PREPARING FOR THE FUTURE:
THE NEED FOR MULTI-DOMAIN INTEGRATION IN THE MALAYSIAN ARMED FORCES

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The security environment in Southeast Asia is complex and constantly evolving. Southeast Asian countries, like Malaysia, face a variety of security challenges, such as uncertain great-power relations between the US and China, the proximity of Southeast Asian Association (ASEAN) neighbourhoods, and non-traditional threats.[1] The Malaysian Armed Forces (MAF) is critical to the nation's defence and security apparatus. The MAF is crucial in safeguarding Malaysia's territorial integrity and sovereignty and protecting the country from external and internal threats. As the security landscape continues to evolve, the MAF must keep pace with the changing times to remain relevant and effective in fulfilling its mandate. Therefore, the MAF must operate effectively across multiple domains, including air, land, sea, space, and cyberspace. Multi-Domain Integration (MDI) is a framework that can help the MAF integrate its capabilities across these domains to achieve greater effectiveness and efficiency.

My thesis will discuss why developing and implementing the MDI doctrine is essential for the MAF to address its complex security challenges in Southeast Asia in the present and future. First, I will provide an overview of Southeast Asia's security environment, highlighting Malaysia's challenges. I will then explore the MDI doctrine concept and its potential impact on the MAF's operational effectiveness. Lastly, I will consider possible counterarguments to developing and implementing the MDI doctrine and offer suggestions for successful implementation. Investing in this approach will enhance Malaysia's deterrence capability, promote regional security, better prepare for security threats, improve crisis response, and foster partnerships with other countries. The benefits of an MDI approach are clear, and the MAF should adopt this approach to address present and future security challenges.

MALAYSIA'S SECURITY CHALLENGES

Great Power Competition

The stability of the South China Sea plays a critical role in the economy of Malaysia. Any conflict involving the major powers in the region, like the US and China, would significantly affect the country's economy. Closing the South China Sea shipping lanes due to regional instability would likely harm Malaysia's economy. These shipping lanes are critical to Malaysia, as they are strategically located in one of the busiest routes in the world, connecting the Indian and Pacific Oceans. In addition, the Malacca Strait and the South China Sea are critical components of Malaysia's trade, transportation, and social and cultural connectivity with the rest of the world.[2]

For example, the ongoing territorial disputes in the South China Sea have raised concerns about potential regional conflict and destabilisation. China's recent assertiveness

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[1] Malaysia Ministry of Defence, Defence White Paper: A Secure, Sovereign and Prosperous Malaysia, 2020. 20-21

[2] Evers, Hans-Dieter, Abdul Rahman Embong, and Rashila Ramli, eds. Connecting oceans: Malaysia as a maritime nation. *Penerbit Universiti Kebangsaan Malaysia*, 2019. 25.

in the South China Sea directly threatens Malaysia, given its claims to certain parts of the disputed area. Chinese Coast Guard vessels have violated Malaysia's Exclusive Economic Zone (EEZ) 89 times between 2016 and 2019.[3] In June 2021, 16 Chinese warplanes flew into Malaysia's Exclusive Economic Zone (EEZ) in formation, violating the country's sovereignty. The Royal Malaysian Air Force (RMAF) jets had to escort the Chinese planes out of the area while calling on the Chinese Ambassador to explain.[4] However, Malaysia upholds harmonious relationships with all nations and advocates for the peaceful resolution of international law-guided disputes. Malaysia views the South China Sea as an opportunity for fostering cooperation and connectivity rather than a site of confrontation or conflict.[5]

ASEAN Neighbourhood Complexity

Although ASEAN has successfully dealt with several regional issues as a unified community, the relationships among member states are intricate and constantly evolving. For example, Malaysia's central location in Southeast Asia and historical influence in the region have resulted in unresolved land and maritime boundary disputes with some neighbouring countries. In addition to territorial conflicts, other bilateral issues affect Malaysia's interests, such as illegal fishing in Malaysian waters, spillover from neighbouring countries' internal conflicts, and refugee crises. Furthermore, shared problems among regional countries require collective action and cooperation, including traditional and non-traditional security challenges such as extremism, piracy, and cross-boundary environmental issues such as haze from forest fires in neighbouring countries.[6] Malaysia has a comprehensive strategy to safeguard its security and interests in Southeast Asia, which involves multiple approaches. Working closely with ASEAN, Malaysia is part of the regional efforts to promote peace, stability, and security.[7]

