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PAPER

Challenges of Defending Maritime Domain of Sri Lanka

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The Indian Ocean is rapidly surpassing both the Atlantic and Pacific Oceans as the world's busiest and most critical trade corridor, triggering several dramatic changes in the region. With the growth in legitimate international commerce in the maritime domain, escalation of criminal activities has also proliferated. Human and drug smuggling, weapons, and other contraband, as well as piracy and armed robberies against vessels, pose a serious threat to maritime security. The existing level of protection given to the maritime assets and the seelines is grossly inadequate.

The Sri Lanka Navy (SLN) is conducting surveillance in brown water ranging from 50 Nm to 100 Nm as and when required. Due to the limited number of blue water ships, SLN's capacity is restricted to continuous surveillance. All ships that sail on the international waters are fitted with the Automatic Identification System (AIS) which emanates position, identity, course and speed over ground, heading and rate of turn as well as navigational status and the destination of the ship. The information received is easily plotted on an electronic chart display system which has the capability of identifying rogue ships in the Exclusive Economic Zone, but the existing shore based sensors' are restricted with poor coverage due to range. To overcome this limitation surveillance aircraft can be fitted with the AIS to cover a larger sea area.

The objective of this research study is to establish the possibility of using indigenous mechanisms to upgrade the capabilities of the Sri Lanka Air Force's (SLAF's) existing Unmanned Aerial Vehicles (UAV) with minimum capital commitment.

The research team has carried out in-depth analysis of the existing reconnaissance procedure of SLN. A number of interviews have been conducted with senior Naval officers who are directly involved in the operation and had identified its limitations. There is a possibility of fixing an airborne AIS system to available UAV's and the engine power/aircraft weight ratios have been calculated for the modification. It has been determined to position the available Ground Data Terminal on a SLN ship. This will facilitate the UAV to extend its range. As follow up to this study, the team intends studying the possibility of linking up the UAV Uplink/Datalink with a satellite to gain more range since Sri Lanka will have one of her own very soon. The time is ripe to integrate the SLAF's and SLN's capabilities to strengthen surveillance mechanisms, effectively arresting the emerging transnational threats in the Maritime domain.