

# AN OVERVIEW OF INDIA'S MARITIME SECURITY CHALLENGES



COMMODORE UDAI RAO ( RETD)

FORMER PRINCIPAL DIRECTOR NAVAL INTELLIGENCE(PDNI)

FORMER DIRECTOR CABINET SECRETARIAT

FORMER DIPLOMAT

# **BLUE PLANET**



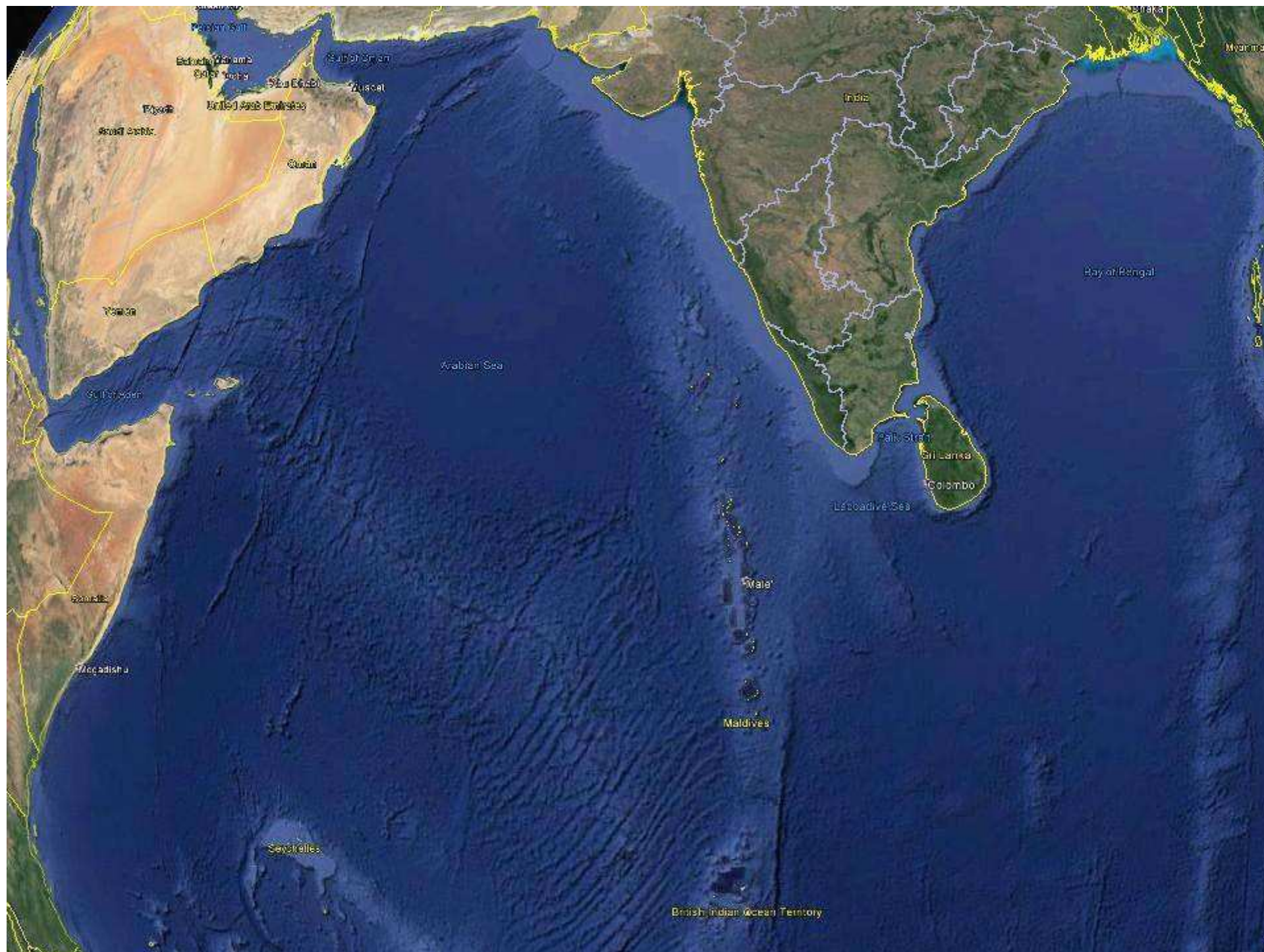
# BLUE PLANET

- OCEANS COVER OVER 70% OF THE EARTH'S SURFACE
- REMOTE AND FAR FLUNG
- PERSONNEL & ASSETS FOR MARINE POLICING CAN NEVER BE ENOUGH
- NEARLY 40% OF THE WORLD POPULATION LIVES WITHIN 60 NM OF THE SEA
- **PRINCIPLE OF FREEDOM OF THE SEA – MARE LIBERUM**
- **12 NM TERRITORIAL WATERS**
- LACK OF JURISDICTION ON THE HIGH SEAS BEYOND EEZ : >200nm
- COMPLICATES MARITIME OPS AND MARITIME LAW

- **INDIA – HISTORICALLY ALWAYS A MARITIME NATION**
- **RIG VEDA -- “JHALAM EVA YASYA BHALAM EVA THASYA”**
- **HE WHO COMMANDS THE SEA IS ALL POWERFUL.**







**“Whoever controls the Indian Ocean will dominate Asia. This Ocean is the key to the seven seas. In the 21<sup>st</sup> century, the destiny of the world would be decided on its waters.”**

**Captain Alfred Thayer Mahan**

**Circa 1890**





## SEA LINES OF COMMUNICATION

66% OF WORLD'S OIL  
50% OF WORLD'S CONTAINER TRAFFIC  
33% OF WORLD'S CARGO

80% OF TRADE IN IOR IS EXTRA-REGIONAL



# PM MODI'S MARITIME INITIATIVES

- LOOK EAST TO ACT EAST POLICY
- NEIGHBOURHOOD FIRST POLICY
- SAGAR –SECURITY AND GROWTH FOR ALL IN THE REGION
- INDO –PACIFIC POLICY
- QUADRILATERAL SECURITY DIALOGUE( QSD)- QUAD

## PM MODI'S PROJECTS

- 'MAKE IN INDIA' CAMPAIGN
- DEVELOPMENT AGENDA – 'SABKA SAAT SAB KA VIKAS'
- BLUE ECONOMY
- SAGARMALA PROJECT
- ATMANIRBHAR BHARAT
- MARITIME VISION 2030
- ALL DEPENDENDANT ON SAFE SEAS



**PM MODI ADDRESSES UNSC –AUGUST 2021  
'ENHANCING MARITIME SECURITY — A CASE FOR INTERNATIONAL COOPERATION',**



**5 PRINCIPLES**

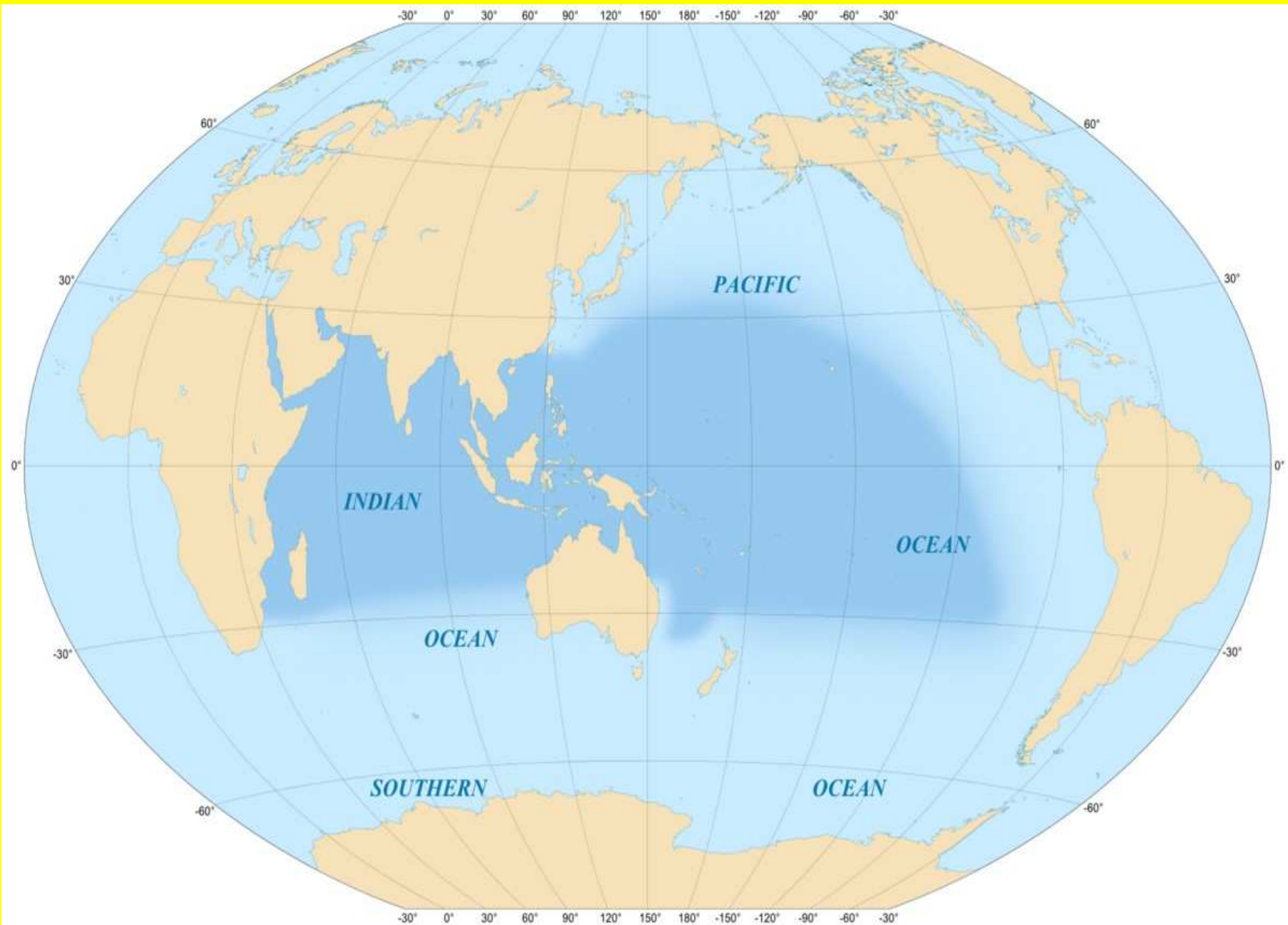
- REMOVE BARRIERS TO MARITIME TRADE
- MARITIME DISPUTES SHOULD BE RESOLVED PEACEFULLY IN ACCORDANCE WITH INTERNATIONAL LAW
- COUNTRIES JOINTLY TACKLE MARITIME THREATS FROM NON -STATE ACTORS AND NATURAL DISASTERS
- MARITIME ENVIRONMENT AND MARINE RESOURCES NEED TO BE CONSERVED HIGHLIGHTING POLLUTION FROM PLASTIC WASTE & OIL SPILLS
- DEVELOP RESPONSIBLE MARITIME CONNECTIVITY - SAYING A STRUCTURE WAS NEEDED TO BOOST MARITIME TRADE WITH DEVELOPMENT OF GLOBAL NORMS & STANDARDS



PM MODI ADDRESSES UNSC –AUGUST 2021  
'ENHANCING MARITIME SECURITY — A CASE FOR INTERNATIONAL COOPERATION'



# INDO –PACIFIC CONCEPT



## **QUADRILATERAL SECURITY DIALOGUE /QUAD**

- **US, JAPAN ,INDIA AND AUSTRALIA -2007**
- **REVIVED A DECADE LATER- 2017**
- **CHINA - SOUTH CHINA SEA IMBROGLIO**
- **CHINA'S AGGRESSIVE -ECONOMIC ,DIPLOMATIC ,MILITARY WESTWARD PUSH**
- **CHINA -PRIMARY CHALLENGE TO INDO- PACIFIC SECURITY**

➤ QUAD – NON MILITARY

➤ QUAD PLUS

➤ VACCINE SUPPLY CHAIN

➤ RESILIENCE OF SHIPPING SUPPLY CHAIN

➤ CLIMATE CHANGE

➤ CRITICAL TECHNOLOGIES

## COMMENTS ON INDO- PACIFIC & QUAD

- **FREE , OPEN, PROSPEROUS AND INCLUSIVE INDO-PACIFIC**
- **RESPECT FOR INTERNATIONAL LAW**
- **ENSURING FREEDOM OF NAVIGATION,OVERFLIGHT,MARITIME SECURITY & CONNECTIVITY**
- **RULE BASED ORDER**







# MARITIME SECURITY

- PREPARING AND TRAINING FOR WAR
- NAVY AND COAST GUARD
- NUCLEAR DETERRENCE



# MARITIME SECURITY

## ➤ COASTAL SECURITY

➤ BUILDING OUR OWN SHIPS & EQUIPMENT -

*ATMANIRBAR*

## ➤ PORTS & SHIPPING

➤ TRADE AND COMMERCE -95% BY VOLUME AND 72% BY  
VALUE GOES BY SEA

➤ PROTECTION OF SEA LANES OF COMMUNICATION/  
ENERGY SHIPMENTS -STRATEGIC CARGO

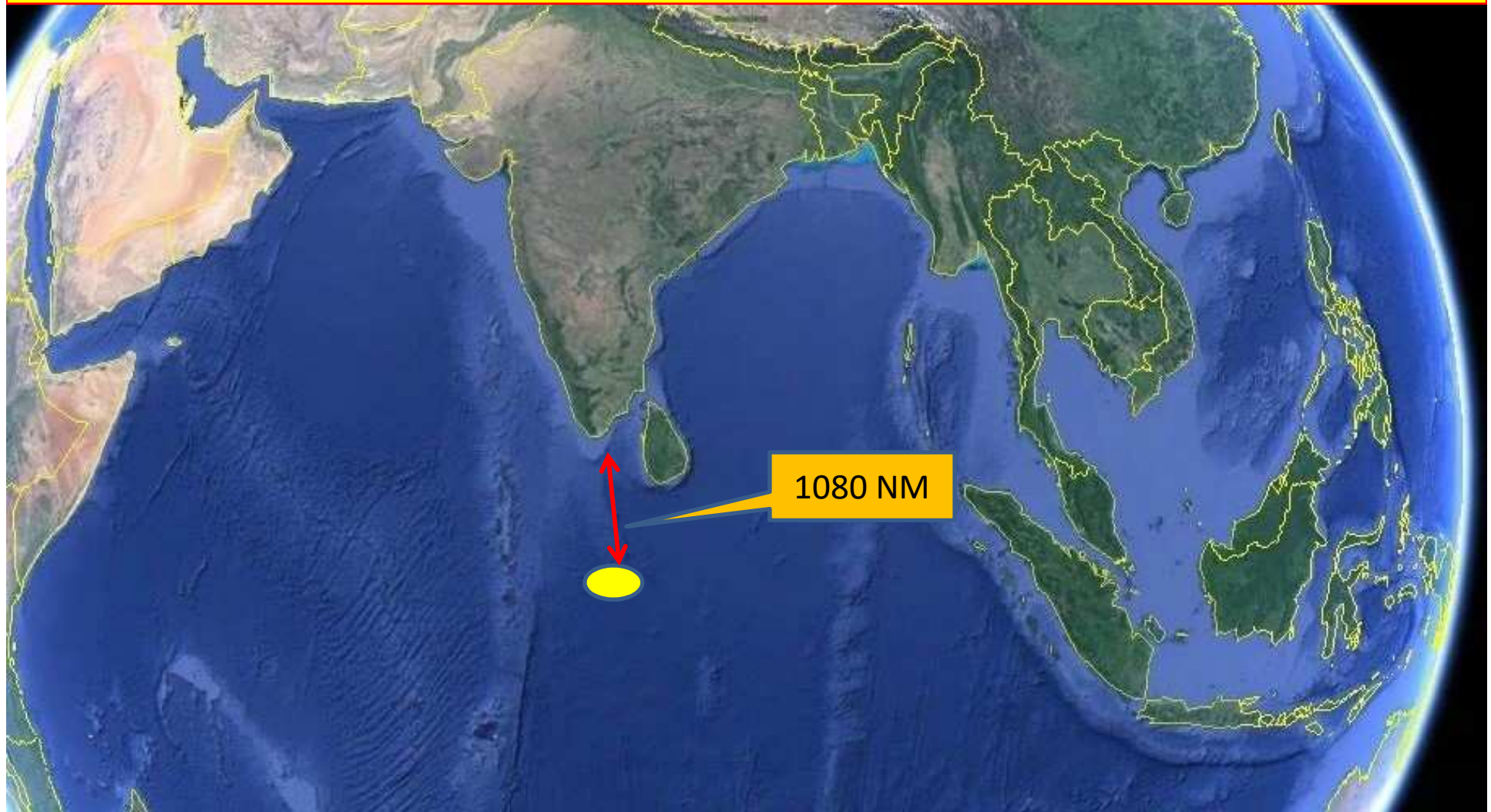
# MARITIME SECURITY

- RESOURCE PROTECTION – FISHERIES ,CRUDE ,SEA BED MINING, MINERALS etc
- PROTECTION OF MARINE INFRASTRUCTURE –BOMBAY HIGH
- PROTECTION OF MERCHANT SHIPS FROM PIRACY
- PREVENTING ENVIRONMENTAL DISASTERS –OIL SPILLS
- PROTECTION OF FISHERMEN FROM PAK MARITIME SECURITY AGENCY (MSA )OR SRI LANKAN NAVY

