 1943, while the Germans were having trouble. This operation included troops, artillery, and armour in an effort to exploit the weaknesses in the German defences. The Germans were forced to defend themselves as the Soviets were able to retake a significant amount of land.

On July 12, one of the battle's most important battles took place in Prokhorovka. One of the biggest tank fights in history that involved thousands of tanks from both sides. Despite the fact that both sides suffered significant losses, the battle represented the tenacity of Soviet forces and a turning point in the conflict.

During the Battle of Kursk, both sides sustained severe losses. About 200,000 German soldiers were lost, including 50,000 killed with significant armour losses. The combat was one of the bloodiest of the war, with the Soviets suffering almost 250,000 casualties despite causing significant damage.

The German war effort was significantly impacted by Operation Citadel's failure. The Wehrmacht could not replace the losses it sustained, and the inability to secure conclusive victory led to a shift in initiative. After successfully repelling the German attack, the Soviet Union became more confident and started preparing its own counteroffensive.

AFTERMATH

German offensives on the Eastern Front were essentially stopped by the Battle of Kursk. The Soviets took the initiative and launched operations like Operation Suvorov, which resulted in the liberation of large areas that the Axis troops had previously controlled. Soviet military prowess and morale were cemented by the successful defence and counteroffensive at Kursk.

The conflict demonstrated how warfare changes, especially with regard to the employment of tanks and combined arms tactics. The Soviet Union's triumph was greatly aided by the advent of the T-34 tank, which had superior capabilities and design. On the other hand, the German Panther and Tiger tanks' shortcomings were exposed, bringing to light problems with their operational efficacy and mechanical dependability.

Both Soviet and Axis forces suffered significant psychological effects during the Battle of Kursk. The Germans began to believe that their defeat was inevitable as a result of their inability to accomplish their goals. Kursk came to represent tenacity and resolve for the Soviets, strengthening their faith in ultimate triumph.



CONCLUSION

One of the most important and extensively researched conflicts of World War II is still the Battle of Kursk. Its outcome showed the changing tides of military might and signalled a turning point in the Eastern Front combat. Future Soviet strategy and tactics were influenced by the lessons learnt in Kursk, which ultimately led to Nazi Germany's downfall.

Kursk emphasized the significance of planning, logistics, and the role of morale in combat effectiveness in the larger framework of the conflict. As one of the largest conflicts in history, it serves as a reminder of both the intricacies of military strategy and the atrocities of war. As a reminder of the sacrifices made and the lessons discovered during one of the darkest periods in human history, Kursk's legacy endures today.



Map – Battle of Kursk

SPECIAL FORCES AND THEIR BEGINNING

Military groups trained to carry out special operations are known as special forces or special operations forces (SOF). NATO defines special operations as "military activities conducted by specially designated, organized, selected, trained and equipped forces using unconventional techniques and modes of employment". Since every major army involved in World War II established organizations dedicated to special operations behind enemy lines, the field of special forces has grown significantly since its inception in the early 20th century. Airborne operations, counter-insurgency, counter-terrorism, foreign internal defence, covert operations, direct action, hostage rescue, high-value targets/manhunt, intelligence operations, mobility operations, and unconventional warfare are among the tasks that special forces may carry out, depending on the nation. The term "special purpose" (Spetsnaz) is commonly used to refer to any nation's special forces in Russian-speaking nations. While the phrase "special operations forces" is used more generally to refer to these kinds of groups, the word "special forces" is frequently used in the United States to refer particularly to the U.S. Army Special Forces.

HISTORY

Throughout the history of warfare, special forces have been crucial whenever the goal was to disrupt through sabotage and "hit and run" tactics as opposed to more regular conventional battles. Additional important responsibilities were reconnaissance, supplying vital intelligence from close to or among the enemy, and increasingly battling irregular groups, their infrastructure, and their operations.

In his Six Secret Teachings, Chinese strategist Jiang Ziya spoke about enlisting gifted and driven men into elite forces that were tasked with tasks like controlling heights and advancing quickly over vast distances. Specialized troops under Hamilcar Barca in Sicily (249 BC) were trained to launch multiple offensives every day. Roman fleets utilized small, swift, camouflaged ships manned by chosen soldiers for commando and scouting missions in the late Roman or early Byzantine eras. Specific forces that were trained to carry out specific operations were used multiple times during the Middle Ages. The unique abilities of Portuguese warrior and Reconquista folk hero Gerald the Fearless served as an illustration for this. Additionally, Muslim troops had maritime special operations units, such as one that conducted raids and intelligence gathering using camouflaged ships and another that employed men who could pose as Crusaders to sneak aboard enemy ships, seize them, and destroy them. In Japan, ninjas served as bodyguards, fortress guards, assassins, spies, and other combatants in addition to regular soldiers. Rifle regiments and sapper units were established during the Napoleonic Wars; these units were not dedicated to the official battle lines and had specialized tasks in reconnaissance and skirmishing.

