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The Strategy for Deploying Fast Missile Craft (KCR) in Littoral Warfare to Prevent Landing Threats on the Critical Coast of East Kalimantan

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Abstract

This study examines the deployment strategy of the Indonesian Navy's Fast Missile Craft (KCR) elements to prevent the threat of enemy landings on the critical coast of East Kalimantan. East Kalimantan's geographical position adjacent to the Indonesian Archipelago Sea Lane (ALKI) II and its role as a buffer zone for the Indonesian Capital City (IKN) make it a focal point for national maritime defense. Modern threats in the littoral space are no longer dominated by large-scale amphibious invasions, but rather limited naval attacks, infiltration, and asymmetric sabotage. The objective of this study is to formulate a KCR deployment strategy that is responsive, effective, and integrated with the maritime surveillance system. Using a descriptive qualitative method with a thematic analysis approach, this study explores operational dynamics through expert interview projections and doctrinal reviews. The results indicate that the KCR's superior speed and firepower will not be optimal without accurate priority sector determination and real-time situational awareness. The study's conclusion confirms that the effectiveness of preventing enemy landings is highly dependent on the interoperability between KCR elements, early warning sensors, and coastal base logistics support.

Keywords: Littoral Defense, Fast Missile Craft (KCR), Critical Coast, Maritime Interception, ALKI II

INTRODUCTION

Shifting global geopolitical dynamics have positioned maritime areas not merely as a means of logistical connectivity, but as a primary arena for power projection and a gateway for asymmetric threats. Indonesia, as an archipelagic nation, faces a strategic urgency to secure its territorial sovereignty, particularly at vital chokepoints and coastal

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areas (Laksmana, 2013). In this context, the coast of East Kalimantan holds a crucial geostrategic position. This area directly intersects the Indonesian Archipelagic Sea Lane (ALKI) II and the Makassar Strait, which are heavily trafficked with international traffic, while also assuming a new function as a strategic buffer zone for the Indonesian Capital City (IKN) (Pradityo, 2024).

History records that the waters around ALKI II are highly vulnerable to various forms of maritime threats, ranging from armed piracy and maritime terrorism to violations of the right of passage by foreign warships conducting unauthorized maneuvers (Acharya, 2023). The dense flow of civilian shipping traffic in these waters can be exploited by hostile elements as a form of camouflage (gray-zone tactics) to conduct covert approaches towards the coast (Anggana, 2025). Therefore, the most realistic threat in the East Kalimantan littoral region currently is not a massive amphibious invasion, but rather limited naval attacks, infiltration, seizure of fulcrums, and sabotage of vital national assets (OVN).

Facing the complexity of these littoral threats, speed of response and tactical striking power are key to success. The Indonesian Navy's Fast Missile Boats (KCR) are specifically designed to meet the demands of hit-and-run operations in shallow and coastal waters. With their superior agility, high speed, and precision anti-surface ship weaponry, KCR are ideal instruments for implementing a Sea Denial strategy, or preventing adversaries from accessing the sea (Sulaeman, Putra & Dindin, 2024).

However, the effectiveness of the KCR does not stand alone. Interception success is heavily influenced by early detection capabilities, precise determination of "critical coastlines," and an integrated command and control (C2) architecture. Delays in detecting enemy approaches will directly impact the KCR's failure to intercept landing routes before the enemy reaches the shoreline. Based on this background, this study aims to evaluate the asymmetric threat conditions in East Kalimantan and formulate the most adaptive deployment strategy for KCR elements to thwart enemy landing attempts while safeguarding the sovereignty of the Republic of Indonesia.

METHOD

This research was designed using a descriptive qualitative approach by applying thematic analysis methods. The focus of the analysis unit is the deployment strategy of the Indonesian Navy's KCR elements faced with the threat of limited sea landings on the critical coast of East Kalimantan. Primary data sources were projected through purposive in-depth interviews with expert informants at the strategic, regional, and tactical command

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levels, including fleet operations officers, regional base commanders (Lanal), and fast-boat KRI commanders.

Secondary data collection was conducted through a literature review of naval warfare doctrine, open maritime intelligence reports, and littoral warfare-related journals. The data processing process was managed through transcription, data reduction, and thematic coding to map key variables such as threat characteristics, interoperability effectiveness, and operational logistics constraints. In the final discussion stage, a strategic synthesis was conducted to formulate actionable policies and measures relevant to the needs of modern maritime operations.