# DISTANT STRATEGIC INTERESTS

# INDIA HAS A PIONEER STATUS IN SEA BED MINING

( INTERNATIONAL SEABED AUTHORITY)





# DEEP OCEAN MISSION

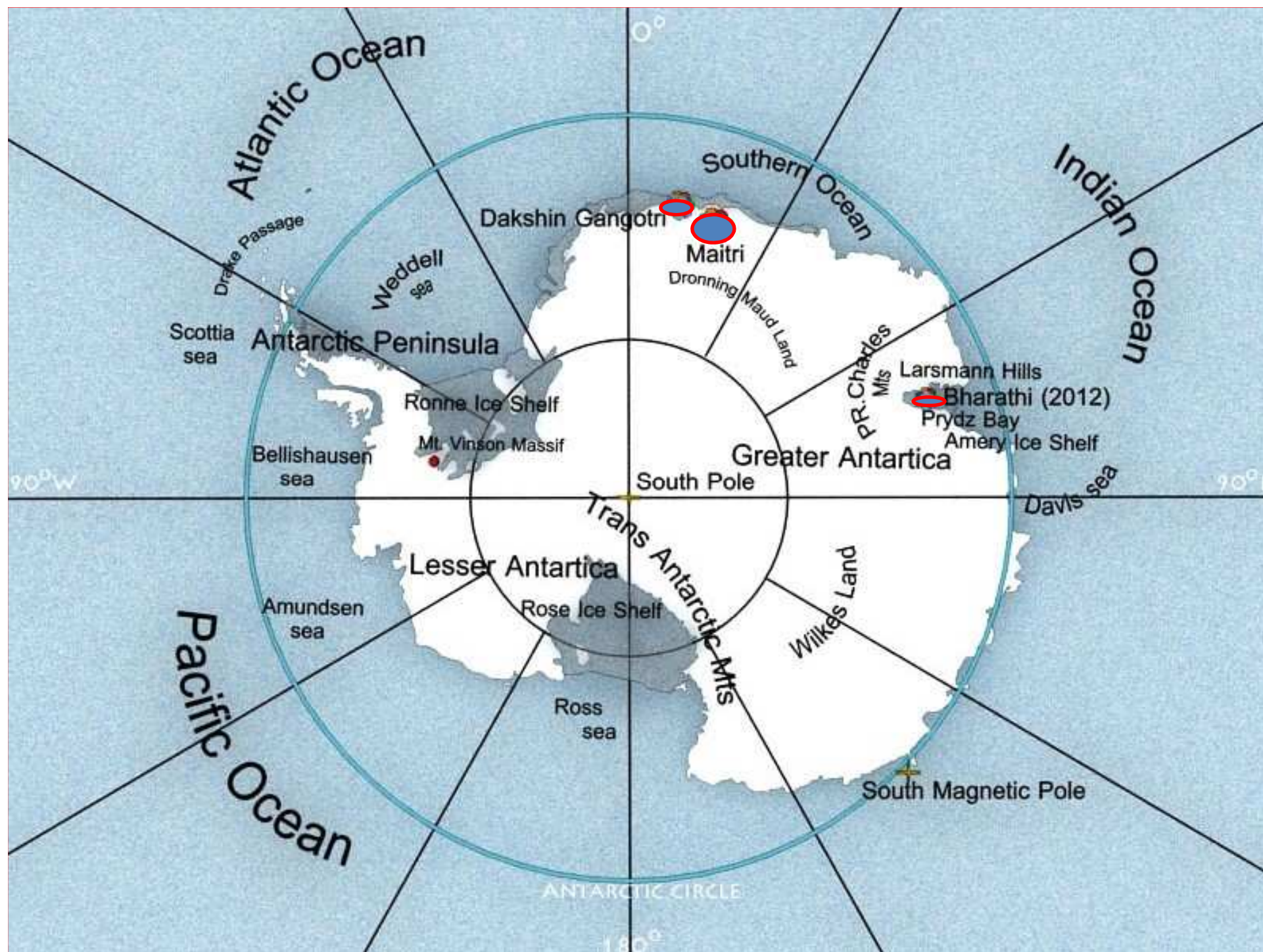
DEEP OCEAN MISSION –  
SAMUDRAYAAN- MATSYA-  
SUBMERSIBLE- 6000 M

1080 NM











## ARCTIC REGION

## HIMADRI RESEARCH STATION



How the new Northern Sea route compares to the traditional Suez Canal route

### NORTHERN SEA ROUTE

Travel time

**35 days**

Dangers

**Icebergs**

Travel window

**July to November**

Container-carrying vessels

**One this year**

### SUEZ CANAL ROUTE

Travel time

**48 days**

Dangers

**Access to Suez Canal under question with upheaval in Egypt**

Travel window

**Year-round**

Container-carrying vessels

**17,000 last year**

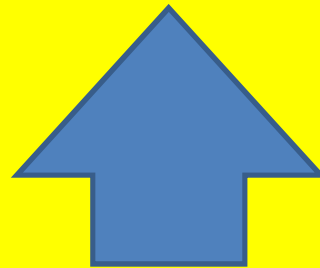


Sources: Northern Sea Route Information Office; National Snow and Ice Data Center; Cosco; Lloyd's List