EARLY SPECIALIZED UNITS

Native American tribes and American colonists fought conflicts throughout the 17th and 18th centuries. Capt. John Smith was the first to suggest the formation of specialized Rangers in colonial America in 1622. The Rangers assisted in carrying out offensive strikes during "frontier combat" against hostile Native Americans after learning frontier tactics from friendly Native Americans. Ranger companies were thus established to offer light infantry, scouting, intelligence, and reconnaissance. The first American Ranger force was commanded by Colonel Benjamin Church (1676–1718). Many colonial officers created their own Ranger units based on Benjamin Church's ranging theories.



The American colonies saw the establishment of a number of Ranger companies, such as Knowlton's Rangers, an elite corps of Rangers that provided espionage and reconnaissance support to George Washington's Continental Army. Daniel Morgan was the Continental Army's Corps of Rangers commander. The "spiritual home" of the United States Special Operations Forces, especially the United States Army Rangers, is Rogers' Rangers based on Roger's Island in present-day Fort Edward, New York. The 28 "Rules of Ranging" by Robert Rogers, which is regarded as the first known guidebook of contemporary asymmetric warfare tactics utilized in contemporary special operations, served as the training manual for these early American light infantry battalions.

Before the creation of the Army Ranger Battalions in WW II, a number of military Ranger units, including the United States Mounted Rangers, United States Rangers, Loudoun Rangers, 43rd Virginia Rangers, and Texas Military Rangers, persisted throughout the 19th and 20th centuries. The Gurkha Scouts, a force founded in the 1890s and initially utilized as a separate unit during the 1897–1898 Tirah Campaign, and the Corps of Guides, established in 1846, were two special forces used by the British Indian Army throughout their frontier wars. More specialized troops were needed by the British Army during the Second Boer War (1899–1902). This position was filled by scouting groups like the Lovat Scouts, a Scottish Highland Regiment composed of outstanding woodsmen who were well-versed in military tactics, fieldcraft, and marksmanship and were dressed in ghillie suits. Lord Lovat established this force in 1900, and it initially reported to Major Frederick Russell Burnham, an American who served as Lord Roberts' Chief of Scouts. Following the battle, Lovat's Scouts were officially designated as the first sniper unit in the British Army. Another early example of unconventional warfare is the 1901-formed Bushveldt Carbineers.

General Antonio Luna established the Luna Sharpshooters, commonly called the "Marksmen of Death" (Spanish: Tiradores de la Muerte), as an elite unit to serve in the Philippine Revolutionary Army in 1899. Because they fought more fiercely than the ordinary Filipino army men, they gained notoriety. The majority of this unit's members were former Filipino soldiers in the Spanish Army who served during the Philippine Revolution. The sharpshooters gained notoriety for their valiant combat and demonstrated their value by consistently leading the charge in all significant engagements throughout the Philippine–American War. General Henry Ware Lawton of the United States Army was the highest-ranking fatality of the conflict when he was killed by Bonifacio Mariano, a sharpshooter under General Licerio Gerónimo's command, at the Battle of Paye on December 19, 1899.

During World War 1

The first shock soldiers of the modern era were the Italian Arditi and the German Stormtroopers. Both of them were elite assault units, trained to a far higher standard than regular troops, and assigned to conduct audacious raids and daring strikes on enemy defences. In contrast to Stormtroopers, Arditi was regarded as a distinct fighting arm and was not a part of infantry divisions.

Inter-War Period

An auxiliary cavalry unit known as the Macheteros de Jara was established on August 15, 1932, before the start of the Battle of Boquerón. The regiment was formed from former Paraguayan bandits who had engaged in combat with Bolivian soldiers and officers. The Bolivian army unit known as the 50th Army Regiment (Cuchilleros de la Muerte) participated in the Chaco War. The regiment, known as the Knives of Death (Spanish: Cuchillos de la Muerte), was mostly equipped with bayonets and other blade weaponry.



World War II

The Second World War saw the emergence of modern special forces. The British Commandos were established in 1940 in response to Winston Churchill's need for "specially trained troops of the hunter class, who can develop a reign of terror down the enemy coast." The Chief of the Imperial General Staff, General Sir John Dill, had previously received such a request from a staff officer, Lieutenant Colonel Dudley Clarke. Knowing Churchill's plans, Dill accepted Clarke's suggestion, and the first Commando operation happened on June 23, 1940.

To train and provide reinforcements for the Commando battalions in that theatre, a Middle East Commando depot was established in December 1940. Brigadier Charles Haydon opened the Commando training facility at Achnacarry in the Scottish Highlands in February 1942. The Commando depot, commanded by Lieutenant Colonel Charles Vaughan, was in charge of training both individual replacements and entire companies. The training regiment was significantly more advanced than standard British Army training and, at the time, both novel and physically taxing. All of the depot employees were hand-picked and had the potential to perform better than any volunteers.

As soon as the volunteers arrived, they had to march 8 miles (13 km) with all of their gear from the Spean Bridge train station to the commando depot for training and evaluation. To make training as realistic as possible, exercises were carried out utilizing live explosives and ammunition. Cross-country races and boxing contests were required to increase physical conditioning. Carrying arms in full gear, they marched rapidly and steadily up and down the neighbouring mountain ranges and across assault courses that included a zip-line over Loch Arkaig. River crossings, mountain climbing, weapons training, unarmed warfare, map reading, and small boat operations were all part of the curriculum while the training lasted day and night.

