Fortress: A New Sea Denial option

Shang-su Wu, Research Fellow
Rajaratnam School of International Studies, Singapore
issswu@ntu.edu.sg
Outline of Presentation

- Sea denial and fortresses
- Disappearing fortresses and potential for remerging.
- Comparison with mobile platforms and a new version of fortress fleet strategy
- Example for potential application: Vietnam
- Challenges and conclusion
Sea Denial and Fortress

- **Sea denial**: preventing enemy’s control and use of sea.
- **Asymmetrical nature**: mobile means.
- **Fortresses were supposed to be stronger than warships**: weight, space and observation.
- **Limited range and coverage of ocean**.
- **Weak air defence capability**.
Disappearance of Fortresses

- Nuclear warfare: meaningless conventional protection, focus on strategic strike and mobile survival.

- Anti-ship missiles equipped on various platforms available in the arms market.

- Bipolar international environment: struggle for global sea power, mutual check, and balance of power.
Changing Conditions

- Conventional nature of armed conflict.
- Newly rising sea powers: low projection of power due to small naval aviation and no overseas bases.
- Relatively falling US dominance: less willing to use force.
- More responsibility and uncertainty for coastal states: littoral environment, fait accompli and counter force orientation.
Comparison with Mobile Platforms

- Defence means: weight, space and power.
- Surface vessels: sinking, dilemma between price and defence.
- Submarines: most stealth and deterrent, fragile when found, onshore facilities.
- Aircraft: highest mobility, fragile on land and in air.
- Onshore vehicles: hiding, surveillance, and obstruction.
Characteristics of Fortress (1)

- Robust for most conventional weapons: concentration on PGM leads to smaller payload.
- Long-range strike means: SAM and anti-ship missiles: enough to cover EEZs.
- Layered defence rings: long and short-range SAMs, EW, CIWS, chafe, new armours (reactive and hollow structure).
- Sufficient space and power to add new means, such rail gun and laser.
Characteristics of Fortress (2)

- Available technology: most from naval systems, ex: land Aegis.
- Never sunk: unlike to lose. Relatively easy to repair.
- Shaping the gravity of warfare: stand-off nature.
- Different politic messages:
  - Enemy’s attack on onshore fortress would be more aggressive than mobile platforms on sea and air.
  - No mobility: unlikely use for invasion: better international image.
How to Face Bunker Buster

- GBU-57 of 30,000lb is able to penetrate 200ft concrete, as GBU-28 of 5000lb can reach 20ft.
- Limited platforms to carry out heavy GBUs. Land-based aircraft can be estimated.
- New sea powers do not have similar capability.
- Layered defence may intercept projectiles or decrease their effect of explosion.
- U-boat pen example.
- Less likely to conflict with the status-quo sea power.
Inability to Replace Mobile Platforms

Peace time function:
- Patrol and law enforcement: low level conflicts.
- Diplomacy: visit, showing flags.
- International cooperation: HADR, joint exercises.
- National pride.

Wartime function:
- Mobile warfare.
- Surveillance.
- Remote strike.
New Fortress Fleet Strategy

- Two level games: mobile platforms for low-tensed scenarios; fortress for high-tensed warfare.
- Escalation for enemy to ponder: clear message for escalation without offence.
- Easy to IFF.
- Reshape the gravity of warfare: less pressure on mobile platforms.
- Longer course of war: stronger deterrence.
Vietnam

- Considerable investment in mobile platforms but insufficient to counter Chinese counterpart.
- Geostrategic advantage: adjacent Yulin naval base.
- Fortress to blockade China’s major base and most communication lines to the South China Sea.
- Available weapon systems: S-300, P-800 and 3M-54.
The Location of Yulin Naval Base
Challenges

- New technology.
- Unlikely to be a showcase.
- Lack of multipurpose.
- Electronic inferiority: similar to mobile platforms.
- Over horizon surveillance: similar to mobile platforms.
- Integration of various systems: technological capacity.
Thank You Very Much

issswu@ntu.edu.sg