COAST GUARD PERSPECTIVE ON COASTAL SURVEILLANCE RESPONSE SYSTEMS AND PLATFORMS

BY

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DOMA IN COMPLEXITIES

- Complex and Dynamic Maritime Environment
- World’s fifth largest coastline - 7516 km
- 1382 mostly uninhabited islands
- Vast Exclusive Economic Zone of 2.01 million sq kms
- 13 Coastal States & UTs - at Vanguard of Development
DOMAIN COMPLEXITIES

- Exponential growth of coastal population and infrastructure
- VA’s & VP’s
  - Ports
  - Industrial units
  - Military installations
  - Oil refineries
  - Nuclear power plants
Over 100,000 ships transit close to our shores every year
12 Major and 200 Non-major Ports
COMMERCIAL SHIPPING

... also a threat owing to access to mainland
SAGARMALA PROJECT

• To modernize Indian Ports and Development of coastline through
  ✓ Coastal Economic Zone (CEZ)
  ✓ New Ports
  ✓ New Fishing harbours
VULNERABLE TO THREATS

REQUIRE ENHANCED SURVEILLANCE
FISHING

- Third largest in the world in Fishing
- Second largest in the world in aquaculture
- Almost 2.5 lakh registered fishing boats
- Critical national assets
- Yet they pose a live threat as witnessed in Dec 2008
SURVEILLANCE AND THE CHALLENGE

- Coastal Surveillance - not just technology to defend valuable assets

- Challenge is prevention of access to hinterland by all types of anti-nationals / nefarious elements
**INDIAN COAST GUARD**

- Playing a significant role in the maritime domain
  - Humanitarian Tasks viz. Search & Rescue and Pollution Response
  - Maritime Law Enforcement
- Responsible for coordination of **Coastal Security** in Territorial Waters
  - With large number of Central and State agencies
RESPONSE SYSTEMS AND PLATFORMS

STATE-OF-THE-ART TECHNOLOGY

ROBUST

AFFORDABLE

MAINTENANCE FREE
RESPONSE SYSTEMS

• Driven by its operational philosophy

• Combination of Physical & Electronic Surveillance efforts utilized to optimize results

• Physical Surveillance undertaken by Surface / Air assets
COASTAL SURVEILLANCE NETWORK

- Encompasses modern surveillance gadgets
  - Radars
  - Electro Optic Sensors
  - VHF sets
  - Met equipment
  - AIS
  - Marine Small Target Trackers
Marine Police Stations work in Hub & Spoke concept with Indian Coast Guard under Coastal Security Scheme (CSS)
FISHERMEN - ‘EYES & EARS’

Community Interaction Programmes
FORCE MULTIPLIERS

• Combination of **High Endurance** & **High Speed** surface platforms
  ✓ for sustained deployment and rapid response

• **Force-multipiers**
  ✓ **Interceptor Boats** - Quick reaction assets
  ✓ **Hovercraft (ACVs)** - For shallow water operations
MODERNIZATION AND AUGMENTATION

- ICG undergoing rapid modernization and steadily augmenting force levels for effective surveillance and optimum coverage

- Future acquisitions
  - Multi Mission Maritime Aircraft (MMMA)
  - Twin Engine Helicopters
  - State-of-the art surface platforms with modern sensors
THE WAY AHEAD ......
FOOD FOR THOUGHT !!!

- Majority of equipment onboard surface & air platforms of foreign origin
- CSN also equipped with sensors / equipment from foreign OEMs

WHY IS IT SO ?

MAKE IN INDIA
REQUIREMENT OF INDIGENOUS EQPT

- CSN equipment are expensive
- Maintenance involves considerable dependence on OEMs
- Increase in down-time of such National Security Network
- Ample scope within Indian Industry to develop robust systems / sensors
- Need for Solid-state Radars, Nano-technology etc., which are
  - Cost-effective
  - Optimize sensor performance
  - Zero maintenance
TRACKING AND IDENTIFICATION SYSTEMS

- Monitoring Control and Surveillance (MCS) of large fishing fleet - A grey area
- Vessels < 20 m length not fitted with any Tracking and Identification system
- Development of Indigenous Transponders which are affordable & tamper-proof will strengthen Coastal Security
MONITORING LANDING CENTRES

- Lack of **continuous monitoring** of numerous fish landing Centers - A lacuna

- Needs to be overcome using technology
  - ✔ Radio Frequency Identification Devices (RFID)
  - ✔ Electro-optic & Biometric Sensors
UNMANNED PLATFORMS

• Deployment of un-manned surface craft and aerial vehicles provide for
  ✓ Swift launch
  ✓ Effective surveillance for a prolonged duration
  ✓ Interdiction

• Developing such unmanned platforms indigenously would be ‘win-win’ situation
DIGITAL DATA BANK & DATA HANDLING

- Creation of digital Data Bank of all types of vessels plying in Indian waters - Need of the Hour

- This would enable quick processing, better assimilation and quick retrieval of data, which in turn would optimize operational efficiency

- Indian companies can provide a viable solution

- Processing of over-flooded raw data and corroboration with data bank in shortest possible time is paramount, needs special focus
CONCLUSION
‘MAKE NOW’ AND ‘MAKE IN INDIA’

- A well-knit Coastal Security Mechanism comprising of:
  - Satellite based surveillance system
  - Chain of Static Sensors
  - Tracking system for small crafts operating at sea
  - Surface & air assets with high detection capability

- Will provide a **robust security system** capable of neutralizing anti-national elements
Thank you