The Commandos served in every theatre of conflict, from the Mediterranean and Middle East to South-East Asia, and from the Arctic Circle to Europe, reaching a wartime strength of more than 30 individual units and four assault brigades. They operated as a brigade of assault troops leading the Allied invasions of Europe and Asia, or as small groups of men parachuted or landed from the sea. Men who had served with the Commandos founded the first modern special forces formations, such as the Special Boat Service, Special Air Service, and Parachute Regiment. The French Commandos Marine, Dutch Korps Commandotroepen, and Belgian Paracommando Brigade were all products of the British-organized No. 10 (Inter-Allied) Commando, which was composed of volunteers from occupied Europe.

The Special Air Service (SAS), established in July 1941 as a result of Lieutenant David Stirling's unconventional concept and strategy, was the first contemporary special forces unit. He enlisted in the No. 8 (Guards) Commando (Layforce) in June 1940. Even after Layforce was disbanded, Stirling continued to believe that a small group of highly skilled soldiers with the advantage of surprise might do more harm to the enemy's fighting capabilities than a platoon because of the mechanized nature of war. To obtain intelligence, destroy enemy aircraft, and strike their supply and reinforcement routes, he proposed using small groups of soldiers who had received parachute training to operate behind enemy lines. General Claude Auchinleck's plan was approved by the Army High Command after a meeting in the Middle East.

At first, there were 60 other ranks and five officers in the force. L Detachment, SAS Brigade, conducted its first operations in the Western Desert after undergoing intensive training at Kabrit Camp on the River Nile. Following several successful operations, Stirling's concept was ultimately validated. The SAS invaded Bouerat in 1942. They seriously damaged the harbour, fuel tanks, and



storage facilities while being transported by the Long-Range Desert Group, which began conducting deep penetration, clandestine reconnaissance patrols, intelligence missions, and attacks behind enemy lines in 1940. A raid on Benghazi Harbour was conducted in March, with little success, although 15 aircraft at Al-Berka were damaged. Heraklion, Kasteli, Tympaki, and Maleme airfield raids in June 1942 inflicted serious damage, while raids at Fuka and Mersa Matruh airfields destroyed thirty aircraft.

Under the leadership of Medal of Honor laureate William J. Donovan, the United States established the Office of Strategic Services (OSS) during World War II. This agency handled both intelligence and special forces missions and was the forerunner of the Central Intelligence Agency (CIA). The OSS is a direct descendant of the CIA's elite Special Activities Division.

To secure beachheads and perform other special operations, the U.S. Marine Corps activated a battalion of Marines on February 16, 1942. The battalion was the United States' first contemporary special operations unit. Admiral Chester Nimitz's desire for "raiders" on the Pacific front of the war led to the battalion's renaming as Marine Raiders.

From the 17th to the 19th centuries, military units including the Texas Rangers, United States Rangers, and United States Mounted Rangers contributed to the development of the United States Army Rangers specialist soldiers. Under the direction of General George C. Marshall, who was then Army Chief of Staff, Major-General Lucian Truscott of the U.S. Army, a General Staff member, proposed to General George Marshall in the middle of 1942 that the newly formed special operations Army Ranger Battalion be staffed with carefully selected Ranger soldiers.

During the Fall Gelb and Barbarossa campaigns in 1940 and 1941, as well as the Fall Weiss in 1939, the Abwehr established the Brandenburger Regiment of the German army as a special forces unit for long-distance reconnaissance and infiltration. By misdirecting convoys away from the front lines, Otto Skorzeny's 502nd SS Jäger Battalion later in the war caused chaos behind the Allied lines. Skorzeny allegedly directed an attack on Paris to murder or capture General Dwight Eisenhower; as a result, some of his soldiers were taken prisoner by the Americans. Despite this being inaccurate, Skorzeny was called "the most dangerous man in Europe" and Eisenhower was confined to his headquarters for a few days.

A significant amount of British tonnage was sunk and damaged in the Mediterranean by the Decima Flottiglia MAS in Italy. A.D.R.A. (Arditi Distruttori Regia Aeronautica) and other Italian special forces were also there. In 1943, this unit participated in raids on Allied railroads and aviation bases in North Africa. They downed twenty-five B-17 Flying Fortress bombers in a single mission.

MODERN SPECIAL OPERATIONS FORCES

The first deployment of U.S. Special Operations Command (USSOCOM) personnel, a byproduct of the Reagan administration under Secretary of Defence Caspar Weinberger, occurred during Operation Prime Chance, which stemmed from Resolution 598. According to Admiral William H. McRaven, the former ninth commanding officer of USSOCOM (2011–2014), "The direct approach is characterized by technologically enabled small-unit precision lethality, focused intelligence, and inter-agency cooperation integrated on a digitally-networked battlefield," He also described two approaches to special forces operations in a 2012 posture statement to the U.S. Senate Committee on Armed Services. The "indirect approach includes empowering host nation forces, providing appropriate assistance to humanitarian agencies, and engaging key populations." Without



relying too much on one capacity, like special forces, which leaves the entire force unprepared and ineffective across the range of military operations, the components of national power must be used in harmony.

