

## The Impact of Artificial Intelligence on Military Defence and Security: A Case Study on Sri Lanka Navy's Red Sea Deployment

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This study examined the critical impact of artificial intelligence (AI) on military defence and security with a special focus on the Sri Lanka Navy's deployment in the Red Sea. In February 2024, the Sri Lanka Navy joined the Combined Maritimes Force in the "Operation Prosperity Guardian" to increase patrols in the Red Sea to protect the free flow of economic activities from Houthi terrorists and to ensure the safety of navigation. Houthis had been using sophisticated AI technologies such as drone warfare, unmanned surface vehicles, and cyber operations which posed a significant challenge for the friendly forces in the Red Sea. However, the Sri Lanka Navy could complete the operation despite its current lack of AI integration and limited capability to counter AI-enabled attacks. Until today, the Sri Lanka Navy is not equipped with the necessary weapons or systems to effectively combat these advanced threats. This study highlights the disparity between the technological capabilities of the Sri Lanka Navy and the AI-enabled adversaries by emphasizing the urgent need to enhance its technological infrastructure and adopt AI-driven defence mechanisms. The study used a descriptive case study method with a subjectivist inductive approach to underscore the importance of AI in modern military strategy and the potential risks of remaining technologically underprepared by analysing the operational difficulties and strategic vulnerabilities experienced during the deployment. The findings advocate for a strategic overhaul to incorporate AI technologies, which would improve the Sri Lanka Navy's resilience and effectiveness in countering AI-based threats. This case study provides insights into the current state of military defence capabilities in the face of rapidly evolving AI threats and the necessity for modernization and adaptation within the Sri Lanka Navy to maintain regional security and operational integrity.

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