

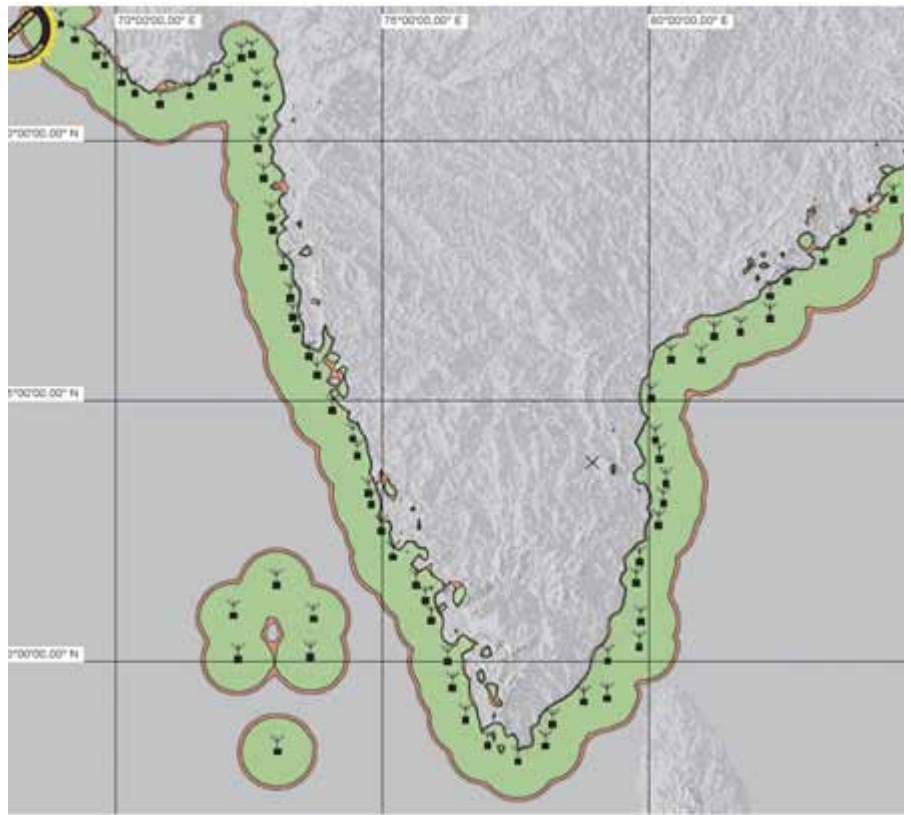
# Impregnable Fortress

Except for Port Blair, none of the 200 non-major ports in India have any identification or surveillance systems as yet

PRASUN K. SENGUPTA

AS LUDICROUS AS IT MAY SOUND, especially two years after 26/11, there are presently no concrete ground-rules for patrolling India's inshore coastal areas and the numerous creeks and rivulets along the coastline. Though the ministry of defence (MoD) and the Union ministry of home affairs (MHA) had vowed a flurry of initiatives to beef up coastal security, all that has been done so far is to bunch all operational priorities into an omnibus Maritime Security Plan, which in turn has given rise to turf wars between the Indian Navy (IN), Coast Guard (ICG) and the state-level Police agencies. To be fair to the IN, it had as far back as the late Nineties proposed the creation of a Union Cabinet-level ministry of maritime affairs in order to meet the future challenges, thereby ensuring that the functioning of all maritime organs be coordinated by a single policy-making apex body. As successive governments at the Centre have been loathe to embrace this concept, the navy in early 2009 proposed that a Maritime Security Adviser (MSA) be appointed, along with a supporting Maritime Security Advisory Board (MSAB) to take stock of the growing oceanic influence on India's foreign policy in the decades to come. According to the IN's blueprint for action, the MSAB should synergise the functioning of more than 14 government departments and agencies responsible for various elements of maritime affairs, besides several security agencies with jurisdictions along the country's coastline.