Special forces gained prominence in the second half of the 20th century and the early years of the 21st century as governments discovered that sometimes a small group of unnamed experts could accomplish goals more effectively than a larger and far more contentious conventional deployment. Activities between local guerrilla fighters and air power were coordinated by special forces in both Kosovo and Afghanistan.

The Laotian Civil War, the 1971 Bangladesh Liberation War, the Vietnam War, the Portuguese Colonial War, the South African Border War, the Falklands War, the Troubles in Northern Ireland, the Jaffna University Heli drop, the first and second Gulf Wars, Afghanistan, Croatia, Kosovo, Bosnia, the first and second Chechen Wars, the siege of the Iranian Embassy in London, the Air France Flight 8969 in Marseille, Operation Defensive Shield, Operation Khukri, the Moscow theatre hostage crisis, Operation Orchard, the Japanese Embassy hostage crisis (Lima), the raid on Osama Bin Laden's compound in Pakistan, the 2016 Indian Line of Control strike, the 2015 Indian counter-insurgency operation in Myanmar, and the Barisha Raid in Syria in 2019 are just a few examples of wartime and peacetime military operations that have made use of special forces. Special forces, from a number of coalition countries participated in the U.S. invasion of Afghanistan, which was crucial in the Taliban's overthrow in 2001–2002. In later missions, special forces have remained involved in the fight against the Taliban.

Women are applying for special forces unit selections as gender limitations are being lifted in some regions of the world. In 2014, the Norwegian Special Operation Forces created the all-female unit Jegertroppen (English: Hunter Troop).



INFORMATION WARFARE: HOW MEDIA IS USED AS A WEAPON IN HYBRID CONFLICTS



1. In today's world, the way wars are fought has changed significantly. Traditional battles are now often combined with unconventional methods, leading to what we call hybrid warfare. At the core of hybrid warfare is information warfare, where media is used strategically to manipulate public opinions and shape narratives. Both state and non-state actors use traditional and social media to spread propaganda, share false information, and influence what people believe. This article explores the role of propaganda and disinformation in hybrid conflicts and how they impact public perception and national security.

WHAT IS HYBRID WARFARE?

2. Hybrid warfare refers to a strategy that mixes regular military forces with irregular tactics, often employing unconventional methods to reach political and military goals. The NATO StratCom Centre of Excellence defines hybrid warfare as using various tactics, including cyber operations, economic pressure, and propaganda campaigns (NATO, 2016). In this setting, information warfare plays a vital role, allowing actors to take advantage of the information landscape to serve their purposes.

PROPAGANDA AND ITS FUNCTIONS

3. Propaganda has been used in wars for a long time to gain support, demoralize enemies, and justify military actions. In hybrid conflicts, propaganda is even more crucial because the line between combatants and civilians becomes unclear. Different actors use propaganda to create narratives that align with their goals, portraying themselves positively while casting their opponents in a negative light. For example, during the Ukraine crisis, both Russian and Western media produced propaganda to support their geopolitical objectives (Kramer, 2015).

CASE STUDY: RUSSIA'S ACTIONS IN UKRAINE

4. Russia's annexation of Crimea in 2014 serves as a significant example of how state actors effectively use propaganda in hybrid warfare. The Kremlin strategically employed a combination of traditional media, social media platforms, and state-controlled news outlets to create a narrative that justified its actions as a means of protecting Russian-speaking citizens in Ukraine. This multi-faceted approach not only sought to legitimize the annexation domestically but also aimed to influence international perceptions.

- a. **Use of Traditional Media.** State-controlled media played a crucial role in shaping the narrative surrounding the annexation of Crimea. Outlets like RT (Russia Today) and Channel One Russia disseminated content that emphasized themes of historical ties between Russia and Crimea. For instance, coverage frequently highlighted the notion that Crimea was historically Russian territory, often omitting the complex history of the region and the preferences of its diverse population.
- b. **Social Media Campaigns.** Social media played an instrumental role in disseminating disinformation and fostering a sense of urgency among Russian citizens. The Kremlin and its allies utilized platforms like Facebook, Twitter, and VKontakte to circulate
- c. **misleading information and propaganda.** For instance, Russian social media accounts promoted images and stories portraying Russian-speaking individuals in Crimea as victims of oppression by the Ukrainian government, emphasizing a need for Russian intervention.
- d. **Disinformation Tactics.** One of the most controversial tactics employed during the annexation was the dissemination of false information regarding the Ukrainian leadership. The Kremlin's narrative included outrageous claims, such as labelling Ukrainian leaders as "fascists" or "Nazis." This rhetoric aimed to evoke historical fears stemming from World War II, drawing parallels between contemporary Ukrainian nationalism and the atrocities committed during that time.
- e. **Influence on Public Opinion.** The combined efforts of traditional and social media campaigns effectively shaped public opinion within Russia and beyond. Polls conducted after the annexation indicated a significant increase in support for the Kremlin's actions among Russian citizens. According to a survey by the Levada Centre, support for the annexation soared to over 90% shortly after the event, largely influenced by the government's propaganda efforts (Levada Centre, 2014).