The Wall Street Journal

# COASTAL SECURITY

NATIONAL SECURITY



MARITIME SECURITY



COASTAL SECURITY



# COASTAL SECURITY

➤ **constituent -MARITIME SECURITY**

➤ **-INTERNAL SECURITY**

➤ **-BORDER MANAGEMENT**

VAs/VPs



ISLANDS



OFF SHORE INFRA



PORTS



✓ COAST LINE -7516 KM- 11,000 KM

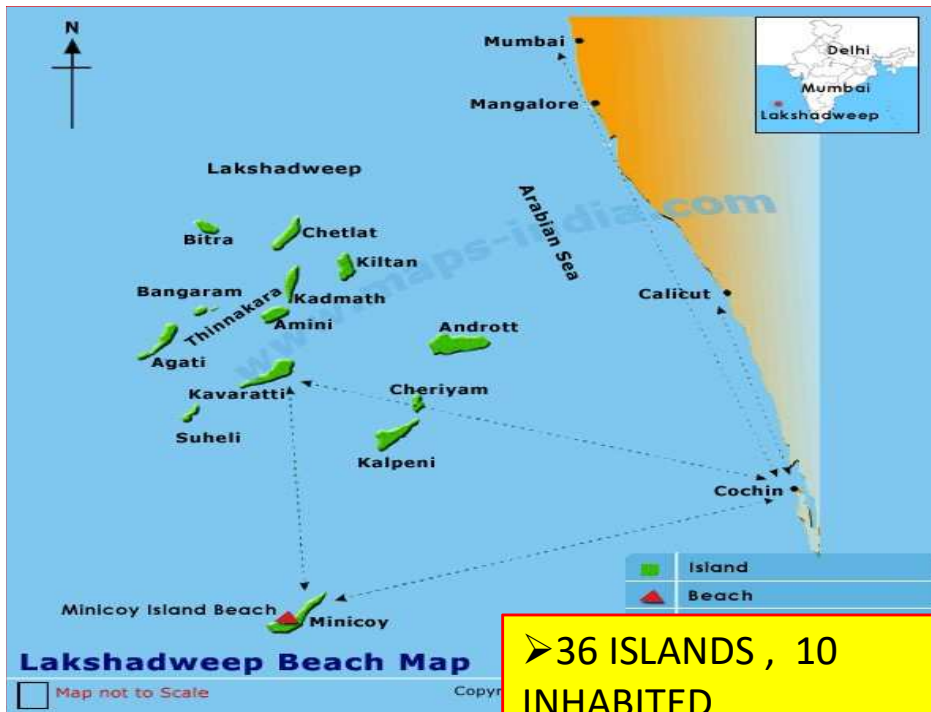
✓ 9 MARITIME STATES/ 4 U/Ts

✓ 12 MAJOR AND 200 INTERMEDIATE & MINOR PORTS

✓ ISLAND TERRITORIES-1197

✓ EXCLUSIVE ECONOMIC ZONE-2.3 MILLION SQ KM





➤ 36 ISLANDS , 10 INHABITED

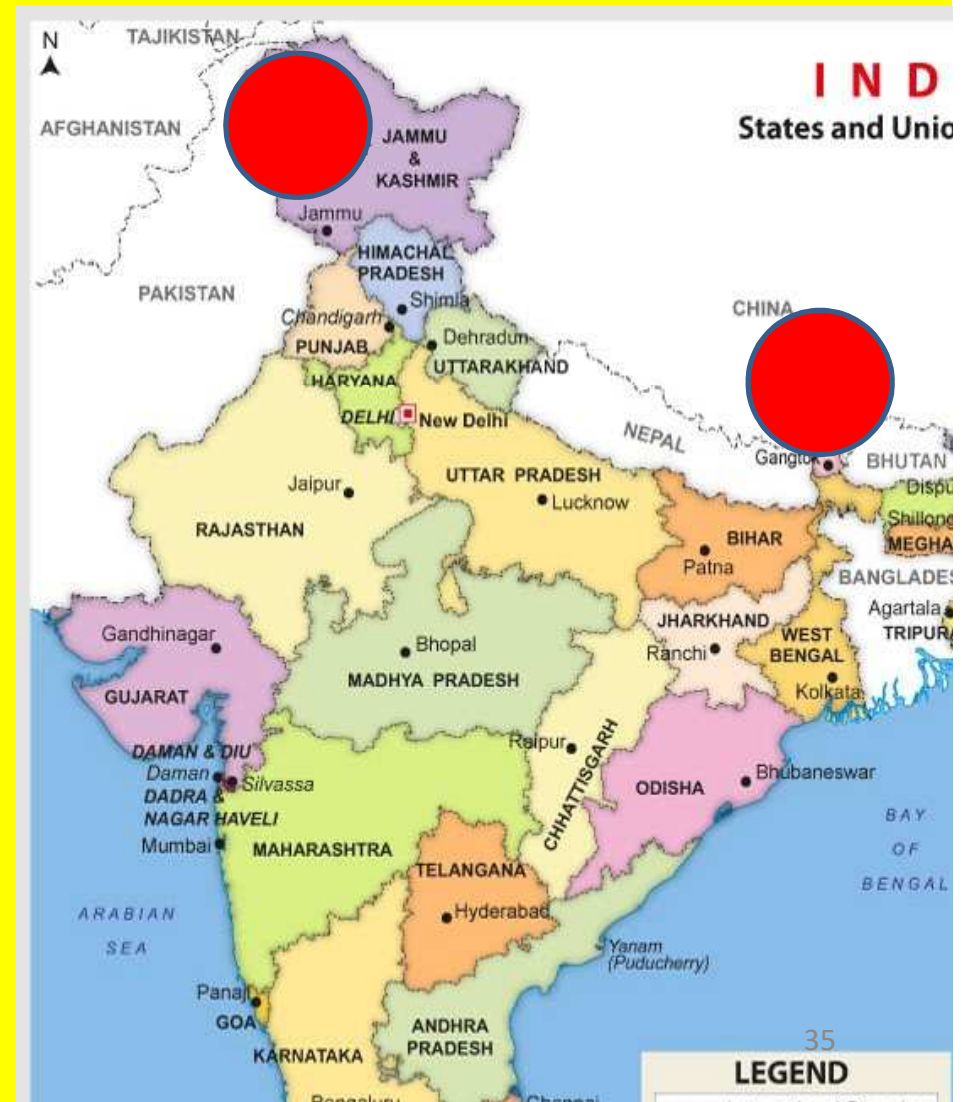
572 ISLANDS  
38 INHABITED





# SECURITY ESTABLISHMENT PREOCCUPIED WITH J& K AND NE

- ARMY & BSF
- BORDER FENCING
- 7516 KM COASTLINE  
RELATIVELY EASIER TO  
BREACH

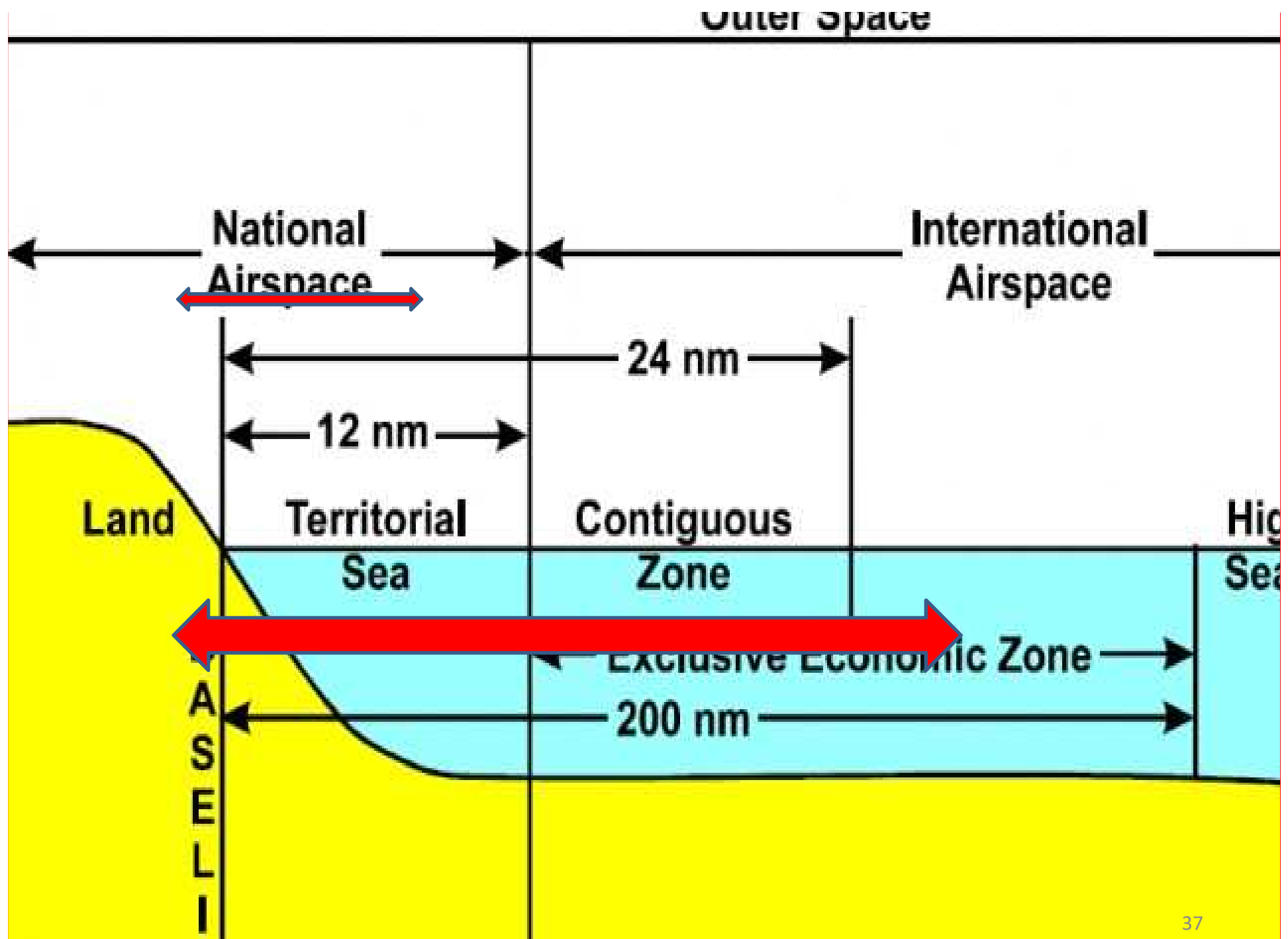




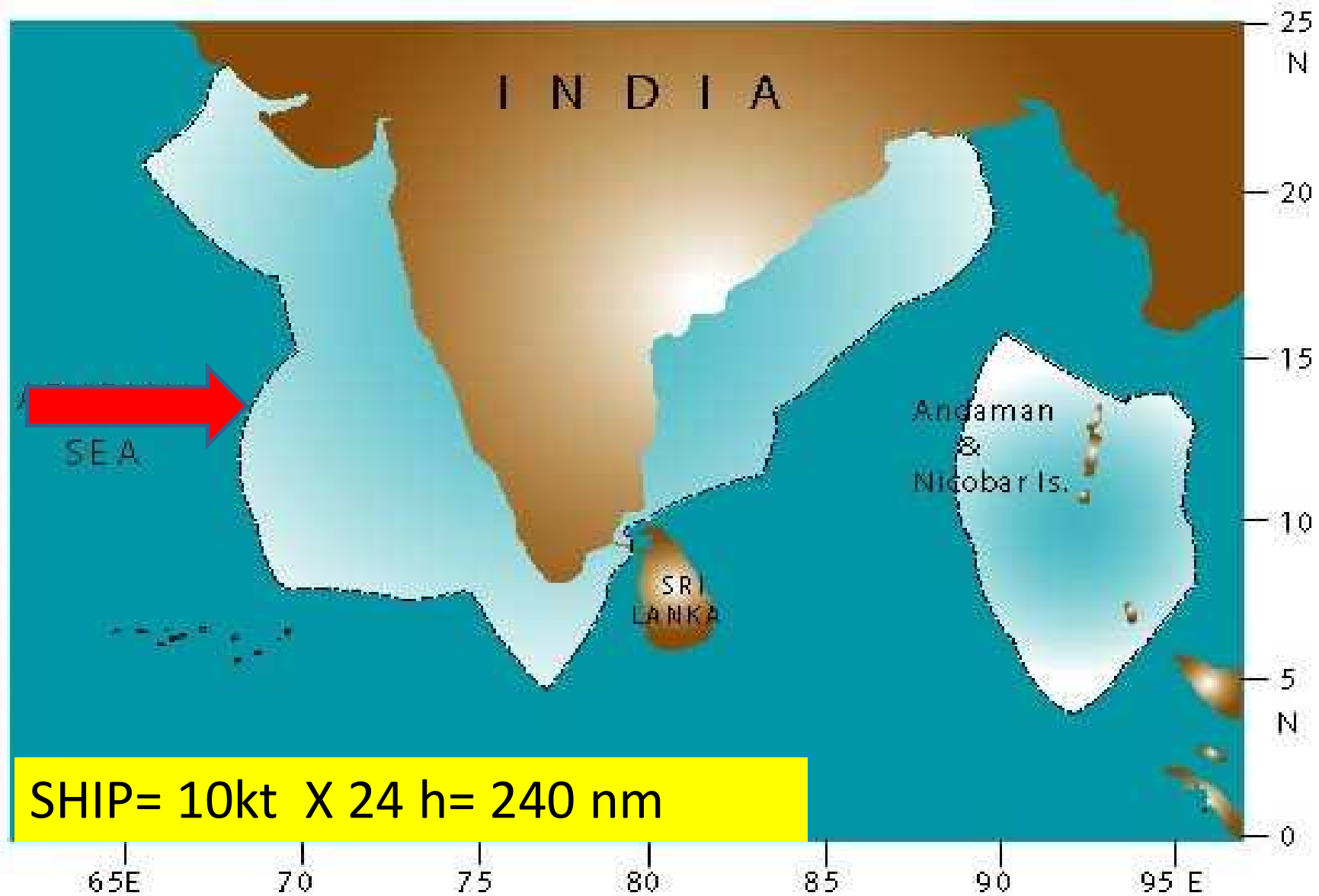
# MARITIME MEDIUM

- NO FENCES AT SEA
- SEAS – TRANS-NATIONAL NATURE
- 12 NM TERRITORIAL WATERS
- PRINCIPLE OF FREEDOM OF THE SEA – MARE LIBERUM
- SHIPS –MOBILITY-  $10 \text{ KT} \times 24\text{h} = 240 \text{ NM}$  IN ANY DIRECTION





# INDIAN EEZ

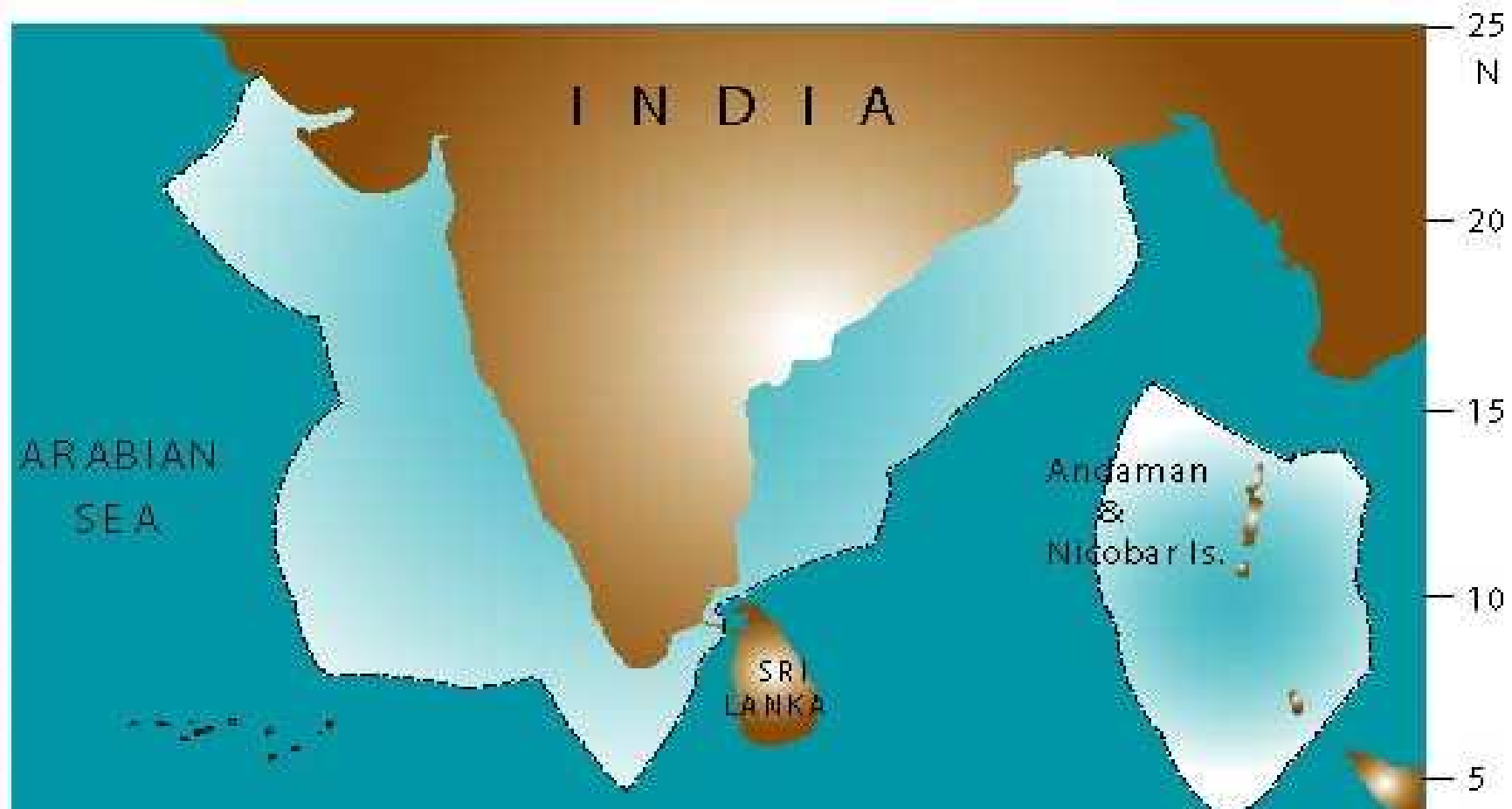


A THIN LINE SEPARATES MARITIME SECURITY &  
COASTAL SECURITY – SINCE MEDIUM IS CONTINOUS

# EXCLUSIVE ECONOMIC ZONE



## INDIAN EEZ



- EEZ 200 NM
- EXTENSION OF EEZ FROM 200-350 NM IN THE OFFING
- PARALLEL INDIA IN THE WATER
- BLUE ECONOMY



# THE BLUE ECONOMY.



uses smart shipping to lessen  
the impacts on the environment



is inclusive and  
improves the lives of all



harnesses renewable energy



is based on  
sustainable  
fisheries

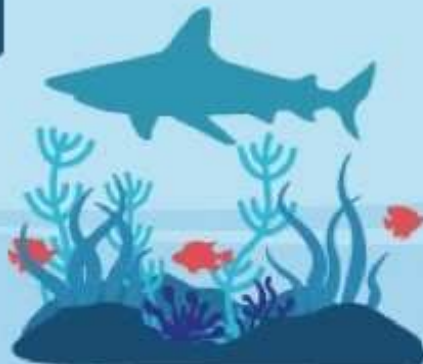


creates jobs, reduces  
poverty and ends hunger



takes action against  
illegal fishing

conserves  
marine life and  
oceans



protects coastal  
communities from the  
impacts of climate  
change



tackles  
marine litter and oceans  
pollution

- NATION'S ECONOMY & MARITIME SECURITY ARE CLOSELY INTERLINKED
- MARITIME SECURITY IS INSURANCE FOR NATIONAL ECONOMY

# EEZ-BUZZING WITH ECONOMIC ACTIVITY

- MERCHANT SHIPS
  - NAVAL & COAST GUARD SHIPS
  - FISHING VESSELS
  - DHOWS
  - EXTRA-REGIONAL FORCES
  - RECREATIONAL AND PLEASURE CRAFT
  - OTHER SPECIALIZED VESSELS -
- 
- OIL & GAS EXPLORATION & PRODUCTION ACTIVITIES IN OFFSHORE DEVELOPMENT AREA (ODA)
  - VARIOUS TYPES OF RIGS
  - OFF SHORE SUPPORT VESSELS
  - SEISMIC SURVEY VESSELS



OVER 160,000 MERCHANT VESSELS PASS THROUGH INDIAN OCEAN IN A YEAR



INDIAN NAVY -WESTERN  
FLEET







COAST GUARD – BEAT CONSTABLE

## EXTRA REGIONAL FORCES IN IOR



➤ **120 SHIPS FROM 20 COUNTRIES AT ANY ONE TIME**

➤ AFGHANISTAN

➤ IRAQ

➤ SYRIA

➤ ISIS

➤ PIRACY OFF SOMALIA

# FISHERIES



# FISHING VESSELS

- OVER 3 LAKHS REGISTERED VESSELS
- TRADITIONAL, MOTORIZED ,MECHANISED BOATS
- VERY FEW DEEP SEA FISHING CRAFT
- LARGE NO OF UNREGISTERED VESSELS- SECURITY ISSUE
- POSITIVE IDENTIFICATION AT SEA – REMAINS A PROBLEM
- More later....



# DHOWS



# DHOWS

- TRADITIONAL CRAFT
- BUILT ALONG WEST COAST –MANDVI,RATNAGIRI,BEYPORE
- UP TO 2000 TONs
- CARRY ONION, POTATOES ,LIVE STOCK TO WEST ASIA & NORTH AFRICA
- BUILDING MATERIAL AND FOOD TO LAKSHWADEEP ISLANDS
- SOME REPORTEDLY INVOLVED IN NEFARIOUS ACTIVITIES - PIRACY OFF SOMALIA – CARRYING WEAPONS FOR WARLORDS
- SOME THEMSELVES PIRATED
- POTENTIAL FOR ILLEGAL ACTIVITIES –ESPECIALLY ON RETURN TRIPS

## IN EEZ- OFF SHORE DEVELOPMENT AREA



# MARITIME NEIGHBOURS

# MARITIME NEIGHBOURHOOD

- PAKISTAN ,
  - SRI LANKA,
  - MALDIVES,
  - BANGLADESH
  - MYANMAR,
  - THAILAND,
  - INDONESIA
- 
- INTERNATIONAL MARITIME BOUNDARY LINE(IMBL) RESOLVED WITH ALL EXCEPT PAKISTAN
  - INTERNATIONAL MARITIME BOUNDARY LINE ( IMBL ) WITH BANGLADESH RESOLVED PEACEFULLY IN 2014 .