The MSA, the IN proposal states, ought to be assisted by the MSAB drawn from other Union ministries, security agencies and armed/paramilitary services, and a newly created Secretariat comprising one Rear Admiral, Five Commodores, 15 officers of the rank of Naval Captain and below, and 45 personnel. In other words, the proposal called for the Union government to create a new maritime security command



**ENABLING OPERATIONAL EFFICIENCY** Saab-supplied CSS network for India

under the IN's charge. 'Necessary co-ordination, including on policy issues, between maritime security agencies (IN and ICG) and other ministries at the apex-level for issues related to overall maritime security (including offshore and coastal security) would be provided through the MSA', said the proposal prepared by the IN for the MoD and the Cabinet Committee on National Security (CCNS). The MSA, the proposal goes on, will initiate policy directives and in the exercise of this authority, he would also be specifically empowered to co-ordinate and, where necessary, regulate through directives, the activities of other departments and/or agencies, from the security angle, of the government of India, as also private players operating within the maritime domain. To plug existing holes in the find, fix, fin-

ish, exploit, and analyse (F3EA) targeting model, the IN's proposal had stated that 'new procedures and linkages' are required to be put in place, while there is a need to 'review existing responsibilities and linkages so as to substantially enhance analysis and dissemination of such information to consumers at all levels in a time-bound and accountable manner'. The draft proposal had also assigned accountability by designating the ICG as the sole authority for coastal security right from the high tide line — including areas to be patrolled by the state-level coastal police agencies — with the ICG's Director-General functioning as Commander-in-Chief of the Coastal Command. 'However, the overall responsibility for coordinating maritime and offshore defence will be with the Indian Navy,' it said. The IN had rec-



### THE PROTECTOR *Invader FIC*

ommended that the ICG be authorised to function between 12nm and 200nm — which is the exclusive economic zone (EEZ), while the marine police agencies keep watch inside the 12nm of territorial waters and the IN beyond 200nm of blue water.

Last October, the IN also submitted a detailed 262-page technical blueprint on the 'integrated national maritime domain awareness (MDA) project' to all the concerned Union ministries and the 14 coastal states and union territories of India. This detailed blueprint centres around the creation of the IN's multi-spectrum National Command Control Communication and Intelligence Network (NC3IN), whose HQ is now coming up in Gurgaon, Haryana. The blueprint calls for an additional allocation of Rs nine billion for implementing the entire MDA project, whose principal aim is to generate a common operational picture of all ongoing activities at sea through an institutionalised mechanism for collecting, fusing and analysing information from technical and other sources like coastal surveillance systems (CCS), satellite-based automatic identification systems (AIS), vessel traffic management systems (VTMS), fishing vessel registration and fishermen biometric identity databases. The proposal also calls for the need to create state-level monitoring centres in coastal states/union territories to act as nodes for the national MDA network and upgradation of the four existing joint operations centres at Mumbai, Kochi, Vizag and

Port Blair, as well as the creation of a shipping hub and fisheries monitoring centre. The blueprint also identifies the need to establish VTMS at the 56 non-major ports that handle international traffic. While India's 13 major ports either have or are being equipped with VTMS, except for Port Blair, none of the 200 non-major ports have any identification or surveillance systems as yet. The blueprint also calls for a VTMS for the eastern off-shore development areas like the one set up for the western ones.

### **Necessary coordination, including on policy issues, between maritime security agencies and other ministries at the apex-level for issues related to overall maritime security would be provided through the MSA**

Yet, despite such path-breaking suggestions and groundwork, all that the CCNS has agreed to implement is an omnibus but truncated Maritime Security Plan (MSP) that simply states that the IN is now the 'designated authority' responsible for overall maritime security, with both coastal and offshore security under its control. The MSP states that the state-level marine police agencies would exercise jurisdiction up to 5nm from the coastline, the ICG till

30nm, and the IN would exercise similar control on the high seas beyond the 30nm limit. The MSP lays emphasis on extra security for coastal and offshore oil and gas installations by promulgating an exclusion zone of 5nm and a no-fishing zone around offshore infrastructure; installation of a VTMS at each offshore development field; and, deploying immediate support vessels — paid for by the oil and gas companies — to guard all of them. The MSP has also proposed to make it mandatory for all fishing boats to get registered through the issuance of biometric identity cards to all fishermen. It has earmarked Rs one billion to install AIS transponders on 300,000 vessels below 300 tonnes weight for dynamic information on their identification, location, speed and course. Though the MoD, as part of the MSP, has also sanctioned 3,000 additional personnel for the ICG to be filled up on a priority basis, records show that this task will be completed only by 2022. But not yet addressed by the MSP is the ICG's high-priority multi-phase force expansion blueprint, which calls for the acquisition of get 12 twin-engined medium-lift helicopters and 12 additional Do-228-201 as soon as possible. The ICG is presently equipped with 43 ships, 23 boats, 24 Do-228-201 coastal surveillance aircraft, 16 SA.316B Chetak helicopters and four Dhruv advanced light helicopters to protect India's vast 7,517km-long coastline, 1,197 islands and 2.01 million sq km of EEZ.