CONSEQUENCES FOR NATIONAL SECURITY

5. The use of media as a weapon in hybrid conflicts presents significant challenges for national security. The spread of propaganda and disinformation erodes trust in institutions and complicates governments' ability to communicate effectively with citizens. Furthermore, these tactics can destabilize societies and affect public opinions on critical issues such as foreign policy and military actions.

COUNTERING INFORMATION WARFARE

6. To combat the threats posed by information warfare, nations must develop comprehensive strategies that include both offensive and defensive measures. This involves investing in media literacy programs to help the public recognize disinformation tactics, strengthening information systems, and creating effective communication strategies to counter adversarial narratives. Additionally, international cooperation is essential since hybrid warfare is a global issue that no single state can tackle alone.

CONCLUSION

7. The use of media as a weapon in hybrid conflicts highlights the critical role of information warfare in modern military operations and societal dynamics. As both state and non-state actors continue to use propaganda and disinformation, it is increasingly important to develop strong countermeasures. Understanding how information warfare tactics work is crucial for military



professionals and policymakers as they navigate the complexities of hybrid conflicts in a world where information can be as powerful as traditional weapons.

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THE GEOPOLITICAL IMPACT OF CLIMATE CHANGE: A LOOMING CRISIS



1. Climate change is not just an environmental issue but a geopolitical one, reshaping the world order. Rising sea levels, extreme weather events, and resource scarcity are causing mass displacement, economic instability, and conflicts, putting immense pressure on governments and international organizations.

RESOURCE WARS AND TERRITORIAL CONFLICTS

2. As the world warms, natural resources such as water, arable land, and energy reserves are becoming scarcer, leading to competition between nations. For instance, the melting of Arctic ice is opening new shipping routes and unlocking previously inaccessible oil and gas reserves. Countries bordering the Arctic, including Russia, Canada, and the United States, are jostling for control, raising the spectre of territorial disputes and militarization of the region.

3. Water scarcity is another major concern. In regions like the Middle East and Africa, where rivers and lakes are drying up, countries are increasingly competing for access to freshwater sources. The Nile River Basin, shared by Egypt, Sudan, and Ethiopia, has already seen tensions rise due to Ethiopia's construction of the Grand Renaissance Dam. As water becomes more precious, such conflicts could escalate, destabilizing entire regions.

Climate Migration and Refugee Crises

4. One of the most significant geopolitical impacts of climate change is the mass displacement of people. Rising sea levels threaten to submerge low-lying island nations and coastal cities, forcing millions of people to migrate. This influx of climate refugees is likely to strain already fragile political systems in host countries, leading to social unrest, xenophobia, and even violent conflicts.

5. The United Nations estimates that by 2050, over 200 million people could be displaced due to climate-related events. The challenge for the global community is to find sustainable ways to address these displacements while mitigating the political, social, and economic ramifications. Failure to do so could result in a breakdown of international cooperation, increasing isolationism and protectionism.



International Cooperation and Climate Policy

6. While climate change poses immense risks, it also offers an opportunity for international cooperation. The Paris Agreement, signed by nearly every country in the world, aims to limit global warming to below 2°C. However, the success of this agreement hinges on countries' willingness to meet their commitments. The withdrawal of the United States under the Trump administration was a significant blow to global efforts, but its re-entry under President Biden has revived hopes of progress.

7. Yet, divisions remain. Developing countries argue that they should not bear the same responsibility as developed nations, which have historically contributed the most to greenhouse gas emissions. This tension between developed and developing nations is a critical challenge in forging a unified global response to climate change.

8. In summary, climate change is a profound geopolitical issue that will reshape the world in the coming decades. Addressing it requires not only environmental action but also political foresight, international cooperation, and a commitment to fairness and equity.



ONGOING ISRAEL-PALESTINIAN CONFLICT: A NEW CHAPTER IN AN AGE-OLD STRUGGLE

INTRODUCTION

1. The Israel-Palestinian conflict has been one of the most enduring and complex struggles in modern history. It traces back to the early 20th century, when nationalist movements, Jewish Zionism and Arab nationalism, clashed in the region. With roots in historical, religious, and territorial disputes, this conflict has consistently evolved, involving regional and global powers. Despite numerous peace efforts, the conflict remains unresolved, periodically flaring into violence, making it one of the central and most controversial issues in Middle Eastern and global geopolitics.

2. In recent years, the conflict has entered a new phase, marked by changing political dynamics, regional alignments, and the involvement of non-state actors. The situation, which is still developing, raises concerns about the future of the peace process and the security of the region.



HISTORICAL BACKGROUND

3. The origins of the Israel-Palestinian conflict lie in the late 19th and early 20th centuries, coinciding with the decline of the Ottoman Empire and the rise of European colonial powers. The Zionist movement, which advocated for the establishment of a Jewish homeland in what was then Ottoman-controlled Palestine, gained momentum in the 1890s. The Balfour Declaration of 1917 by the British government further fuelled the movement, supporting the creation of a "national home for the Jewish people" in Palestine.

4. Following World War II and the Holocaust, international support for the establishment of a Jewish state intensified. In 1947, the United Nations proposed the partition of Palestine into separate Jewish and Arab states. The Jewish community accepted the plan, but the Arab community rejected it, leading to the 1948 Arab-Israeli War. The war resulted in the creation of the State of Israel but also led to the displacement of hundreds of thousands of Palestinians, an event known as the Nakba (catastrophe). The question of Palestinian refugees remains one of the core issues of the conflict.