## CHINA – INDIAN OCEAN NEIGHBOUR

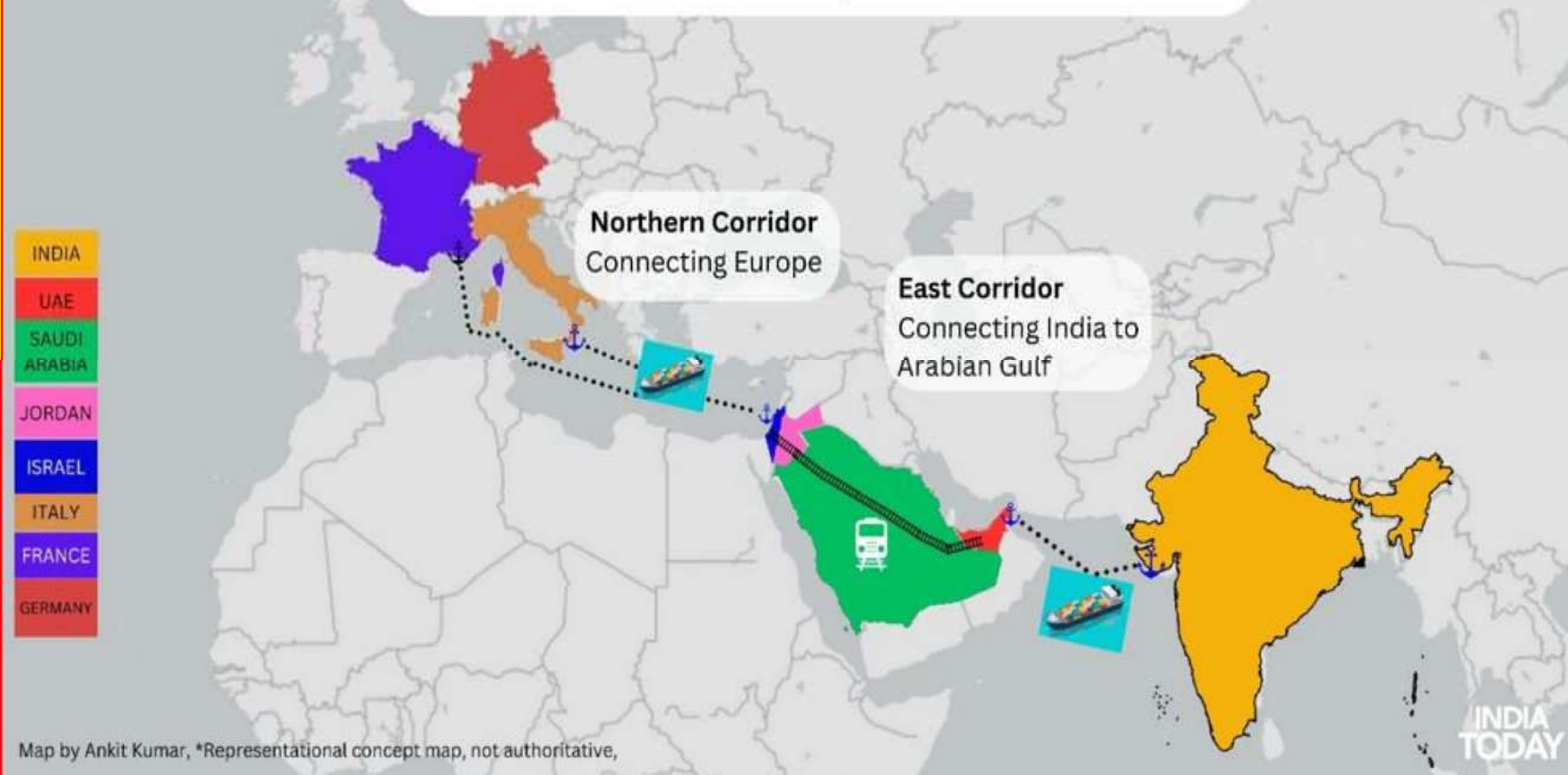
- **STRING OF PEARLS – GWADAR , KYAUKPHU, HAMBANTOTA, CHITTAGONG**
- **BELT & RED INITIATIVE**
- **HAMBANTOTA – CHINA - -99 YEARS LEASE**
- **COLOMBO PORT CITY PROJECT & EAST CONTAINER TERMINAL**
- **OPERATIONAL CONTROL OF GWADAR -40 YEARS**
- **GWADAR - LYNCHPIN OF CPEC**
- **CMEC- YUNNAN – KYAUKPHYU MYANMAR**
- **DJIBOUTI- FIRST CHINESE OVER SEAS BASE- 300 M BERTH FOR AIRCRAFT CARRIER**

## BELT AND ROAD INITIATIVE

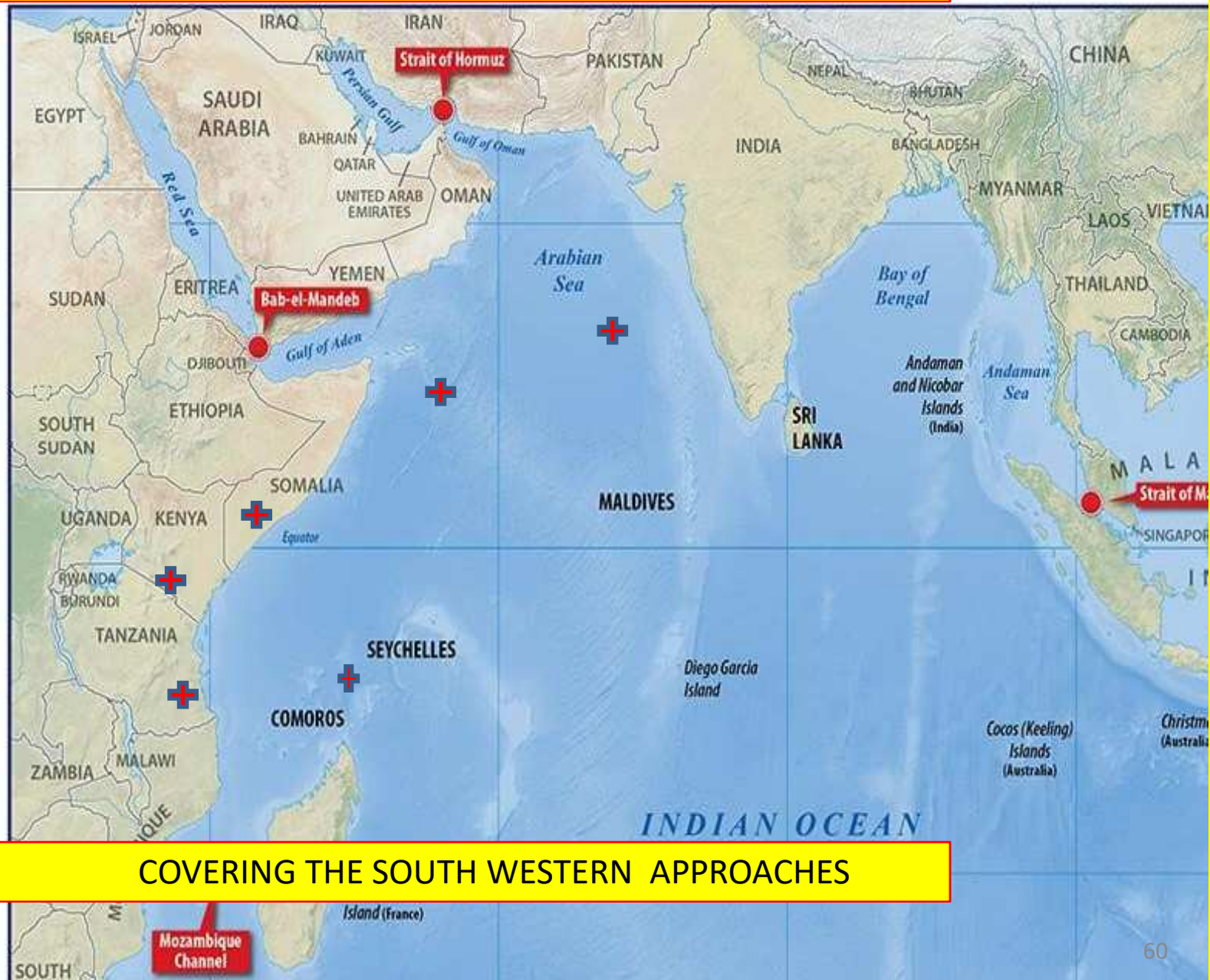




## India-Middle East-Europe Economic Corridor



## MEA –INDIAN OCEAN REGION DIVISION



COVERING THE SOUTH WESTERN APPROACHES

SEYCHELLES

ASSUMPTION ISLAND



JOINT STRATEGIC PROJECTS

MAURITIUS

AGALEGA



LISTENING POST

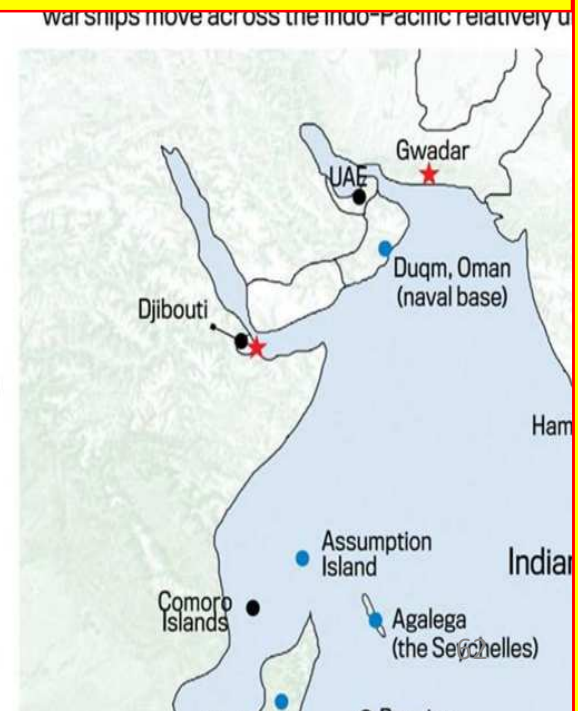




# FRANCE –INDIAN OCEAN POWER

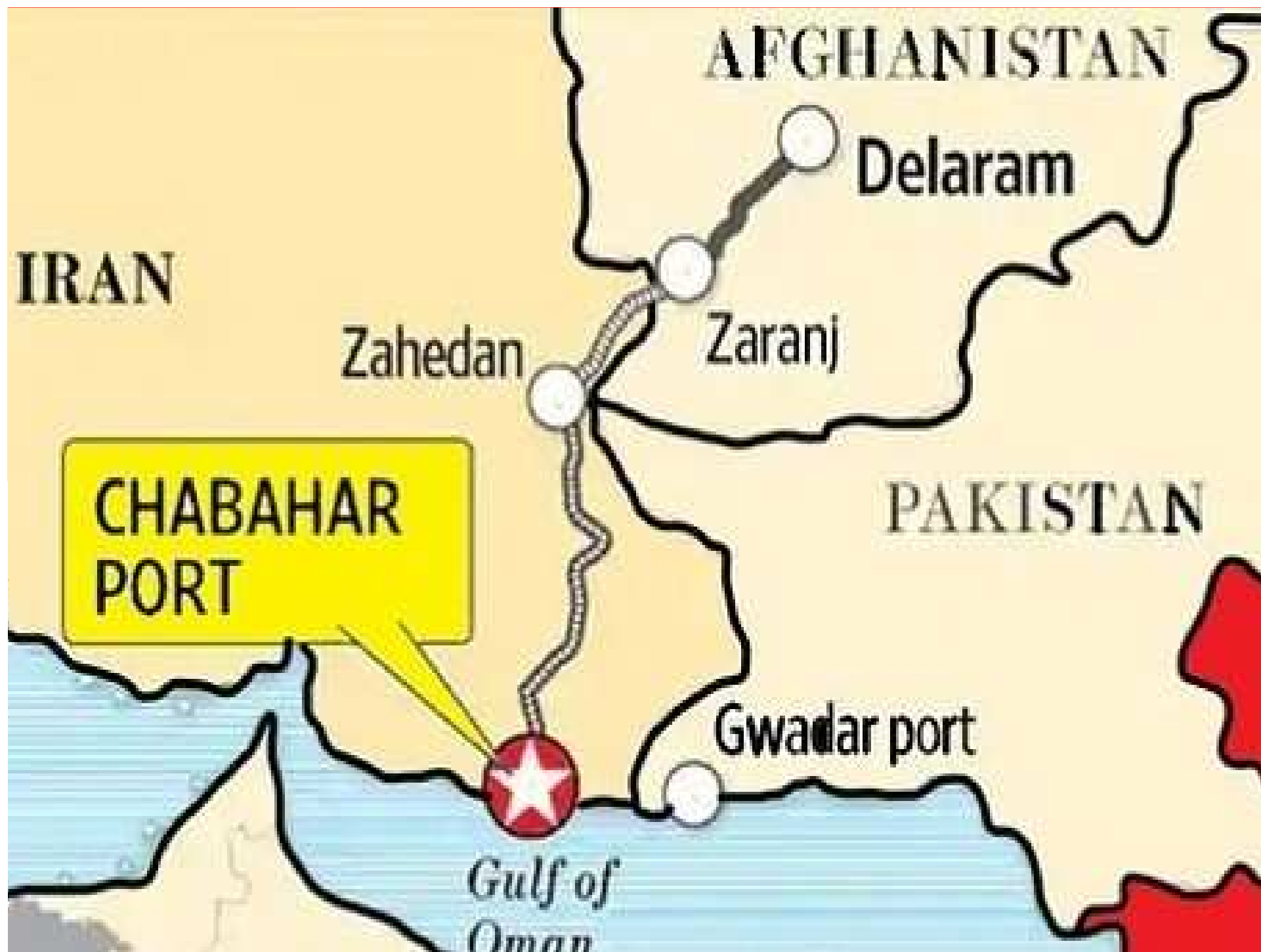
- IOR TERRITORIES / BASES - DJIBOUTI, REUNION ISLAND, COMOROS ISLAND, MAYOTTE
- LOGISTIC SUPPORT AGREEMENT (LSA) SIGNED
- MUTUAL ACCESS TO BASES
- JOINT DEVELOPMENT OF MARITIME SURVEILLANCE SATELLITE – SINDHU NETRA – MARITIME DOMAIN AWARENESS