DISCUSSION

Research Results: Factual Conditions and Characteristics of Littoral Threats

The littoral area of East Kalimantan has complex geographic characteristics, with a coastline stretching thousands of kilometers, deep river estuaries, and direct proximity to international waters (ALKI II). Based on a review of the dynamics of the strategic environment, the nature of the threats emerging in this region tends to be hybrid and asymmetrical (Acharya, 2023). These threats do not appear in conspicuous amphibious task force formations, but rather maneuver stealthily, exploiting weak surveillance amidst the dense concentration of merchant and fishing vessels.

In terms of deterrence capabilities, the Indonesian Navy's KCR is recognized as having a very high comparative advantage in the short-to-medium range interception phase. However, the KCR's potential risks tactical disorientation when faced with limited information (intelligence gaps). The vast coastal sector of East Kalimantan demands efficient deployment; KCR cannot be allocated to static patrols that waste engine life and fuel without a definite target. A deployment transformation based on integrated defense management is needed (Priyanto, 2025).

Discussion: Formulation of KCR Deployment Strategy

Based on problem identification and conceptual analysis, the East Kalimantan coastal waters security strategy requires close synergy between the KCR platform and the base defense ecosystem. This discussion is categorized into three main strategic initiatives:

1. Critical Beach Assessment and Identification

   In littoral warfare, not all coastlines have the same strategic value to the enemy. The theory put forward by Vego (2015) emphasizes the importance of geomilitary

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analysis in determining critical coastlines. In East Kalimantan, critical coastlines are coastal areas with slopes/depths (gradients) that support tactical landings and direct access to vital national assets, energy refinery facilities, and land routes supporting the national capital.

The KCR deployment strategy must be based on mapping these critical coastlines. KCRs are not randomly deployed, but rather positioned (on standby) at forward bases or hide-out areas closest to these critical coastal sectors. Determining these priority sectors will ensure that, upon early warning, the KCR's response time to close enemy approach routes can be minimized.

2. Situational Awareness-Based Maritime Interception

Maritime Interception Theory dictates that intercepting an enemy's progress must be done as far from the shore as possible to prevent the enemy from creating a beachhead (Clark, 2006). The KCR's 30-40 knot speed will only be meaningful if supported by absolute situational awareness.

In practice, the KCR deployment strategy must shift from patrol-based (patrolling for enemies) to vector-based (controlled towards targets). This requires optimization of coastal Command and Control (C2) (Catoire, 2024). Coastal Radar, maritime patrol aircraft, and unmanned aerial vehicles (drones) must function in aggregate as "search eyes" (sensors). Once an anomaly is detected in ALKI II and identified as moving suspiciously towards the coast, target coordinate and velocity data (Target Motion Analysis) are sent in real-time to the KCR Combat Information Center (PIT). Thus, the KCR can immediately maneuver at full speed to fire anti-ship missiles or conduct cannon interceptions precisely in the planned kill-zone.

3. Base Support Interoperability and Resilience

Logistical challenges are inseparable from the strategy of fast-boat warfare. Small-to-medium-sized vessels like the KCR have limited endurance and self-supply capacity (Hardjono, 2022). An effective defense strategy requires Indonesian Navy Bases (Lanal) in East Kalimantan—such as Lanal Balikpapan and Lanal Sangatta—to transform beyond administrative facilities into Integrated Defense Bases capable of rapid re-arming and refueling (Yusdian et al., 2023).

In addition, interoperability between KCR and land defense assets and coastal weapon systems is a key pillar for trapping enemy forces in a layered defense scenario.

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CONCLUSION

The presence of hybrid threats and limited maritime infiltration in the coastal waters of East Kalimantan poses a real risk that could threaten the stability of national vital assets and the existence of the Indonesian Capital City (IKN). The use of Fast Missile Craft (KCR) is the most relevant kinetic instrument to contain and eliminate these threats in the littoral space. However, the effectiveness of KCR depends heavily on a precise deployment strategy. The conventional approach of presence patrols is no longer sufficient; operations must shift to a Sea Denial-based deployment strategy driven by the integration of maritime intelligence information. The success of KCR interceptions to prevent enemy landings absolutely requires accurate mapping of "critical coasts," speedy command and control (C2) to guide the KCR to the ambush point, and the readiness of regional bases to ensure the endurance of fast boat operations on the front lines.

It is recommended that operational policy makers at the Fleet level immediately develop a specific tactical doctrine or Standard Operating Procedure (SOP) related to Littoral Defense Synergy in the East Kalimantan region, which formally integrates the coastal radar network (Lanal) with the KCR navigation/weapons system. Furthermore, periodic data updates are needed regarding the mapping of critical coastal vulnerability profiles (hydro-oceanography and military geography) along the East Kalimantan coast as a reference for determining the alert sector (hide-out area) for the KCR squadron.

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