KEY PHASES OF THE CONFLICT

- a) **1948 Arab-Israeli War and the Creation of Israel.** After the British withdrawal from Palestine in 1948, the Jewish community declared the establishment of the State of Israel, sparking immediate armed conflict with neighbouring Arab states. The Arab states—Egypt, Jordan, Iraq, Lebanon, and Syria—invaded, but Israel defended its borders, resulting in armistice agreements in 1949. Israel's victory significantly expanded its territory beyond the UN partition plan, leaving Palestinians without a state.



- b) **Six-Day War and Occupation of Territories (1967).** The 1967 Six-Day War between Israel and neighbouring Arab states changed the geopolitical landscape. Israel captured the West Bank, Gaza Strip, East Jerusalem, and the Golan Heights. These territories remain central to the conflict, particularly the West Bank and East Jerusalem, which Palestinians
- c) **Claim for a Future State.** Israel's occupation of these territories has been a major point of contention.
- d) **The Oslo Accords (1993).** The 1990s saw renewed efforts for peace with the signing of the Oslo Accords between Israel and the Palestine Liberation Organization (PLO). The accords were meant to establish a framework for a two-state solution, allowing for Palestinian self-governance in parts of the West Bank and Gaza. While the accords brought hope, their implementation faltered due to mutual distrust, settlement expansions, and extremist violence on both sides.
- e) **The Second Intifada (2000-2005).** The breakdown of the peace process led to the eruption of the Second Intifada, a Palestinian uprising marked by violence and terrorist attacks against Israelis along with military responses from Israel. The period deepened mistrust and further dimmed hopes for a lasting peace settlement.

THE CURRENT PHASE OF THE CONFLICT

5. The Israel-Palestinian conflict has evolved in recent years, with the following trends shaping the new dynamics:

- a) **Political Divisions Among Palestinians.** The Palestinian political landscape is marked by deep divisions between Fatah, which controls the West Bank and is seen as more moderate, and Hamas, the Islamist movement governing Gaza. These divisions have weakened Palestinian negotiating power and complicated international efforts to mediate peace. Hamas, considered a terrorist organization by Israel and many Western countries, continues to launch rocket attacks against Israeli civilian areas, often triggering military responses.
- b) **Israel's Political Landscape and Rightward Shift.** Israeli politics has also shifted, with right-wing parties gaining more influence. Prime Minister Benjamin Netanyahu's long tenure saw the expansion of Israeli settlements in the West Bank and East Jerusalem, actions widely condemned by the international community. These settlements are considered illegal under international law and are a major obstacle to a two-state solution, as they encroach on land that Palestinians seek for their state.
- c) **Regional and International Shifts.** The normalization of relations between Israel and several Arab states, notably through the Abraham Accords brokered by the Trump administration, marked a significant regional shift. While Israel has made peace with countries like the UAE, Bahrain, and Morocco, the absence of a solution for Palestinians remains a source of tension. These agreements have sidelined the Palestinian issue in some respects, weakening Arab collective support for their cause.

6. Furthermore, the rise of non-state actors like Hezbollah in Lebanon and Iran's increasing influence in the region have added layers of complexity. Israel perceives these actors as existential threats, particularly due to their connection with Iran's nuclear program, further complicating the path to peace.

- a) **The Role of the U.S. and International Community.** Historically, the U.S. has played a key role in mediating peace efforts, but its influence has waned in recent years. The Biden

- b) administration has taken a more balanced approach than its predecessor, emphasizing the need for a two-state solution. However, global power shifts, including China and Russia's growing influence in the Middle East, have altered the traditional dynamics of international involvement in the conflict.

THE HUMANITARIAN CRISIS

7. The conflict has a devastating humanitarian toll. Gaza, under blockade by Israel and Egypt since 2007, suffers from chronic poverty, unemployment, and restricted access to basic services. The periodic escalations of violence, such as the 2021 Gaza-Israel conflict, result in high civilian casualties and extensive infrastructure damage. The blockade and ongoing violence exacerbate the already dire living conditions, making Gaza one of the most densely populated and impoverished places on Earth.

8. The West Bank also faces challenges, particularly due to Israeli settlement expansion, military checkpoints, and restricted movement, which stifle economic growth and freedom for Palestinians.

POTENTIAL PATHS TO PEACE

9. Despite the bleak outlook, several potential paths to peace are being discussed:
- a) **Two-State Solution**. The international consensus still largely supports a two-state solution, where Israel and a sovereign Palestine exist side by side. However, the prospects for this solution seem distant due to Israel's settlement policy and Palestinian political divisions.
 - b) **One-State Solution**. Some voices advocate for a one-state solution, where Israelis and Palestinians live together with equal rights in a single democratic state. This idea, however, faces significant opposition, particularly from Israeli nationalists who fear losing the Jewish character of the state.
 - c) **Regional Cooperation**. With the Abraham Accords and potential normalization between Israel and more Arab states, some argue that regional cooperation might lead to improved economic conditions for Palestinians and eventually pressure both sides into serious negotiations.
 - d) **International Intervention**. There is growing support for a more robust international intervention, potentially involving greater UN oversight or even peacekeeping forces to monitor compliance with ceasefires and peace agreements.