## FRENCH BASES IN IOR (MARKED IN BLACK)



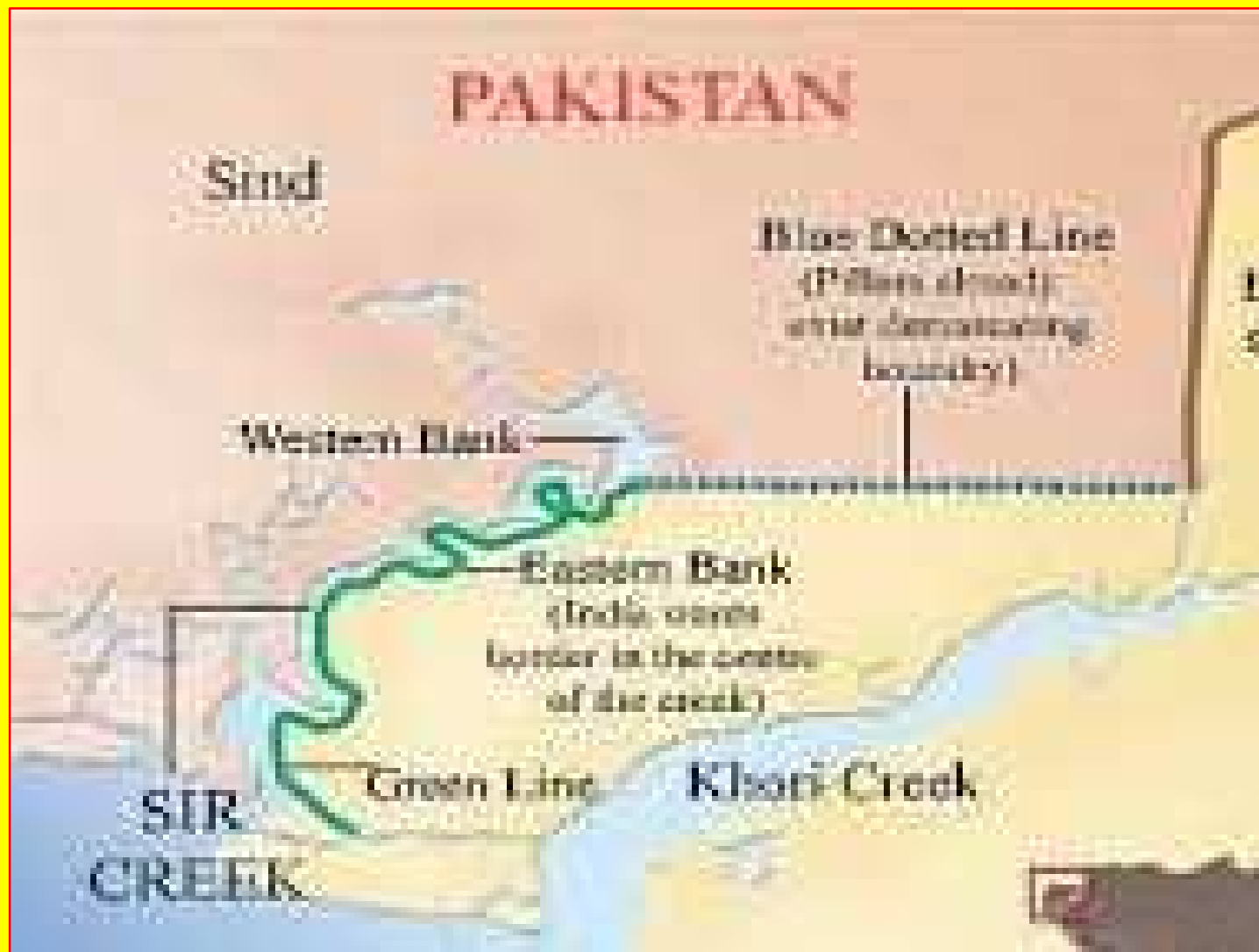
# TO INDIA'S WEST

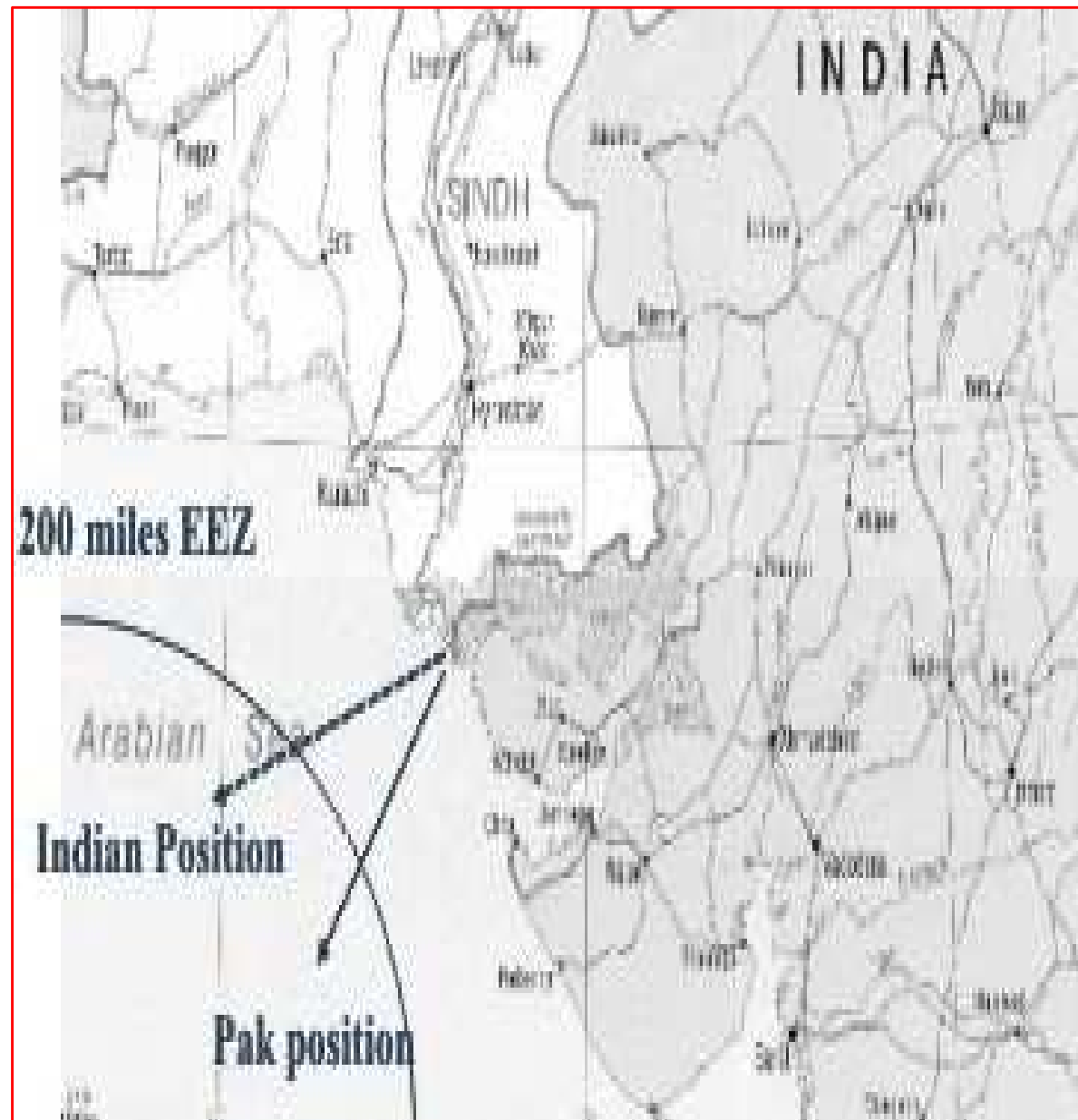












## ACTIVITIES ALONG GUJARAT –PAK BORDER

❖ ESPIONAGE

❖ INFILTRATION OF PERSONNEL

❖ TRANSFER OF ARMS AND AMMUNITION

❖ DRUG TRAFICKING

❖ FAKE CURRENCY RACKET

PAKISTANI BOAT BLOWS UP OFF PORBANDAR 31  
DEC 2014



PAKISTANI BOATS OFTEN FOUND  
ABANDONED IN PLACES SUCH AS  
'HARAMI NALA' IN SIR CREEK









# MALDIVES

- SAUDI ARABIA –SPREADING WAHABISM IN MALDIVES
- PAKISTAN RADICALIZING MALDIVES
- RECRUITMENT FOR ISIS
- CHINA IN POSSESSION OF SOME ISLANDS – **FEYDOO FINHOLU**
- POLITICAL UPS AND DOWNS IN MALDIVES – AFFECTED INDIA . CHINA HAS BENEFITTED MORE DUE DEEP POCKETS
- PRESIDENT MOHAMMED MUIZZU

# SRI LANKA



ECONOMIC CRISIS

## INDIA – SRI LANKA

- LOAN/ CREDIT LINE
- CURRENCY SWAP
- PETROLEUM
- FOOD
- MEDICINES
- FERTILIZERS

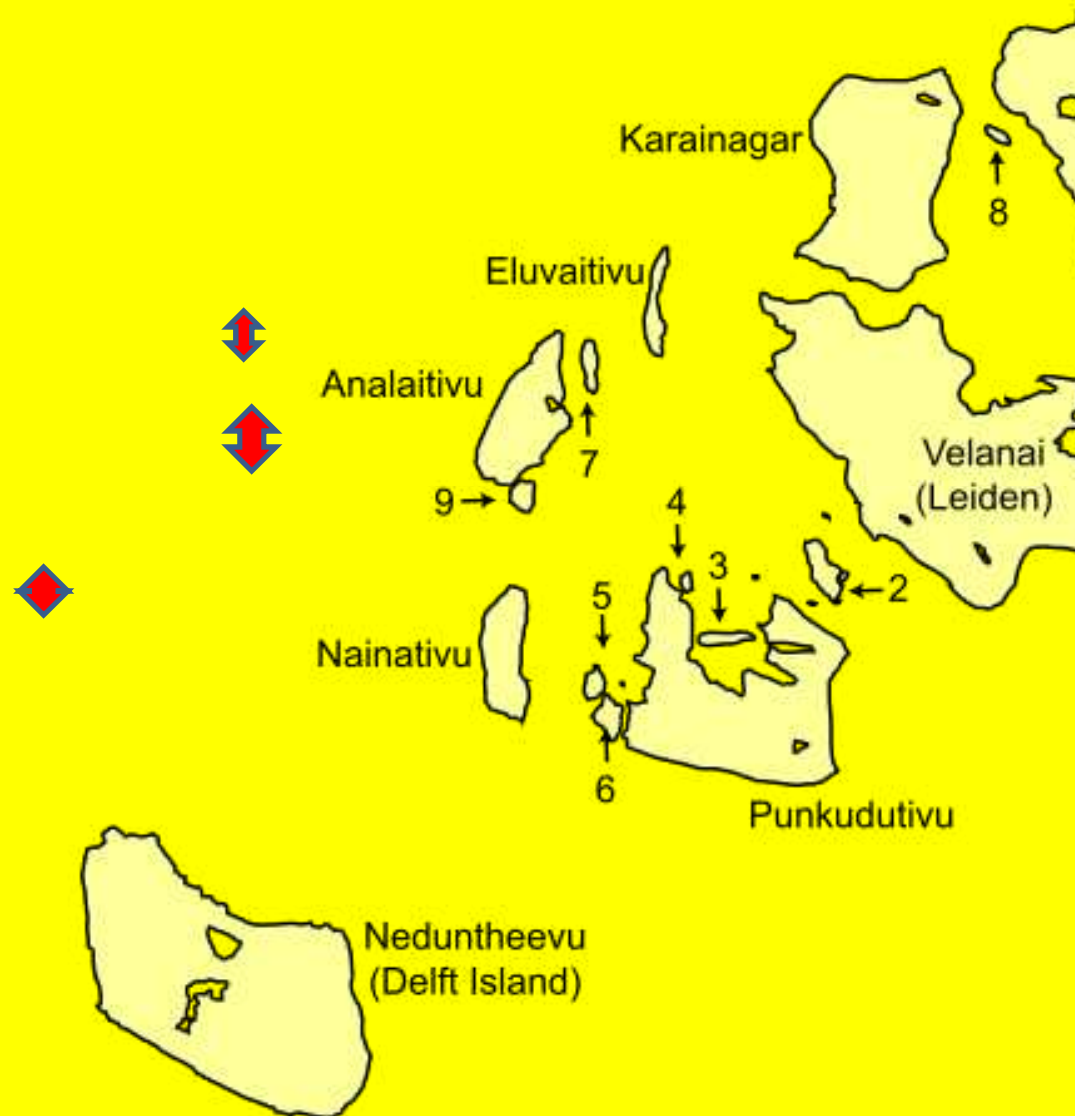
# PALK BAY FISHING WARS



- INDIAN FISHERMEN OFTEN ARRESTED & RELEASED
- GOVT HAS TOLD SUPREME COURT THAT **KACCHATIVU** WAS NEVER CEDED TO SRI LANKA .
- INDIAN SIDE OF PALK BAY OVERFISHED
- LEGALLY INDIAN FISHERMEN CAN NOT CROSSOVER THE IMBL TO FISH IN SRI LANKAN WATERS
- **POTENTIAL TO FLARE UP INTO BILATERAL DIPLOMATIC PROBLEMS .**

➤ CHINESE EFFORTS  
➤ SEA CUCUMBER FARMING

1. Chirutivu
2. Kanantivu
3. Karaitivu
4. Palaitivu
5. Kurikadduvan
6. Naduturitti
7. Paratitivu
8. Thorattapputti
9. Puliyantivu

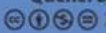




## SEA CUCUMBER –POACHING



 **KATAPULT**

Quelle: Bondaroff (2021)  2021 KATAPULT 





## COLOMBO SOUTH CITY PROJECT





## WEST CONTAINER TERMINAL –COLOMBO

ADANI GROUP

700 MILLION US\$

1.4 KM

DEPTH 20 METRES









# Bridging the gap through **Waterways**

## INDIA - SRI LANKA FERRY SERVICE





## EASTER BOMBINGS IN SRI LANKA

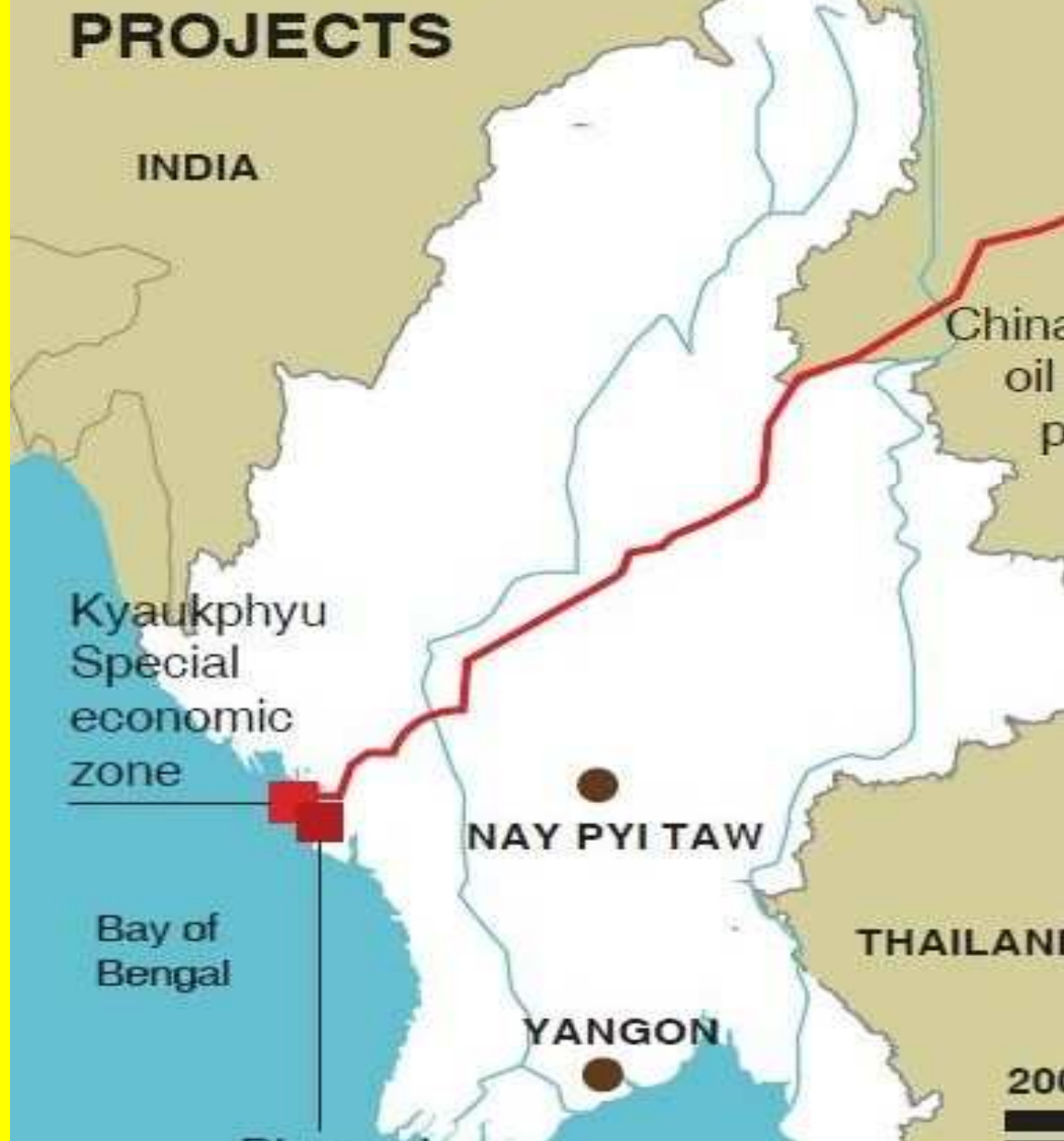
- NATIONAL TAWHEED JAMAAT -NTJ
- ISIS LINK
- INDIA CONNECTION
- NIA INVESTIGATION –RAIDS IN COIMBATORE
- CYLINDER BLASTS IN COIMBATORE







## CHINA –MYANMAR ECONOMIC CORRIDOR (CMEC)









## **Myanmar Navy Inducts Ex-Indian Na Kilo Submarine INS Sindhuvir**











# CHINA –BANGLADESH

## ➤ CHINA -2 MING CLASS S/M



## CHINA BUILDING SUBMARINE BASE AT KUTUBUDIA ISLAND

## ➤ CHITTAGONG PORT PROJECT





## CHITTAGONG PORT PROJECT



# THE SHORT CUT TO NORTH EAST









EXPLOSION -CAFÉ AT DHAKA

JAMAAT UL –MUJHADEIN BANGLADESH (JMB)