On paper, the MoD has already sanc-



**ABSOLUTELY SEAWORTHY** *Hellraiser FIC*

tioned projects worth Rs 6,805 crores, which include the creation of nine more ICG stations, deployment of a combined CCS/AIS chain along the entire 7,516km coastline, the raising by the IN of a 1,000-strong specialised Sagar Prahari Bal (SPB) equipped with 80 fast interceptor craft (FIC) to protect shore-based naval assets and vital installations, and the setting up of an initial 73 marine police stations under a Rs 329.62 crore plan (this will be followed by an additional allocation of Rs1,579.91 crores for another 131 police stations). Of these, 32 marine police stations are coming up on the west coast, with 12 of them being in Maharashtra. The ICG, which presently has 13 bases and two air stations on the west coast, will set up new stations at Pipavav and Veraval in Gujarat; and Dahanu, Murud-Jhanjira and Ratnagiri in Maharashtra. Air stations were being put up at Porbander, Ratnagiri and Thiruvananthapuram. In addition, the MoD last March awarded a Rs 9.77 billion contract to Larsen & Toubro (L & T) under which the latter will design and build 36 high-speed interceptor boats for the ICG. The interceptor boats will feature aluminum-alloy hull construction with water jet propulsion to enable quick response. The interceptors will also be able to operate effectively in shallow water that will be critical for near-shore action. Also awarded by the MoD was a GBP 34 million contract in late July to UK-based Griffon Hoverwork for the supply of 12 8000TD hovercraft for the ICG, the tender for which had been released in November 2009. At 21.3 metres in length and with a payload of eight tonnes, the 8000TD can reach speeds of 45 Knots and is powered by

two Iveco diesel engines. The ICG had earlier acquired six 8000TDs in 2001, two of which were built at Griffon Hoverwork, with the following four being assembled by Kolkata-based, MoD-owned Garden Reach Shipbuilding & Engineering Ltd (GRSE).

The ICG is also gradually upgrading its existing fleet of Do-228-201s, starting with three aircraft. A contractual flight acceptance test was successfully performed at Daman in September 2009 on the first MSS-6000 airborne maritime surveillance system built and fitted by the Swedish Space Corporation (SSC) for the first Do-228-201 to be upgraded. The MSS-6000 comprises a SLAR (side-looking airborne radar (SLAR)); an infrared/ultra-violet (IR/UV) linescanner; high-resolution digital photography camera and a video system for visual documentation for evidence purposes. Data from all systems is processed, integrated and presented in one integrated view to the operator. All recordings are annotated with GPS data and digitally stored in an on board geographical database. Information from the sensors will be accessible from the operator's console. It is displayed in real-time and is tightly integrated with a tactical map. The map will contain the current aircraft position and time marks on the flight track. The map image has a large number of operator selectable overlays such as background information (territorial borders, EEZ borders, exclusion zones etc), geo-corrected overlays from SLAR, IR/UV, observation and target notes as well as notes on location of captured images from cameras. This gives the right support to the MSS-6000 operator in every situation. All information from

the mission is saved and can be compiled in mission reports and/or sent on to ground station and other units. Data and digital images are presented integrated with an electronic nautical chart database, and also correlated with the mission report, all at the fingertips of the user, to ensure maximum efficiency during routine surveillance as well as in emergency situations. The MSS-6000's mission software also allows transmission of data to the ground in real-time as well as replay and analysis of the recorded mission on a separate ground workstation.

In another development, Saab TransponderTech of Sweden on November 24 was awarded a SEK 116 million contract by the directorate general of Lighthouses and Lightships (DGLL) for supplying a national CSS straddling the entire Indian coastline. The system includes TERMA of Denmark's Scanter 2001 dual-band (S/X) radars each with 50km-range, and equipment for regional and national control centres. Users of the CCS apart from DGLL will be the IN, ICG and DG Shipping. Saab will implement the project, which includes installation, commissioning, training and support together with its Indian partner, Elcome Marine Services. The project will start immediately and will be completed within 18 months. The CSS that the DGLL has ordered comprises both radars and optronic sensors at 74 locations. The sensor sites will connect via VSAT links to form a Wide Area Network. Saab will also deliver the network servers and software, the CoastWatch operator software, including SAR support and advanced databases and statistical functions to nine control centres



**THE HOVERCRAFT** Griffon 8000TD of ICGS

— six regional and three national. The control centres will be operated by the DGLL. There is also an option within the contract to include another 12 sensor sites.