Non-Traditional Security Threat

Non-Traditional Security threats are characterised by the involvement of non-state actors and the commission of trans-border crimes, causing direct and indirect impacts on social, political, economic, and environmental aspects.[8] Terrorism is a primary non-traditional security concern, threatening Malaysia, the region, and the world. Other threats, such as extremism, hijacking, and cyber attacks, can disrupt internal stability, cause loss of life, and damage Critical National Information Infrastructures.[9] In addition, pirates, kidnapping, and illegal fishing can disrupt the Sea Lines of Communication (SLOC), leading to safety issues and economic losses for the nation. These threats arise

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[3] Ngeow Chow Bing, "Malaysia-China Defence Ties: Managing Feud in the South China Sea" *S. Rajaratnam School of International Studies, Nanyang Technological University*. 26 May 2022.
[4] Jennings, Ralph, "Why Malaysia, Normally Calm, Is Upset with China over a Maritime Dispute", *VOA News*, 9 June 2021.
[5] Malaysia Ministry of Defence, Defence White Paper: A Secure, Sovereign… 22
[6] *Ibid*. 23
[7] *Ibid*. 24
[8] *Ibid*. 24
[9] United Nations Meetings Coverage Security Council, "Security Council Calls on Member States to Address Threats against Critical Infrastructure, Unanimously Adopting Resolution 2341 (2017)", *United Nations Meetings Coverage and Press Releases SC/12714,* 13 February 2017.

due to various factors, including porous land borders, globalisation, communication, transportation advancements, emerging trends such as self-radicalisation through social media, the rapid spread of the Internet of Things (IoT), extreme ideologies and identity politics.[10] For example, non-traditional security threats in Malaysia include events like the 2013 Lahad Datu incursion by a militant group from the Philippines, the repeated abductions by the Abu Sayyaf Group in Sabah's eastern waters, and the hijacking of MT Orkim Harmony in 2015 off Tanjung Sedili by Indonesian pirate.[11] Given their transboundary nature, these threats require the cooperation of multiple countries and cannot be resolved by a single nation alone. Therefore, the Malaysian government has adopted a proactive, long-term strategy to safeguard the country's interests and tackle new challenges and opportunities. The defence strategy is a crucial part of this national plan, and it aims to promote shared prosperity, security, and identity at both national and regional levels.[12]

MULTI-DOMAIN INTEGRATION

MDI Concept

Over the years, the MAF has transformed its original role of combating communist insurgents into a more versatile and contemporary fighting force by modernising its three services. This transformation has enabled the MAF to become more adaptable in conventional warfare, aligning with the joint operating environment in current warfighting concepts.[13] To ensure that defence requirements are met adequately, it is crucial to have a comprehensive understanding of the current realities. Furthermore, it is imperative to acknowledge that the jungle is unlikely to be the primary battleground in the future. Instead, focusing on developing capabilities and capacities across multiple domains is essential. Rapid progress in these areas is necessary to ensure preparedness for any potential threat.[14] To effectively address all the security threats and challenges, the MAF must transform to create an integrated, agile, and focused force. Integration is essential to ensure that the MAF can operate across multiple domains effectively. A focused MAF will achieve its strategic objectives more effectively by prioritising resources and capabilities to address the most significant security challenges.[15] Thus, the MAF must undergo this transformation to enhance its operational effectiveness and ensure the security of Malaysia's interests.

MDI is a concept in the military that emphasises the importance of a unified approach to operations across all domains: land, maritime, air, cyberspace, and space. This approach means that military actions must consider how they relate to, affect, occur, or are conducted across various domains rather than the traditional focus on capabilities

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[10] Malaysia Ministry of Defence, Defence White Paper: A Secure, Sovereign… 24
[11] *Ibid.* 21
[12] *Ibid.* 28
[13] *Ibid.* 13
[14] Liew Chin Tong, "Malaysia's Long Overdue Defence Reforms: Jettisoning the Age of Innocence", *Fulcrum, Analysis on Southeast Asia.* 9 June 2021.
[15] Malaysia Ministry of Defence, Defence White Paper: A Secure, Sovereign… 31.

within individual domains.[16] This approach recognises that modern conflicts often occur in multiple domains simultaneously and that more than a single-domain approach may be required to address complex security challenges.[17] By leveraging capabilities across multiple domains, MDI can enhance operational effectiveness, reduce vulnerabilities, and improve decision-making processes.[18] Western military power like the US, the UK, and their allies have started to develop this MDI concept to incorporate into the warfighting concept to balance the progress made by their traditional adversaries' multi-domain capabilities.[19]

