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ENFORCING SEA CONTROL IN IOR WITH JOINT NAVAL AND AERIAL ASSETS

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Introduction

By leveraging joint naval-IAF assets, India can enhance its surveillance, reconnaissance, strike operations, and air superiority capabilities.

The formation of a maritime command will usher in the greater synergy between the Indian Navy and the Indian Air Force (IAF). The joint Naval and aerial operations are of utmost importance for achieving effective sea control in the Indian Ocean Region (IOR). Sea control aims to establish dominance over key areas in the IOR, ensuring the security and protection of maritime interests. These key areas include vital sea lanes, strategic chokepoints, and offshore resources. It is crucial to implement robust sea control measures in these regions to maintain stability and safeguard national interests. By leveraging joint naval-IAF assets, India can enhance its surveillance, reconnaissance, strike operations, and air superiority capabilities. This brief will explore how aerial assets can be effectively utilisedto achieve sea control objectives in the IOR. The brief also intends to explore what strategy and tactics can be employed to accomplish this goal.

Strategies and Tactics for Achieving Sea Control by Using Joint Aerial Assets

Aerial assets are crucial in achieving effective sea control in the IOR. These assets encompass a range of capabilities, including fixed-wing aircraft, helicopters, and drones, each serving unique purposes in maritime operations. To achieve effective sea control in the IOR, the Indian Navy and IAF should employ various strategies and tactics that leverage their joint aerial assets. Some strategies for using the collective combat power of Naval and Air Force assets are discussed ahead.

Sea Mine Warfare

To achieve effective sea control in the IOR, the Indian Navy and IAF should employ various strategies and tactics that leverage their joint aerial assets.

Sea mine laying is perhaps the most potent means to achieve sea control. Sea mines can effectively ensure denial of access at strategic chokepoints in narrow sea passages to prevent enemy ships from entering or exiting specific areas, such as the Strait of Hormuz or Malacca. At harbour entrances, mines can block enemy harbours' entry and exit points, effectively trapping naval vessels. They can provide a defensive perimeter around high-value assets like oil rigs or naval bases. Coastal areas can be mined to prevent amphibious landings or incursions into territorial waters.

During World War II, aircraft were extensively used for mine-laying operations, particularly by the British Royal Air Force and the United States Army Air Forces. One notable campaign was Operation Gardening, where the British (Vickers Wellington)[1] laid mines in the Danube river to disrupt Axis shipping. Similarly, the US employed aerial mine-laying in the Pacific theatre to blockade Japanese ports and restrict naval movements. Canadian Air Force used B-24 Liberators to lay mines during the Burma campaign[2]. These aerial mine-laying operations proved highly effective in disrupting enemy supply lines and naval operations, showcasing the strategic value of using aircraft for mine-laying in naval warfare.

Quick Deployment and Recovery: Aerial assets can quickly cover large areas, making them ideal for rapid mine laying or recovery operations.

Coordinated Operations: Aerial assets can work in tandem with naval ships and submarines for a more effective mine warfare strategy. For example, drones can be used for initial reconnaissance, followed by mine laying by fixed-wing aircraft or helicopters.

Stealth and Surprise: Using aerial assets for mine laying adds an element of surprise, as it is generally faster and less detectable than ships.

- Fixed-Wing Aircraft: Aircraft like the P-3 Orion or specialised variants of tactical bombers such as Jaguars (possibly) can be equipped with air-launched mines. These aircraft can lay mines in enemy waters from a low altitude, making it difficult for enemy radar to detect the operation.
- Helicopters: Helicopters like MH-53E Sea Dragon can be used for more precise mine-laying operations. They can hover over a designated area and deploy mines accurately, which is particularly useful in shallow waters or congested sea lanes.
- Drones: Unmanned Aerial Vehicles (UAVs) can be used for covert mine-laying operations. These drones can be programmed to drop mines at specific coordinates, making the operation highly accurate and reducing the risk to human operators.

MQ-9 Reaper and Northrop Grumman's X-47B have the required potential for mine-laying due to their large payload capacity and autonomous capabilities, which could make them suitable for mine-laying missions.

Mine Recovery

- Fixed-Wing Aircraft: Specialised aircraft equipped with magnetic anomaly detectors can be used to locate mines. Once found, the coordinates are sent to naval vessels equipped for mine recovery.
- Helicopters: Helicopters equipped with dipping sonar can identify underwater mines. They can also carry mine countermeasure systems like the Airborne Mine Neutralization System (AMNS) to neutralise mines.
- Drones: UAVs equipped with high-resolution cameras and sonar can be used for mine detection. Some advanced drones can even carry mini-torpedoes to neutralise detected mines.

Coordinated Strikes

Synchronising naval and air attacks can overwhelm enemy defences and disrupt hostile activities. By integrating naval and air assets in coordinated strikes, a military force can achieve high operational effectiveness, allowing it to establish sea control and fulfil strategic objectives.