ISLAMIC STATE

AL QAEEDA

ANSARULLAH BANGLA TEAM

# BAY OF BENGAL



✓ DRUG SMUGGLING –GOLDEN TRIANGLE

✓ GUN RUNNING

✓ POACHING- SEA CUCUMBER – BY MYANMAR  
FISHERMEN IN A& N ISLANDS



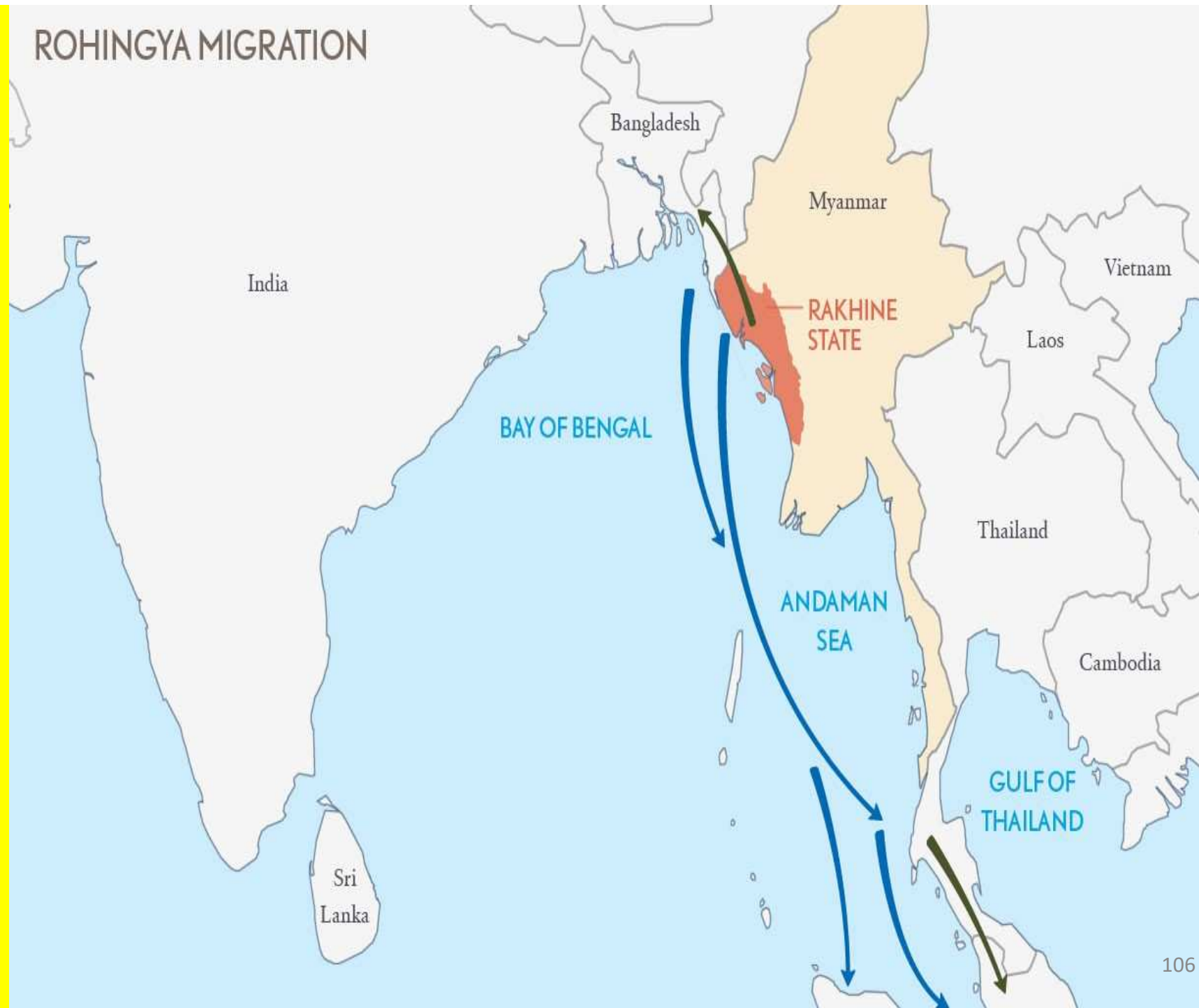
✓ ROHINGYA PROBLEM



# ROHINGYA CRISIS - IMPLICATIONS

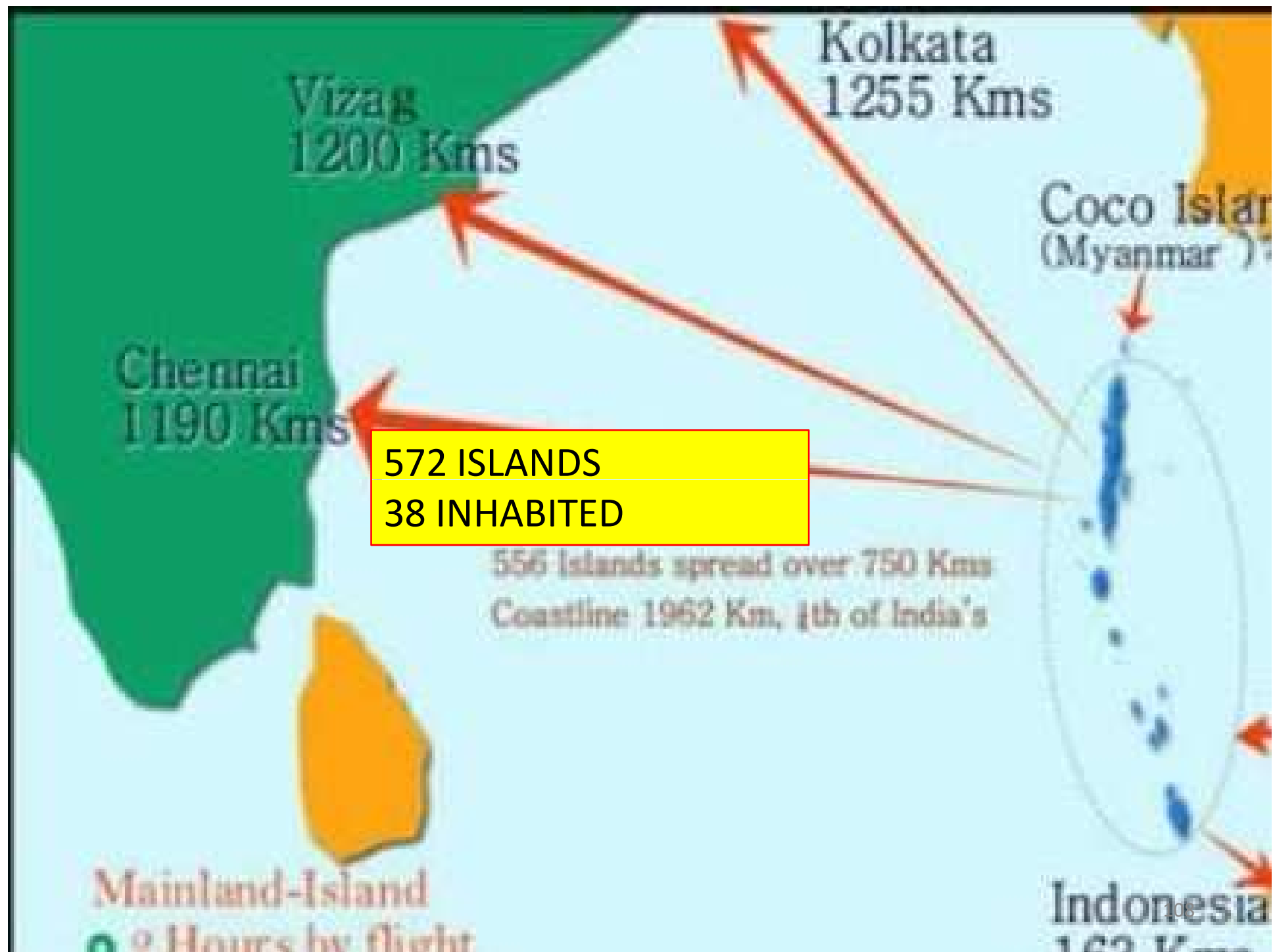
- 40,000 ROHINGYAS IN INDIA
- LINK UP WITH PAKISTANI TERRORISTS
- LINK UP WITH NORTH EAST INSURGENTS, RED CORRIDOR