Potential MDI Impact on the MAF Operations

MDI has evolved from the convergence of technological advancements, the complexities of modern competition, and the need for rapid decision-making on the battlefield.[20] An MDI approach can improve operational effectiveness, reduce vulnerabilities, and improve decision-making processes. By integrating multiple domains, MDI can provide a more comprehensive understanding of the battlefield, enhancing situational awareness and enabling commanders to make better-informed decisions. Combining land, air, sea, and cyberspace data can create a more accurate battlefield picture and help identify potential threats or opportunities. For example, as a maritime nation, an amphibious assault operation is a vital capability for the MAF. Integrating all the domains can allow the MAF to launch an accurate, coordinated attack from multiple directions, making it harder for the enemy to defend against. In addition, by combining all the domains in MDI, the MAF can deploy troops, equipment, and supplies to the shore quickly and effectively, allowing them to establish a beachhead and gain a foothold on enemy territory.[21] This effectiveness can be seen in the bilateral exercise between the MAF, the U.S. Marine Corps, and the US Navy in 2019.[22] Even though MDI was not developed then, the exercise shows the importance of integrating and coordinating all domains involved could lead to a successful operation.

MDI also can reduce vulnerabilities by addressing weaknesses or gaps in a single-domain approach. Integrating different domains allows the MAF to bring a broader range of capabilities to bear in any situation. This concept can reduce vulnerabilities for each domain and improve the MAF's ability to respond to threats across all domains.[23] For instance, it could be in a cyber-attack scenario. Suppose the MAF faces a cyber-attack disrupting its communications and ability to coordinate operations. The MAF could

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[16] Canada. Department of National Defense, Canadian Armed Forces, Pan-Domain Force Employment Concept: Prevailing in a Dangerous World, 2022. 17.

[17] *Ibid*.

[18] United States.U.S Army TRADOC Pamphlet 525-3-1, The U.S Army in Multi-Domain Operations 2028, 2018. vii

[19] The U.K Ministry of Defence.UK Joint Concept Note 1/20: Multi-Domain Integration. 2020. 3-8.

[20] Murphy, Benjamin and Wells, G. Damon, "Applying Multi-Domain Effects to Operation Inherent Resolve", *Infantry Magazine*, 2021.

[21] United States.U.S Army TRADOC Pamphlet 525-3-1, The U.S Army… 17-19.

[22] Marquez, Josue, "U.S. and Members of the Malaysian Armed Forces Participate in Exercise Tiger Strike 2019", *U.S Indo-Pacific Command News*, 4 Oct 2019.

[23] Hillner, Eric, "Consideration for Multi-Domain Operation Success", *Director's Action Group Report,* 5 September 2018.

leverage its land, air, and space capabilities by employing an MDI approach to establish alternative communication channels.[24] For example, they could deploy satellite communications to develop a secure network or use airborne assets to relay messages between ground troops. By integrating capabilities across multiple domains, the MAF can reduce its vulnerabilities in the cyber domain and maintain its operational effectiveness.

Another impact on the MAF operation effectiveness is that MDI can improve decision-making processes by providing commanders with more complete and timely information. By integrating data from multiple sources, MDI can provide a more accurate and up-to-date picture of the battlefield, allowing commanders to make more informed decisions in real-time.[25] For instance, the MAF is currently developing the Network Centric Operation (NCO) capability, which is expected to be completed by 2035. This new capability will enable the MAF to leverage advanced technologies to improve cyberspace, communications, and situational awareness across all domains and help the decision-making process.[26] For scenario example, the ground troops of the MAF conduct a ground operation in a dense urban area, and it is challenging for ground troops to gather comprehensive and up-to-date information on the battlefield. The MAF can collect more comprehensive and up-to-date information in complex urban warfare situations by integrating data from multiple sources utilising the NCO system, including satellite imagery, drone feeds, and signals intelligence.[27] This information can help commanders on the ground make informed decisions and adjust tactics in real-time, improving the effectiveness of the ground operation.