CONCLUSION

10. The Israel-Palestinian conflict remains a central issue in Middle Eastern politics, with global ramifications. The new dynamics of the conflict—ranging from regional power realignments, political divisions, and the involvement of non-state actors—have complicated efforts to reach a peaceful resolution. While there are glimmers of hope in regional normalization and international diplomacy, the path to peace remains fraught with challenges. Without meaningful concessions and

11. dialogue from both sides, the conflict is likely to continue, with devastating consequences for the people of the region.





HERITAGE OF ROCK HOUSE AND THE LEGACY OF COASTAL ARTILLERY GUNS



Rock House and the three iconic Coastal Artillery Naval Guns has a rich history that dates back to the British colonial era.

The Heritage of Rock House

Rock House origins are tied to a stately home built in the 19th century (ca.1810- 1818) by Henry Augustus Marshall, an English officer in the Ceylon Civil Service, who also served as the Auditor General of Ceylon. The property later became the residence of Sir William Coke, the Provisional Chief Justice of Ceylon. Since the residence was built on a rock, it may have been named 'Rock House'.

It might be interesting to note that the first given name 'Rock House' rolled-over a few times, not by choice, but due to changing circumstances. The Colonial British Army took control of the property during WW1 and called it 'Rock House Camp'. Later, with the deployment of three Coastal Artillery Naval Guns, along with Observation, Command, and Control Towers - two of which are still standing - and Anti-Aircraft Guns to protect the big guns, Rock House Camp became 'Rock House Battery'.

British Naval Power and Coastal Defence Strategy in the Far East

Great Britain was a sea power, not a land power during the 18th and 19th centuries. Some historians suggest that '*Great Britain Ruled the Waves*' with the Royal Navy dominating the five oceans until early 20th Century.

WW1 changed the dynamics of British naval power. The Imperial Japanese Navy (IJN) was able to challenge the might of the Royal Navy in the Far East. The strategically important Colombo harbour where the British Far Eastern Fleet Headquarters was located with its ships, was under threat. Great Britain had to defend its naval assets.

British naval intelligence believed that the island nation of Ceylon would be a primary Japanese strategic objective in the Indian Ocean region. Consequently, three BL 6-inch Mk VII naval guns were tactically positioned to defend the harbour against a potential attack by the (IJN). The guns were manned by the '1st Coastal Artillery Regiment of the Ceylon Garrison Artillery.



As expected, the (IJN) attacked Colombo harbour on 5 April 1942 using carrier - based aircraft. They deployed five of the six aircraft carriers and four battle ships that attacked Pearl Harbour in December in 1941. Trincomalee harbour was attacked on 9th April by the same fleet. The Japanese objective was not to take control of Ceylon, but to destroy the Colombo and Trincomalee based British Far Eastern Fleet. Several British war ships were sunk, but others escaped because they had prior warning and were redeployed in East African ports.

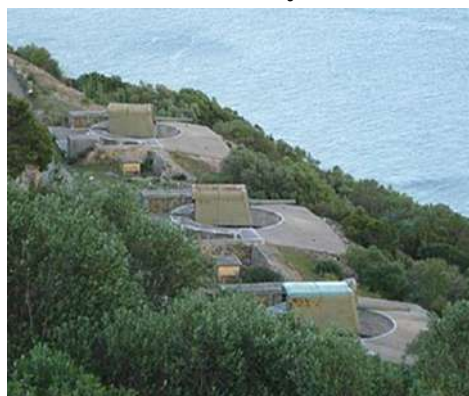
Some military historians suggest that the Colombo attack was a prelude to the impending and more challenging ‘Battle of Midway’ against the US Navy. The argument could be justified because the Naval Battle of Midway in the Pacific Theatre took place during 4-7 June 1942, just about two months after the IJN attack on Ceylon. The US Navy decisively defeated the IJN in that iconic Pacific Ocean naval battle.

The Rock House Officers Mess

The old Officers Mess of the 1st Recce Regiment was the 19th Century residence of the British Chief Civil Service officers of Ceylon. After years of neglect and dilapidation it resembled a ‘Glorified Stable’. The centuries old colonial era residence underwent a major structural change in the mid - 70s to become a fairly decent Officers Mess. The three level bachelor officers’ accommodation adjacent to the Mess was built about the same time.

There was a concrete anti - aircraft gun emplacement without the guns in the low ground area between the bachelor quarters and the main Mutwal public road. It was taken down to build an underground water sump during the construction of the new bachelor officers’ quarters.

The Coastal Artillery Naval Guns



Pictured above is a Battery of six inch BL Mk. V11 naval guns similar to Rock House guns deployed on the West Atlantic coast of Portugal. They were deployed to attack German submarines and ships during WW11.

Picture Courtesy: Wikipedia

GUN DATA

Calibre and Design: The BL Mk VII is a 6-inch (152.4 mm) breech-loading naval gun. It was designed in the late 19th century and widely used by the Royal Navy and British colonial forces. The letters ‘BL’ stand for Breach Loading.