# ROHINGYA MIGRATION



**FEB 2021- INDIAN COAST GUARD INTERCEPTS 81 ROHINGYAS OFF  
ANDAMAN& NICOBAR ISLANDS**

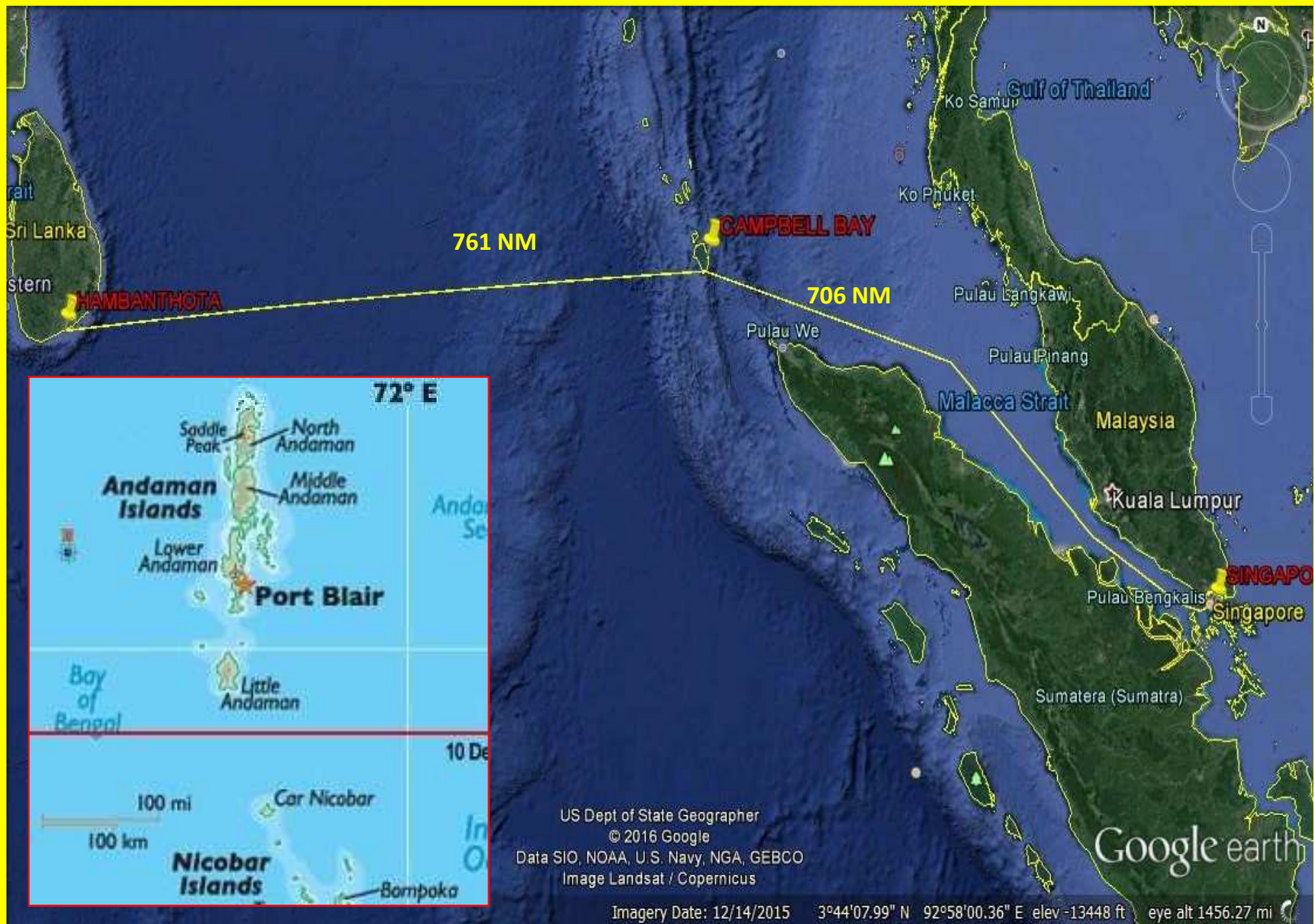








# GREAT NICOBAR ISLAND- PIT STOP

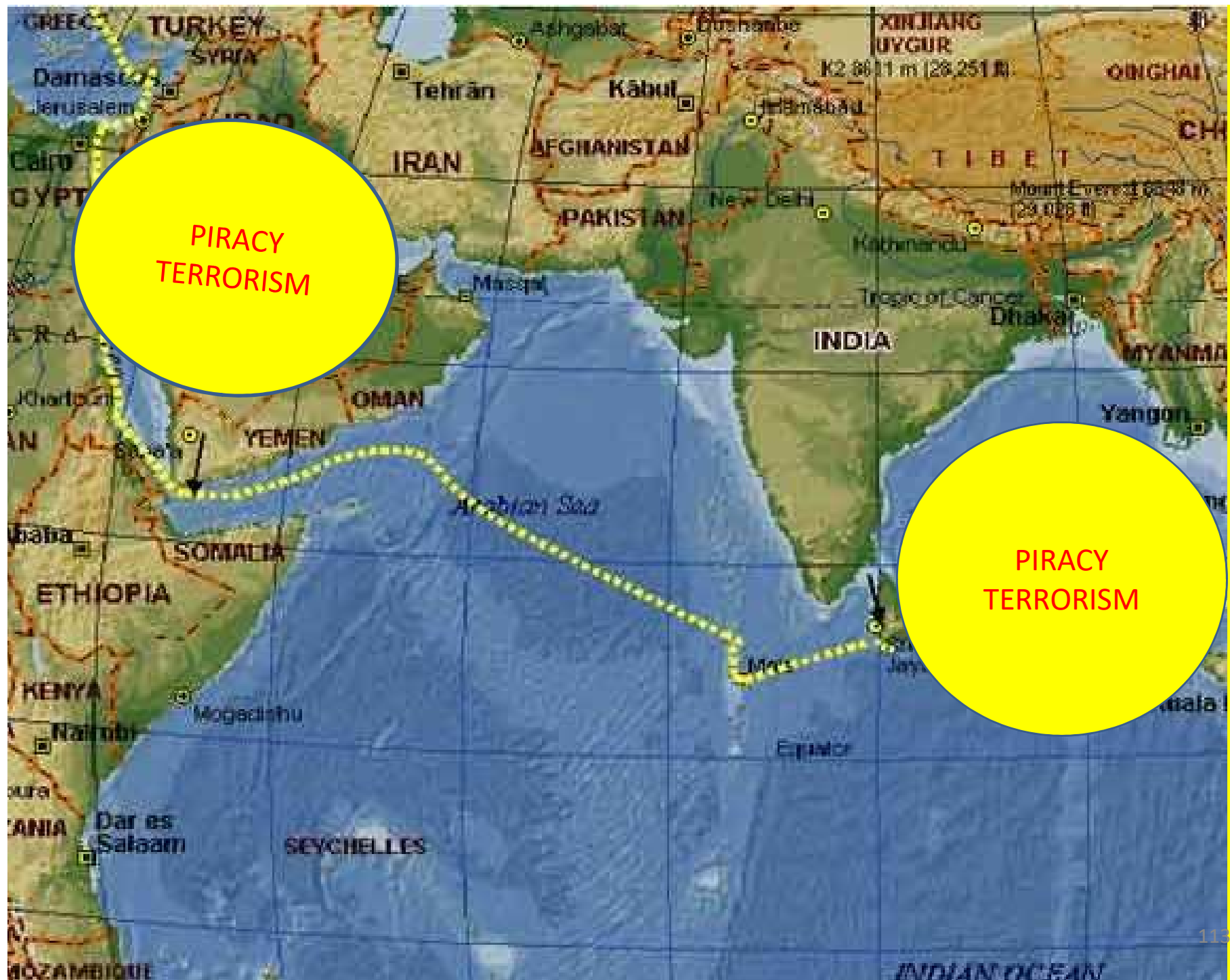




## **GREAT NICOBAR ISLAND**

- CONTAINER TRANSHIPMENT TERMINAL
- BUNKERING /SHIP REPAIR
- FREE TRADE ZONE
- POWER PLANT
- INTERNATIONAL AIR TERMINAL

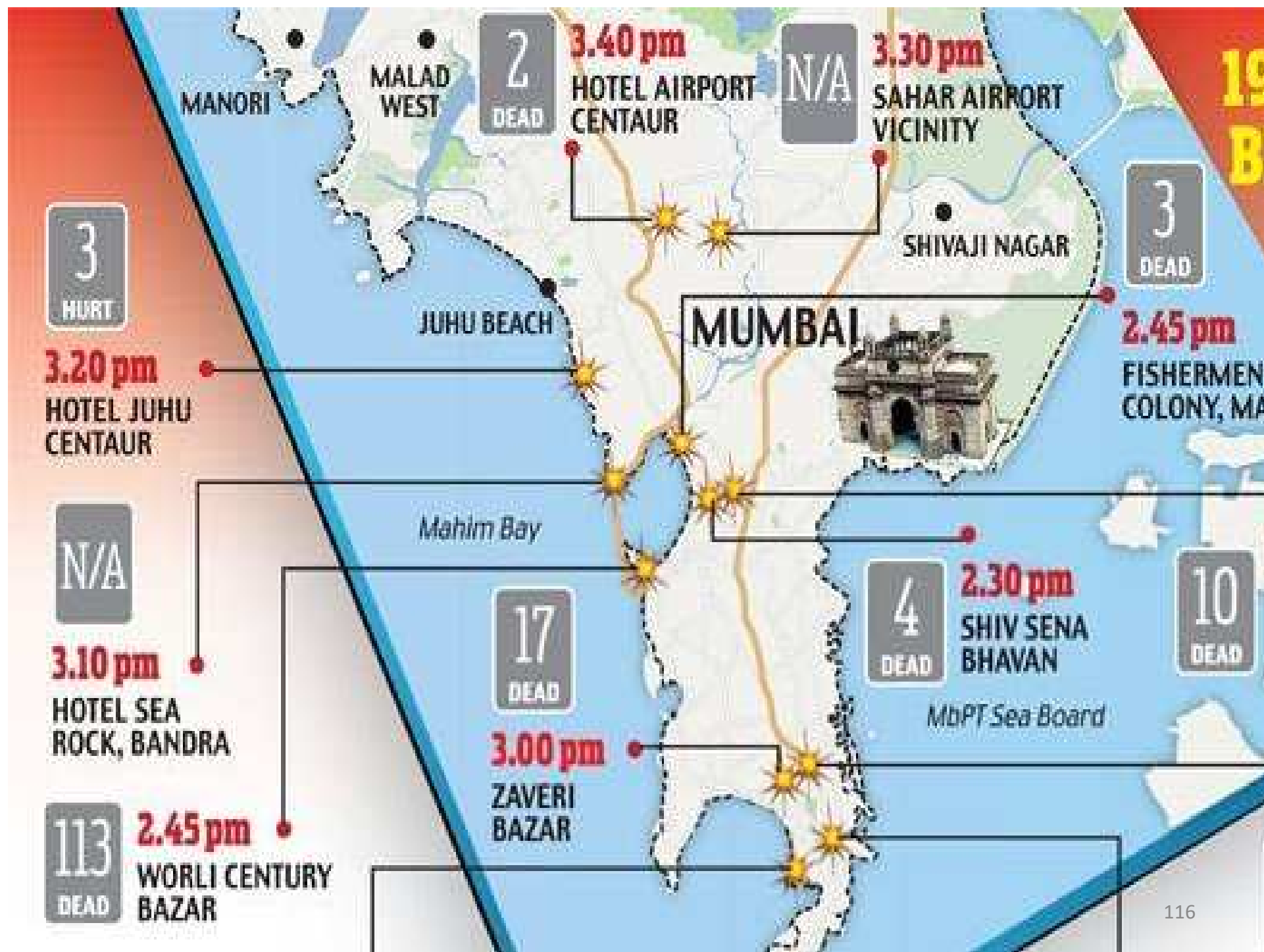
# THREATS



# ASYMMETRIC THREATS AT SEA

- MARITIME TERRORISM 
- MARITIME PIRACY
- ILLEGAL ,UNREPORTED & UNREGULATED FISHING (IUU )
- DRUG TRAFFICKING
- ILLEGAL MIGRATION
- PEOPLE SMUGGLING
- SMUGGLING OF CONTRABAND
- POACHING
- GUN RUNNING
- NARCO-TERRORISM
- MARITIME CYBER CRIMES

# MARITIME TERRORISM







26/11



GEMINI



KUBER<sup>117</sup>

## TROUBLED NEIGHBOURHOOD

### PAK SPONSORED TERRORISM

- ❖ MALDIVES

- ❖ SRI LANKA

- ❖ BANGLADESH

- ❖ AFGHANISTAN – TALIBAN, AL QAEEDA, HAQQANI NET WORK

## **TERRORIST GROUPS IN WEST ASIA & SOMALIA**

- **AL QAEEDA**
- **TALIBAN**
- **LASHKAR**
- **JEM**
- **AL SHABAB TERRORISTS**
- **HOUTHI REBELS**

E

## **TERRORIST GROUPS IN SOUTH EAST ASIA**

- **ABBU SAYAFF GANG (ASG)**
- **MORO ISLAMIC LIBERATION FRONT (MILF)**
- **JEMIAH ISLAMIAH (JI)**

➤ ALL MOST ALL TERRORIST ORGANIZATIONS NOW HAVE SEA GOING SKILLS

➤ NUMEROUS MARITIME TRAINING CENTRES ALL OVER THE WORLD INCLUDING INDIA

➤ GPS AND SATCOM SETS HAVE MADE THING EASIER

➤ POST REVOCATION OF ARTICLE 370-



- INCREASED TERRORISM THREAT
- JEM RAISED MARITIME WING
- TRAINING FROGMEN FOR UNDER WATER ATTACKS



new threats ...

# DRONE THREAT

ATTACK ON SRINAGAR AIR FORCE BASE

DRUGS AND WEAPONS DROPPED IN PUNJAB



TURKISH DRONE -  
BAYRAKTAR TB2 -



KAMIKAZE DRONE



- SWARM OF AERIAL DRONES
- SWAMP AIR DEFENCES



# IRAN / HOUTHİ REBELS ATTACK - ON SAUDI ARABIAN PORTS & OIL FACILITIES





## UNMANNED SURFACE VEHICLE





# SWARM OF SURFACE DRONES





# OUR STRATEGIC CARGO & MARITIME TERRORISM IN WEST ASIA

# INDIA'S TRADE - 95% BY VOLUME AND 72% BY VALUE GOES ACROSS THE SEAS

80% OF CRUDE IMPORTED - WEST ASIA, WEST AFRICA ...



- IRAN & YEMEN-TARGETTING SAUDI ARABIA

- SHADOW WAR BETWEEN ISRAEL & IRAN





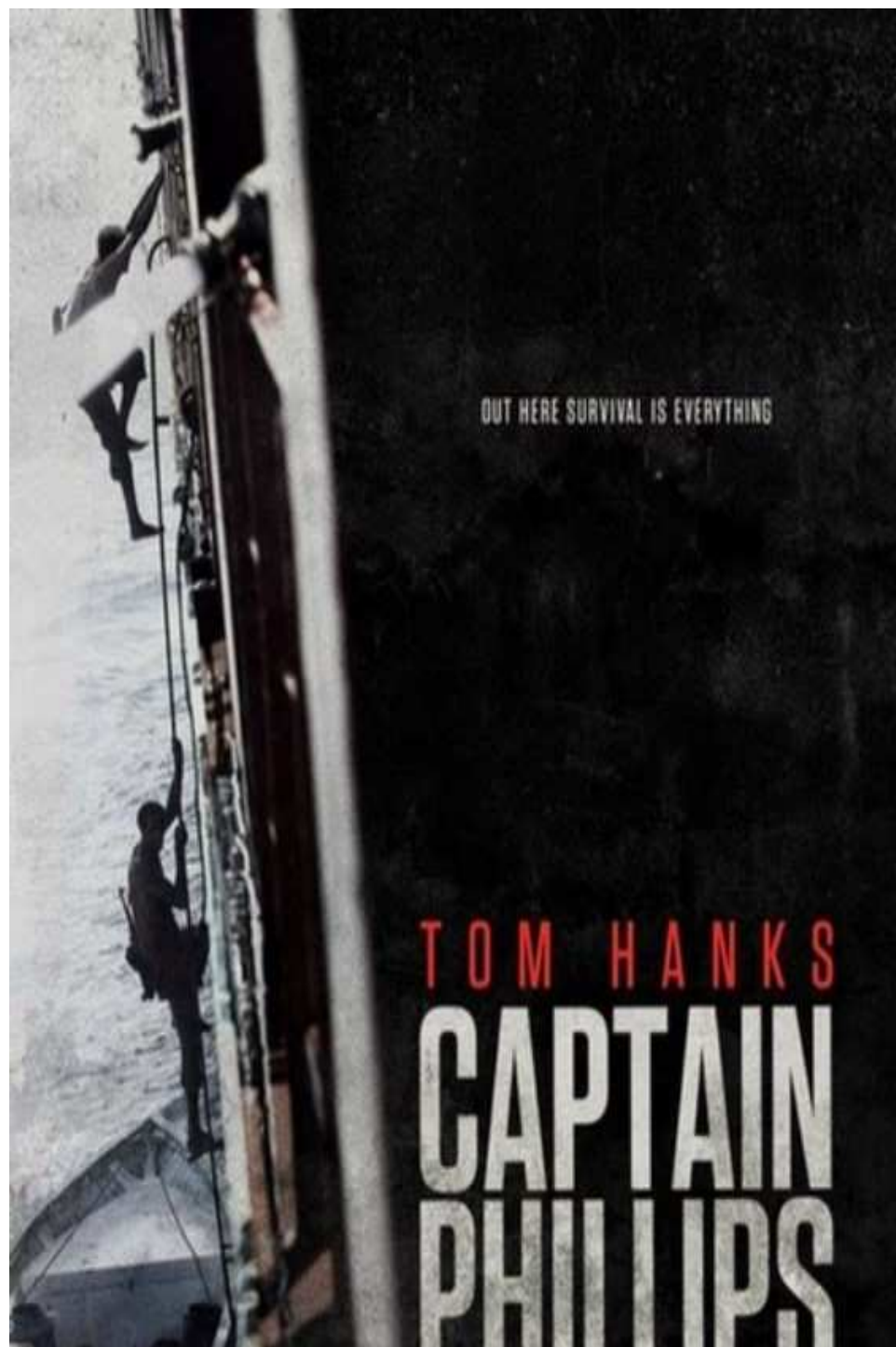




# PIRACY AT SEA

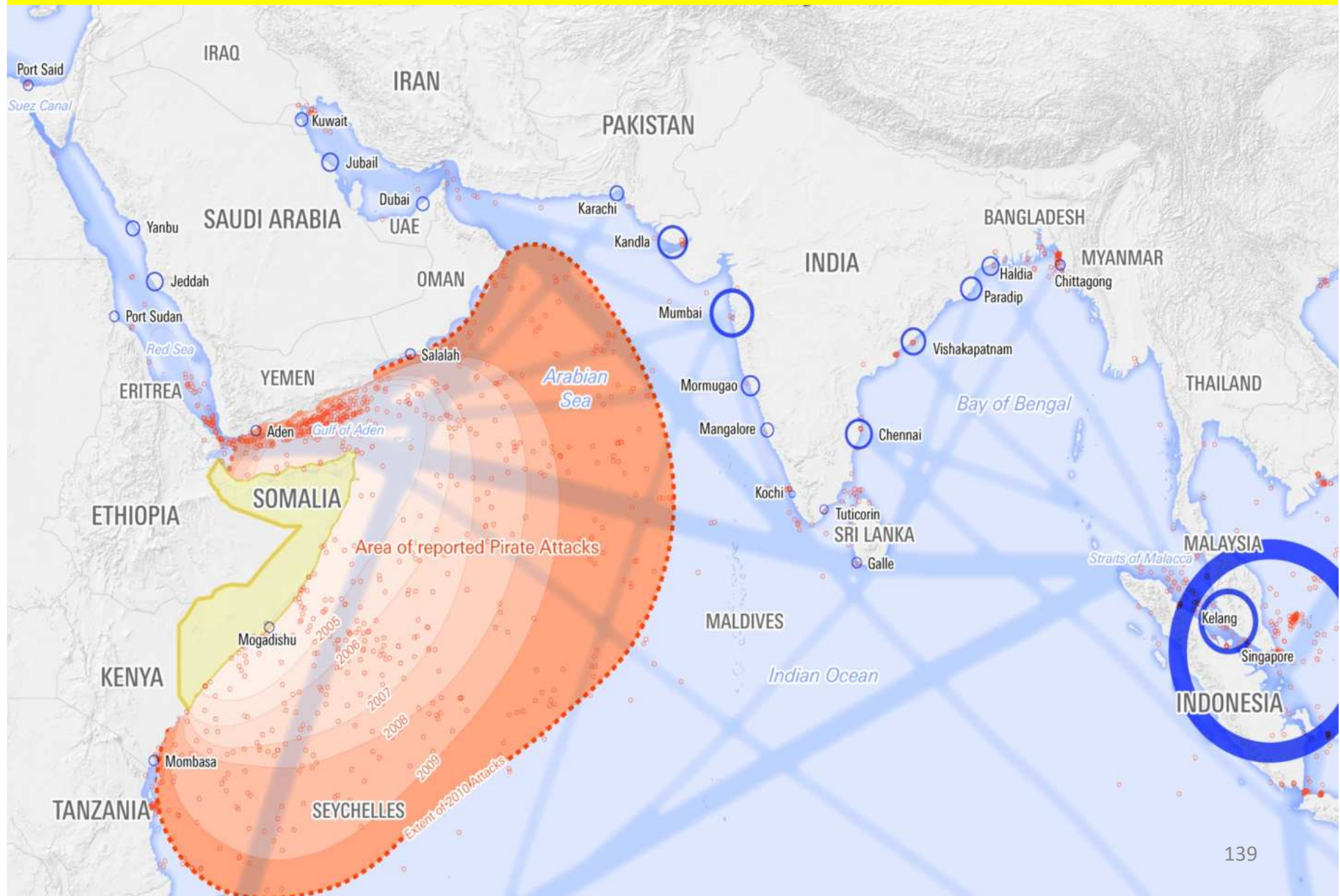


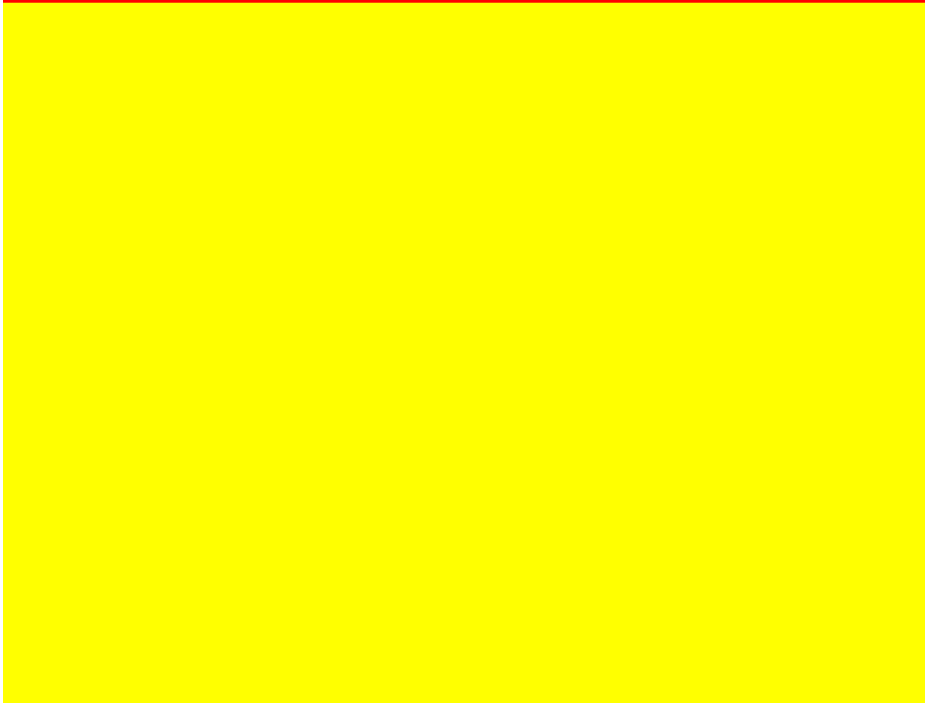
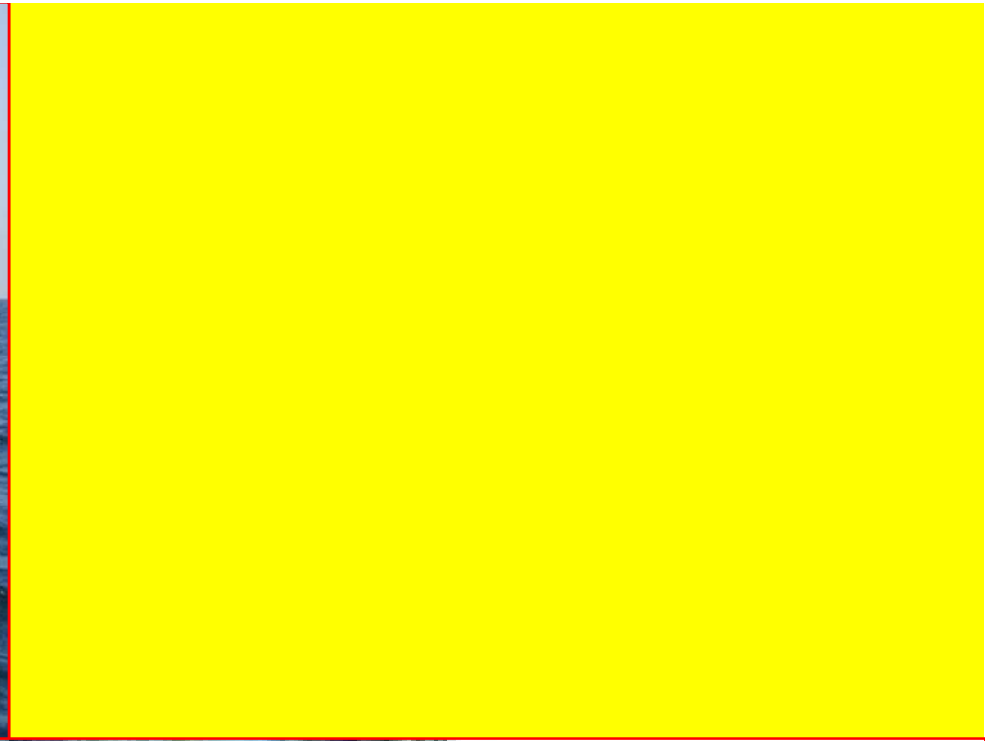
JOLLY ROGERS STILL FLIES