Challenges in Implementing MDI

One significant challenge facing the MAF in implementing an MDI is the cost involved in its development and implementation. As a developing country with limited resources, Malaysia may need help to invest the necessary funding, resources, and infrastructure required to implement an MDI approach effectively.[28] The development and implementation of such an approach require significant training, equipment, and infrastructure investments, which may be prohibitively expensive for the MAF. Therefore, the MAF must carefully consider the cost-benefit analysis of implementing an MDI doctrine and find innovative ways to maximise the impact of its limited resources. In addition, Malaysia may also need to collaborate with other countries or seek external support to fund and implement this approach effectively. Malaysia has a long and robust defence partnership with military power like the US and the UK, which are already developing the MDI concept for future operations. Malaysia is also part of the Five Power Defence Arrangements (FPDA), including Australia, Malaysia, Singapore, New Zealand, and the UK.[29] Malaysia should leverage these partnerships to learn from other countries experiences and best practices, collaborate on joint training and exercises, and explore technology sharing and innovation opportunities. By collaborating with other

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[24] United States.U.S Army TRADOC Pamphlet 525-3-1, The U.S Army…, 18.
[25] The U.K Ministry of Defence.UK Joint Concept Note 1/20: Multi-Domain Integration. 2020. 63.
[26] Malaysia Ministry of Defence, Defence White Paper: A Secure, Sovereign… 52.
[27] United States.U.S Army TRADOC Pamphlet 525-3-1, The U.S Army… 17-18.
[28] Anwar Ibrahim, "Malaysia 2023 Budget Speech" *Parliament of Malaysia*, 24 February 2023.
[29] Malaysia Ministry of Defence, Defence White Paper: A Secure, Sovereign… 72.

countries, Malaysia can access the necessary expertise, resources, and equipment to develop its MDI capabilities more efficiently and effectively.

Another significant challenge facing the MAF in implementing an MDI is the potential cultural differences within the services that make up the MAF. Different services may have different cultures, traditions, and operating methods, making achieving effective integration across all domains challenging.[30] Furthermore, the MDI approach requires significant cooperation, collaboration, and coordination between the different services, which may be difficult to achieve if there are significant cultural differences between them. Overcoming these cultural differences may require substantial efforts in cultural sensitivity training and building trust between the different services. The MAF may also need to invest in activities that foster a sense of shared purpose, a common identity, and a clear understanding of the goals and objectives of the MDI approach.[31] Additionally, the MAF may benefit from established communication channels and protocols that enable effective coordination and collaboration across different services. Addressing these cultural differences is crucial to effectively implement the MDI approach and achieving its goals.

AS WE ADVANCE

Malaysia's security challenges in Southeast Asia are complex and require an approach encompassing multiple domains. To effectively address these challenges, Malaysia needs to implement an MDI doctrine. The arguments and counterarguments in this paper display that MDI is feasible for the MAF to develop. However, implementing an MDI doctrine is a complex task. It requires a comprehensive strategy, building a culture of integration, investing in training, and developing a technology roadmap.[32] Here are four suggestions for the MAF to consider in developing the MDI doctrine for future operations.

The first recommendation is to develop a comprehensive strategy. The MAF must develop a comprehensive plan outlining the goals, objectives, and tactics for implementing the MDI doctrine. The MAF strategy should be tailored to the country's unique security challenges and involve all relevant stakeholders. The strategy should provide a clear and concise roadmap guiding the MDI doctrine's implementation. It should also identify the roles and responsibilities of each stakeholder and the resources needed to achieve the strategy's objectives.

The second recommendation is building a culture of integration. Creating a culture of integration means encouraging collaboration and communication between the services in the MAF. This effort requires a shift in mindset and a change in organisational

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[30] Joachim, Eric C., "Culture Clash: Army and Air Force Culture Concerning Multi-Domain Operations". *Master Thesis, School of Advanced Military Studies US Army Command and General Staff College, Fort Leavenworth*, 2021.5-6.
[31] *Ibid*. 15.
[32] De Leon, Jose Diaz, "Understanding Multi Domain Operations in NATO", *The Three Sword Magazine* 37/2021. 93.

culture throughout all services.[33] All the services must be willing to work together, share information, and coordinate efforts to enhance security. The MAF should promote this culture of integration from the highest levels of services to the lowest levels of personnel.