Force Multiplier

- Synergy: The combined capabilities of naval and air assets create a force multiplier effect, where the effectiveness of the joint force is greater than the sum of its individual components.
- Diverse Capabilities: Naval assets may excel in surface and sub-surface warfare, while air assets can provide air superiority and long-range strike capabilities. Together, they can address a wide range of threats.

Precision and Effectiveness

- Target Identification: Air assets can provide real-time intelligence and reconnaissance, helping naval assets to identify and engage targets accurately.
- Guidance: Advanced targeting systems on aircraft can guide naval munitions, such as cruise missiles, to their targets with high precision.

Speed and Responsiveness

- Quick Deployment: Air assets can quickly reach areas that may be too risky or time-consuming for naval assets to approach.
- Rapid Reaction: In a rapidly evolving maritime conflict, the speed of air assets can

be a decisive factor. They can quickly respond to emerging threats, providing naval assets the time to prepare or reposition.

Tactical Flexibility

- Adaptability: The ability to quickly switch between different types of operations, such as anti-submarine warfare, surface warfare, and air warfare, is greatly enhanced when air and naval assets work together.
- Deception and Feints: Coordinated strikes can include deceptive tactics, such as feints by air assets, to draw enemy attention away from naval operations.

Extended Reach

- Range: Air assets can extend the operational reach of naval forces, allowing them to project power far from their home bases or safe waters.
- Endurance: Refuelling and rearming at sea allow for extended missions, increasing the time that air and naval assets can operate together in a theatre.

Layered Defence

- Anti-Access/Area Denial (A2/AD): Coordinated operations can help break through enemy A2/AD systems, allowing naval assets to access contested areas.
- Interdiction: Air assets can intercept threats far from the naval task force, providing an additional layer of defence.

Situational Awareness

- Data Sharing: Modern data links allow for real-time sharing of sensor data and targeting information between air and naval platforms.
- Common Operating Picture: Integrated command and control systems allow for a unified view of the battlespace, enhancing decision-making.

Hit-and-Run Tactics

The combination of naval and air forces can effectively employ 'hit-and-run' tactics, especially when facing a stronger naval force. These tactics involve quick, surprise attacks followed by rapid withdrawal before the enemy can mount an effective counter-attack. Here's how naval and air forces combined can employ such tactics:

- Surprise: The element of surprise is crucial. Air assets can provide real-time intelligence to identify vulnerable enemy targets, allowing naval assets to strike quickly and unexpectedly.
- Speed: Both naval and air assets must be fast enough to strike and disengage before the enemy can respond effectively.
- Precision: Accurate targeting is essential to maximise damage and minimise the

time spent in the enemy's engagement envelope.

Execution

- Initial Reconnaissance: Air assets like drones or reconnaissance aircraft identify target opportunities and assess enemy force disposition.
- Target Selection: High-value or vulnerable targets are selected for hit-and-run attacks based on the intel.
- Rapid Strike: Naval assets, possibly submarines or fast-attack boats, move into position to launch the attack. This could involve torpedoes, cruise missiles, or naval gunfire.
- Air Support: Fighter jets or attack helicopters may provide additional firepower or serve as a distraction to enemy defences.
- Immediate Withdrawal: As soon as the attack is executed, naval and air assets withdraw quickly to minimise exposure to enemy counter-attacks.
- Post-Strike Analysis: After disengaging, the strike's effectiveness is assessed, and future tactics are adjusted accordingly.

When to Employ

- Asymmetric Warfare: Hit-and-run tactics are particularly useful when facing a stronger opponent, as they allow a weaker force to inflict damage without engaging in a prolonged battle.
- Resource Depletion: Repeated hit-and-run attacks can force a stronger enemy to expend resources on defensive measures, thereby weakening their overall combat effectiveness.
- Psychological Impact: These tactics can also psychologically impact a stronger enemy, creating a sense of vulnerability and reducing morale.
- Force Redistribution: Consistent hit-and-run attacks may compel the stronger naval force to redistribute its assets, potentially creating opportunities for the weaker force in other areas.
- Testing Defences: These tactics can probe enemy defences and gather intelligence for future operations.

Distraction and Deception

Distraction and deception are time-honoured tactics in warfare, and their application in modern naval and air operations is both sophisticated and multi-dimensional. Here's how a combination of naval and air forces can employ these tactics in practice:

Strategic Objectives

- Resource Drain: Distraction and deception tactics can force the enemy to allocate resources, such as aircraft and ships, away from the main area of operations.
- Intellectual Overload: Creating a complex and confusing tactical picture can overwhelm enemy decision-makers, leading to mistakes or delays in response.
- Operational Security: Effective distraction and deception can protect the secrecy of the main operation, increasing the chances of its success.