Barrel and Range: The gun had a barrel length of 45 calibers (45 times the bore diameter), giving it an overall length of about 22.5 feet (6.9 meters). It had a maximum range of approximately 15,000 yards (13,700 meters) at an elevation of 20 degrees.



Ammunition: It fired a variety of shells, including armour-piercing, high-explosive, and shrapnel shells, weighing around 100 pounds (45 kg).

Rate of Fire: The Mk VII could fire about 5-7 rounds per minute, depending on the crew's efficiency and the operational conditions.

Historical Context and Deployment: Colombo harbour, located on the southwestern coast of Sri Lanka was a critical maritime hub during British colonial rule. It served as a key refueling and supply station for ships traveling between Europe and the Far East.

Coastal Defense Strategy: The British military established fortified positions around the Colombo harbor for protection against naval threats, particularly from other European powers, and later during World War II from Imperial Japan.

The BL 6-inch Mk VII guns were installed at various strategic points to provide a robust coastal defense system capable of engaging enemy ships at a distance. The guns were typically placed in well-fortified emplacements with concrete bunkers and associated infrastructure to house ammunition and support equipment. Prominent locations included coastal batteries such as the ones in Mt. Lavinia, and Rock House, which provided overlapping fields of fire covering the approaches to the harbour.

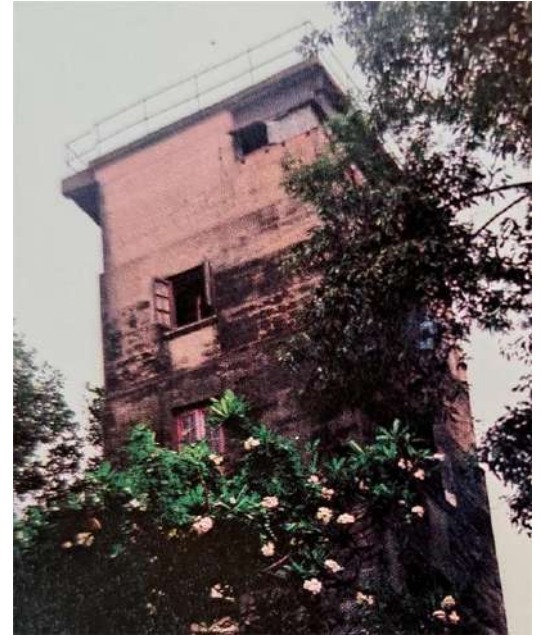
There is no information available about the guns that were apparently deployed in Mt. Lavinia.

Operational Use: During peacetime, these guns were maintained and regularly tested to ensure readiness. In wartime, they played a crucial role in defending against potential amphibious assaults and naval bombardments. (Gun Data: Courtesy Wikipedia.) After Ceylon gained independence in 1948, many of the coastal defense installations were decommissioned as the strategic priorities shifted. The guns and fortifications must be preserved to remind future generations about the colonial military legacy.





Gun Pictures Courtesy: Brigadier Rohan M. Jayasinghe (Rtd)



**The Command-and-Control Tower inside
Rockhouse camp**

Sri Lanka has very few military pieces of historic value like the guns in Rock House Camp.

It is worthwhile to save the guns - “Not to promote war, but to preserve a piece of history”

Compiled and written for the professional endowment of future generations of Armoured Corps officers.

Brigadier Sri Mudannayake (Rtd)



INFORMATION WINDOW

iwm.org.uk	-	Imperial War Museum London web site
janes.com	-	Military Magazines
quoteland.com /quotes/topic/4.html	-	Quote Land (Miscellaneous)
nato.int	-	NATO
goarmy.com	-	US Army (USA)
dnd.ca	-	Department of National Defence (Canada)
mod.uk	-	Ministry of Defence (UK)
army.mod.uk	-	British Army (UK)
soldiermagazine.co.uk	-	Soldier Magazine (UK)
raf.mod.uk	-	Royal Air Force (UK)
vickersdefence.co.uk	-	Vickers (Tanks, AFVs etc) (UK)
armadainternational.com	-	Armada International
asianmilitaryreview.com	-	Asian Military Review
shephardmedia.com	-	Shepherd News
www.army.lk	-	Sri Lanka Army
www.ocds.lk	-	Office of the Chief of Defence Staff
www.navy.lk	-	Sri Lanka Navy
www.airforce.lk	-	Sri Lanka Air Force
www.slavf.lk	-	Sri Lanka Army Volunteer Force
www.dscsc.lk	-	Defence Services Command and Staff College of Sri Lanka
www.csd.lk	-	Civil Security Department of Sri Lanka
www.army.lk/slma	-	Sri Lanka Military Academy

DEFENCE PERIODICALS

Air Force Link

Official U.S. Air Force site featuring news, videos, photos, career information, and comprehensive general information library.

Canadian Military Journal

Official professional magazine of the Canadian Forces and the Department of National Defence.

Army Magazine

Focuses on the activities of the U.S. Army worldwide and provides articles for a professionally oriented audience.

Jane's Defence Weekly

Journal of Defence Services Command and Staff College, Sri Lanka

Army Technology

Website for the defence industries

Jane's International Defence Review