The third recommendation is investing in training. The MAF should invest in training programs that help personnel understand the principles and practices of the MDI doctrine. This training should be ongoing and should be available to all relevant personnel. Training should include situational awareness, communication, decision-making, and other critical skills required for effective MDI implementation. The training should be tailored to each stakeholder's needs and designed to enhance their capabilities to operate in a multi-domain environment.[34]

The fourth recommendation is developing a technology roadmap. The MAF should develop a technology roadmap identifying the technologies needed to support the MDI doctrine. This roadmap should prioritise investments in technologies that improve situational awareness, decision-making, and information sharing. The technology roadmap should be aligned with the comprehensive strategy and consider all stakeholders' needs.[35] Moreover, the technology investments should enhance personnel's capabilities to operate in a multi-domain environment. An example of developing the NCO system was a 20 years plan to be completed in 2035.[36] It does not matter how long it will take for the technology to become fully operational as long as the MAF is willing to invest in it.

CONCLUSION

The MAF faces complex security challenges in Southeast Asia that require a multi-domain approach. The traditional military-centric approach is no longer sufficient in dealing with these challenges, which include terrorism, cyber-attacks, and hybrid warfare. As such, adopting an MDI doctrine is critical to the effectiveness of the MAF. The transformation of the MAF and the adoption of the MDI concept are crucial steps toward ensuring the security of Malaysia's interests in a rapidly evolving global security landscape. By embracing this approach and developing capabilities across multiple domains, the MAF can enhance its operational effectiveness, reduce vulnerabilities, and improve decision-making processes.

The MDI concept significantly benefits the MAF by providing a more comprehensive understanding of the battlefield, reducing vulnerabilities, and improving decision-making processes. By integrating capabilities across multiple domains, the MAF can enhance its operational effectiveness, making it more adaptable and better prepared

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[33] Schaefer, Agnes Gereben, John D. Winkler, Kimberly Jackson, Daniel Ibarra, Darrell D. Jones, and Geoffrey McGovern, "Approaches for Strengthening Total Force Culture and Facilitating Cross-Component Integration in the U.S. Military." *Santa Monica, CA: RAND Corporation,* 2020. 43-44.

[34] United States.U.S Army TRADOC Pamphlet 525-3-1, The U.S Army… 20.

[35] Bulu, Sevgi Ozlem, Ozbilgin, Izzet Gokhan, Mendi, Arif and Erol, Tolga. "Technology Roadmapping in Defense Industry", *World Academy of Science, Engineering and Technology, International Journal of Economics and Management Engineering Vol:12, No: 2* (2018). 255.

[36] Malaysia Ministry of Defence, Defence White Paper: A Secure, Sovereign… 52.

to face any potential threat. The successful implementation of MDI would be a significant step forward for the MAF and a critical element of Malaysia's defence strategy. However, there are substantial challenges to implementing this approach, including the cost involved and potential cultural differences within different services. To overcome these challenges, the MAF must carefully consider the cost-benefit analysis of implementing an MDI doctrine and find innovative ways to maximise the impact of its limited resources. It must also collaborate with other countries through partnerships and arrangements to learn from their experiences, leverage their expertise, and explore joint training and technology-sharing opportunities. In addition, addressing cultural differences within different services may require significant efforts in cultural sensitivity training and building trust between the MAF services. It is crucial to overcome these challenges to ensure that the MAF remains a relevant, effective, and adaptable force in the face of emerging security challenges.

The MDI doctrine is a critical framework that enables the military to address the multidimensional security challenges of the modern world. A well-rounded approach encompassing a strategic plan, a collaborative mindset, financial investment in training, and a technology roadmap is necessary to adopt the MDI doctrine effectively. The MAF must focus on building capabilities and capacities across multiple domains, ensuring preparedness for any potential threats. The government must continue to prioritise investments in this area to ensure that the MAF remains a relevant, effective, and adaptable force in the face of emerging security challenges. In the future, the MAF must stay vigilant and proactive in addressing its security challenges. An MDI doctrine will be essential to ensuring the continued safety and security of the country. Nevertheless, this ongoing process requires continuous improvement and adaptation to emerging threats.

In conclusion, successfully implementing this doctrine requires careful planning, significant investments, and collaboration between other countries. However, the MDI approach can significantly improve the MAF's effectiveness. Therefore, despite significant challenges to implementing this approach, the MAF must overcome them to maintain its relevance, effectiveness, and adaptability in the face of emerging security challenges. Ultimately, a commitment to continuous improvement and adaptation to emerging threats is necessary to ensure the continued effectiveness of the MAF in protecting Malaysia's interests and align with National Defence Strategy in enhancing its deterrence capability, contributing to regional security, better preparing for security threats, improve crisis response, and build partnerships with other countries.[37]

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[37] Malaysia Ministry of Defence, Defence White Paper: A Secure, Sovereign… 34.

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