The IN, meanwhile, is accelerating its efforts to raise the SPB for force protection functions at naval harbours. The SPB force would comprise 1,000 personnel (61 officers and 939 sailors) and 80 fast interceptor craft worth an estimated USD 500 million, of which 31 would be based in Mumbai, 12 in Kochi, 23 in Vishakhapatnam and 10 in Andaman and Nicobar. On March 27, this year, the MoD inked a contract with France's Chantier Naval Couchac to acquire 15 FICs, which will be in addition to the 80 FICs (Motomarine SA-built Hellraiser and Invader) approved earlier at a cost of Rs 3.2 billion for the SPB. Training of the first batch of 200 SPB personnel began last January, while deliveries of the 80 FICs are likely to begin only by 2012-2013 at the earliest. However, it is the force modernisation of the various state-level marine police agencies that remains in a pitiful state: of the 304 FICs to be imported from Greece-based Motomarine SA (and licence-assembled by the MoD-owned Goa Shipyards Ltd and GRSE), less than 20 have been delivered to date. As per present plans, the capital and operational expenditure incurred in the first three years by the marine police agencies will be borne by the central government — including a lump-sum allocation of Rs four billion for setting up the marine police network, and Rs 1.5 billion each year for running expenses, including fuel and maintenance for the FICs — even though policing is a

**Despite such path-breaking suggestions and groundwork, all that the CCNS has agreed to implement is an omnibus but truncated Maritime Security Plan (MSP) that simply states that the IN is now the 'designated authority' responsible for overall maritime security**

state subject.

The Motomarine SA-built FICs are presently being licence-assembled in India by the MoD-owned Goa Shipyards Ltd and GRSE, with the latter being contracted for the supply of an initial 78 FICs for those marine police agencies straddling the Bay of Bengal. The 12-tonne FIC — called Hellraiser — is built of glass-reinforced plastic (GRP), costs Rs 25 million per unit, and is capable of a top speed of 38 Knots (70 kph). The boat is 13 metres long and has an endurance of 75nm with 25 per cent reserve fuel capacity. It can carry four crew members along with a patrolling party of 16 persons. The boat is fitted with two inboard main engines of 500HP each with water-jet propulsion. These boats have been designed and constructed for deployment in Indian territorial waters for day and night surveillance and investigation of suspected vessels in and around harbour, anchorage and along the sea coast. The boats are highly seaworthy and unsinkable type having 10 per cent reserve buoyancy even when filled with water. An on-board radar provides the

boat's commander with automatic, real-time updates of maritime activity received from navigation, positional, and position-tracking sensors such as AIS, automatic radar plotting aids, and full-motion optronic sensors so as to afford greater clarity in the tactical picture and thus improve decision-making. The live data is shared amongst the nodes in the network via an intelligent router, thus allowing critical and prioritised information to be broadcasted on the best line connectivity available over up to four different channels using HF, VHF, UHF, SATCOM or WIFI. The Invader 5.4-tonne FIC can attain speeds of 40 Knots, is 9.60 metres long, and has an endurance of 75nm with 25 per cent reserve fuel capacity. The boat can carry four crew members along with a patrolling party of 10 persons and comes fully equipped with life-saving, fire-fighting and communications facilities. The boat is fitted with two outboard Motors of 275HP each for propulsion and manoeuvring.

The wheel house is fitted with anti-ballistic panels for protection of the patrolling crew to withstand firing from an AK-47 assault rifle at 10-metre range. Deliveries of the Invader and Hellraiser FICs have so far taken place for the marine police agencies of Maharashtra (28 on order for delivery by March 2011), Goa (five on order), West Bengal (18 on order), Tamil Nadu (44 on order), Gujarat (two ordered so far) and Kerala (three Hellraisers delivered to date). Maharashtra, meanwhile, is procuring an additional 29 patrol boats costing Rs1.5 billion from Mumbai-based Marine Frontiers Pvt Ltd. ||