Distraction

- Feint Attacks: Air assets could carry out low-level bombing runs, or naval assets could launch a few missiles at non-critical targets to divert enemy attention from the main objective.
- Electronic Warfare: Both naval and air platforms can deploy electronic countermeasures, such as jamming enemy radar or communications, to distract the enemy and make them focus on restoring their systems.
- High-Visibility Manoeuvres: Naval vessels might conduct overt manoeuvres within enemy detection range but away from the actual area of operations, drawing enemy forces away from the main objective.

Deception

- False Flag Operations: Naval vessels could masquerade as civilian or neutral military vessels, while aircraft could use transponders to give false identification.
- Decoys: Both naval and air forces can deploy decoys. For example, inflatable or wooden mock-ups of maritime vessels could be used, or aerial drones could be deployed to mimic the flight patterns of larger, manned aircraft.
- Misinformation: Spreading false intelligence through various channels can lead the enemy to expect an attack from a different direction or anticipate a different kind of operation altogether.

Target Identification and Designation

Accurate target identification and designation are vital for successful strikes. Advanced sensors, intelligence-gathering capabilities, and information sharing between naval vessels, aircraft, and ground-based command centres enable precise target acquisition. This ensures that strikes are directed at high-value enemy assets while minimising the risk of friendly fire incidents.

Time-On-Target

Time-on-target strikes play a significant role in maximising damage while minimising the enemy's response time. Coordination between naval vessels, aircraft, and ground-based command centres is crucial to synchronise attacks on multiple targets

simultaneously or in rapid succession. This approach prevents the adversary from effectively responding or regrouping after an initial strike.

Combat Air Patrol

Combat air patrol (CAP) is essential for providing air superiority and protecting naval assets. Fighter aircraft are deployed to intercept and engage enemy threats, including hostile aircraft or missiles. By establishing CAP, the IAF ensures that the Indian Navy's operations are shielded from aerial attacks, allowing for uninterrupted sea control efforts.

Joint operations between the Indian Navy and IAF are vital for maintaining sea control in the IOR. Utilising Joint Naval - IAF assets and implementing effective strategies and tactics are key to achieving sea control objectives. By leveraging the capabilities of fixed-wing aircraft, helicopters, and drones, India can enhance its surveillance, reconnaissance, and strike capabilities in the IOR.

Ground-rules of Multi-Domain Operations

Multi-domain operations involving aerial and naval assets represent the epitome of modern warfare, requiring seamless coordination across various branches of the military to achieve a common objective. In the maritime context, this means not just integrating aircraft with surface ships and submarines but also synchronising these operations with cyber and space-based assets. Aerial assets can provide reconnaissance, air cover, and direct strike capabilities, while naval assets can offer anti-submarine, anti-surface, and anti-air capabilities. When combined effectively, these forces create a multi-layered, resilient defence and offence system that can adapt to a wide range of threats and operational scenarios. This synergy is particularly crucial in complex environments where control of the sea, undersea, and airspace is contested.

To achieve this level of integration, joint training exercises are essential. These exercises simulate real-world scenarios that test the ability of aerial and naval forces to coordinate their actions effectively. They help identify gaps in communication, command and control, and interoperability. Moreover, the development and implementation of Standard Operating Procedures (SOPs) are crucial for ensuring that all units are on the same page during operations. SOPs provide a set of predetermined guidelines that help reduce ambiguity, thereby allowing for quicker and more effective decision-making. In a multi-domain operational environment, where every second counts, having well-defined SOPs can make the difference between mission success and failure.

Conclusion

In conclusion, joint operations between the Indian Navy and IAF are vital for maintaining sea control in the IOR. Utilising Joint Naval - IAF assets and implementing effective strategies and tactics are key to achieving sea control objectives. By leveraging the capabilities of fixed-wing aircraft, helicopters, and drones, India can enhance its

surveillance, reconnaissance, and strike capabilities in the IOR.

. The joint efforts of these two military branches will contribute to maintaining stability, safeguarding national interests, and protecting maritime resources in the Indian Ocean.

Multi-domain operations in the maritime context require seamless integration of aerial and naval assets, bolstered by joint training and well-definedSOPs.. This coordinated approach enhances resilience and effectiveness, enabling rapid and informed decision-making in complex environments.

Overall, by harnessing the power of joint naval-IAF assets and implementing effective strategies, India can enhance its ability to achieve sea control objectives in the dynamic environment of the IOR .

Notes:

[1] "Accident Vickers Wellington Mk III BK368," *Aviation Safety Network*, https://aviation-safety.net/wikibase/207228. Accessed on October 28, 2023

[2] "The Burma Campaign - Historical Sheet - Second World War - History - Veterans Affairs Canada," *Veterans Affairs Canada*, June 07, 2021, https://www.veterans.gc.ca/eng/remembrance/classroom/fact-sheets/burma-campaign. Accessed on October 28, 2023.

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