# PIRACY OFF SOMALIA







# PIRACY

➤ PIRACY CONTAINED BY DEPLOYMENT OF INTERNATIONAL NAVIES , ARMED GUARDS ON BOARD SHIPS AND ADOPTION OF BEST MANAGEMENT PRACTICES (BMP) BY SHIPS AND COS;



# PIRACY

- INTERNATIONAL AND INDIAN DOMESTIC LAWS- WEAK
- INDIA'S DOMESTIC ANTI PIRACY BILL 2018
- HIGH SEAS -- NO NATIONAL JURISDICTION
- TOO MANY ACTORS –COORDINATION DIFFICULT
- RELUCTANCE TO PROSECUTE
- LACK OF MARITIME COURTS



# PIRACY –ACTORS

- NATIONALITY OF PIRATES
- NATIONALITY OF CREW
- NATIONALITY OF VICTIMS
- FLAG STATE OF PIRATE SHIP
- FLAG STATE OF VICTIM SHIP
- FLAGS OF CONVENIENCE (FOC)
- NATIONALITY OF SHIP OWNERS
- NATIONALITY OF CARGO
- DESTINATION STATE
- COASTAL STATE WHERE INCIDENT OCCURRED-JURISDICTION

# **CAPTURED PIRATES ONBOARD INDIAN NAVAL SHIP**







# FIRING BY INS TABAR ON MOTHER SHIP





YEMEN'S HOLIDAY THIS SEIZE



# ILLEGAL, UNREPORTED AND UNREGULATED FISHING

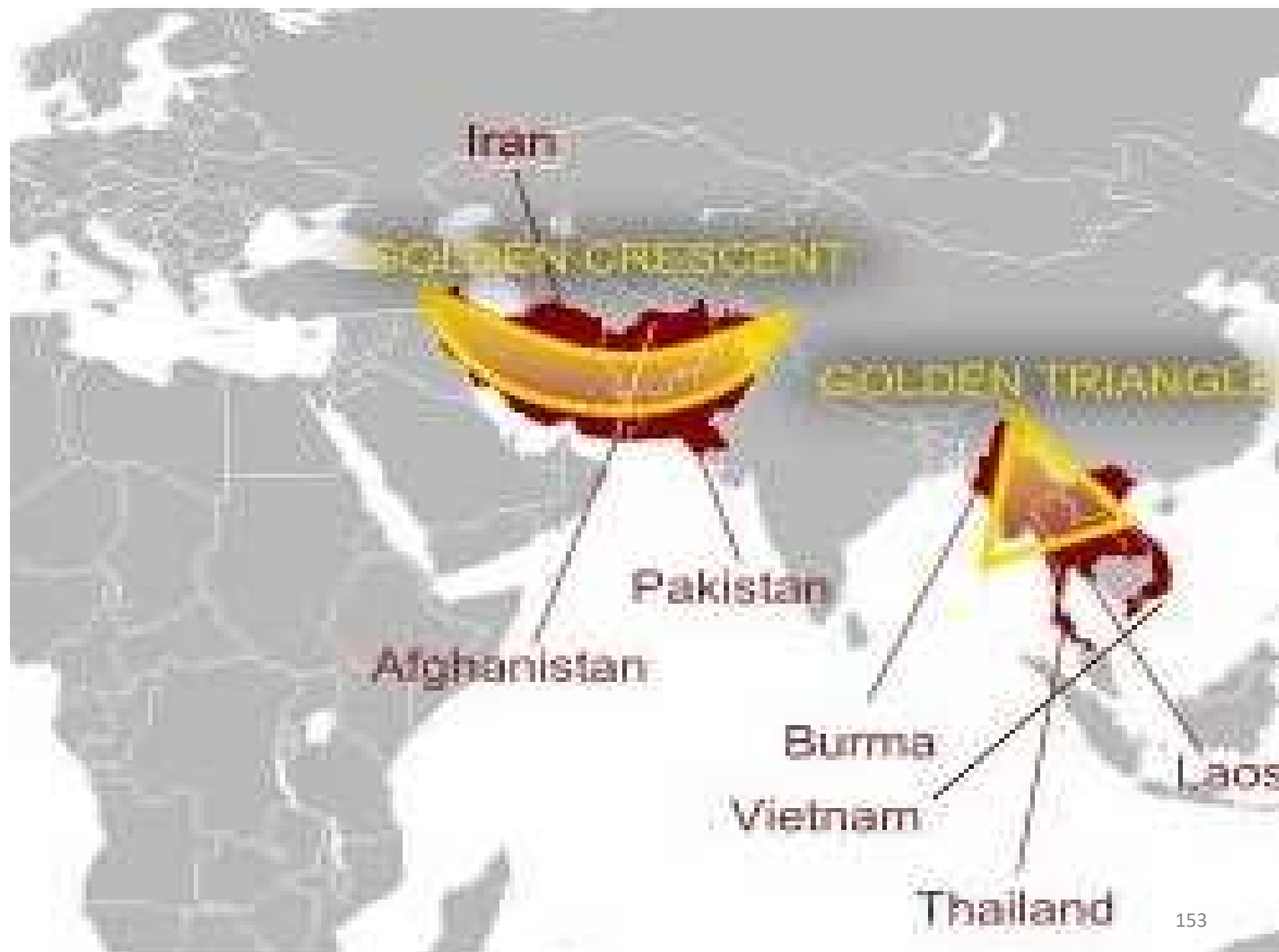


# ILLEGAL, UNREPORTED AND UNREGULATED FISHING

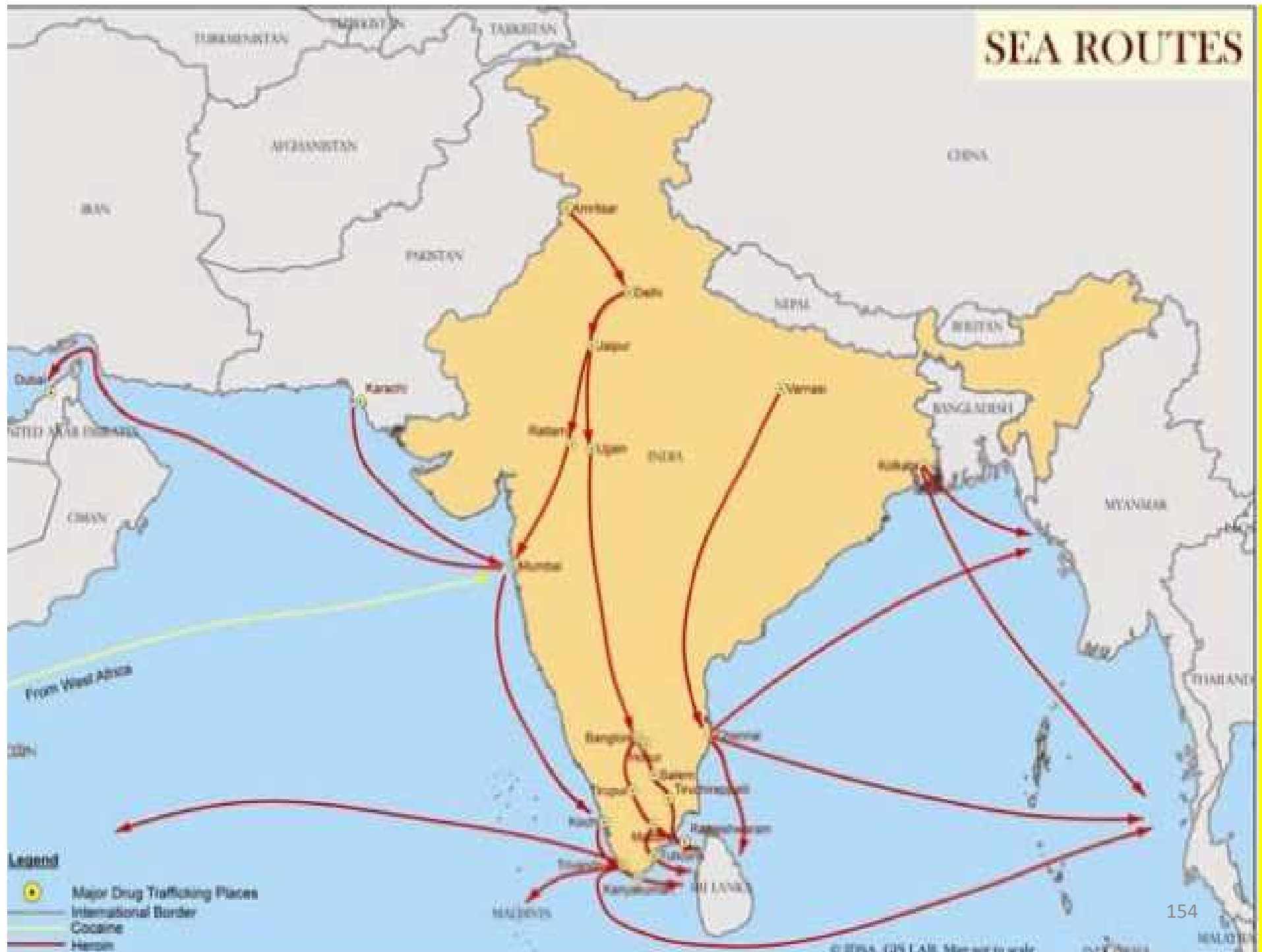
- **UNREGISTERED VESSELS**
- VESSELS SWITCHING OFF AUTOMATIC IDENTIFICATION SYSTEM( AIS)
- FISHING WITH ILLEGAL GEAR
- FISHING DURING MONSOONS
- FISHING IN EEZ WITHOUT LICENCE
- FISHING WITH LICENCE BUT NOT REPORTING CATCH
- TRANSHIPPING WITH OUT PERMISSION
- FISHING WITH EXPLOSIVES

# DRUG TRAFICKING

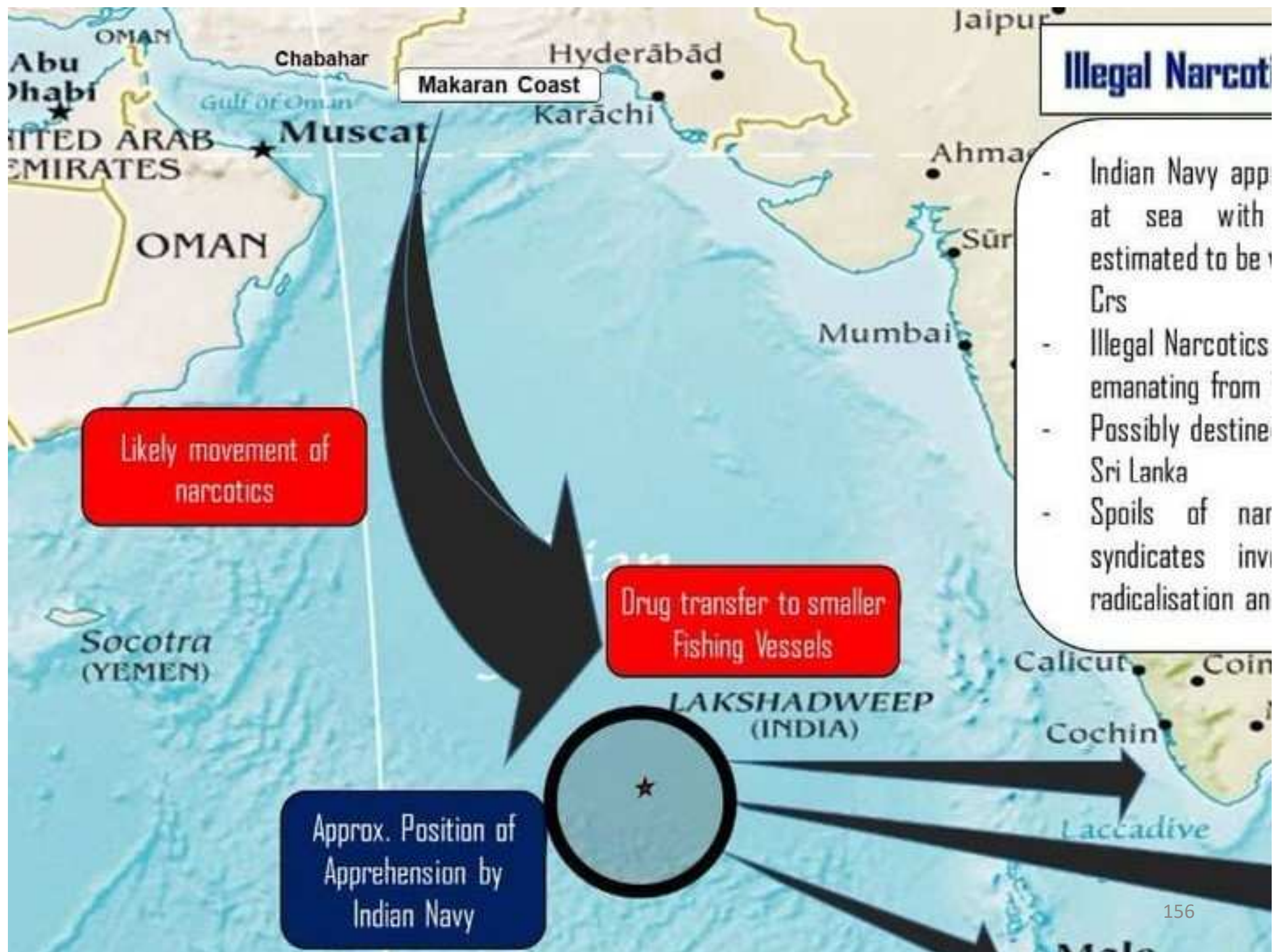




# SEA ROUTES



# DRUGS HAUL BY INDIAN NAVY NAVY -APRIL 2021

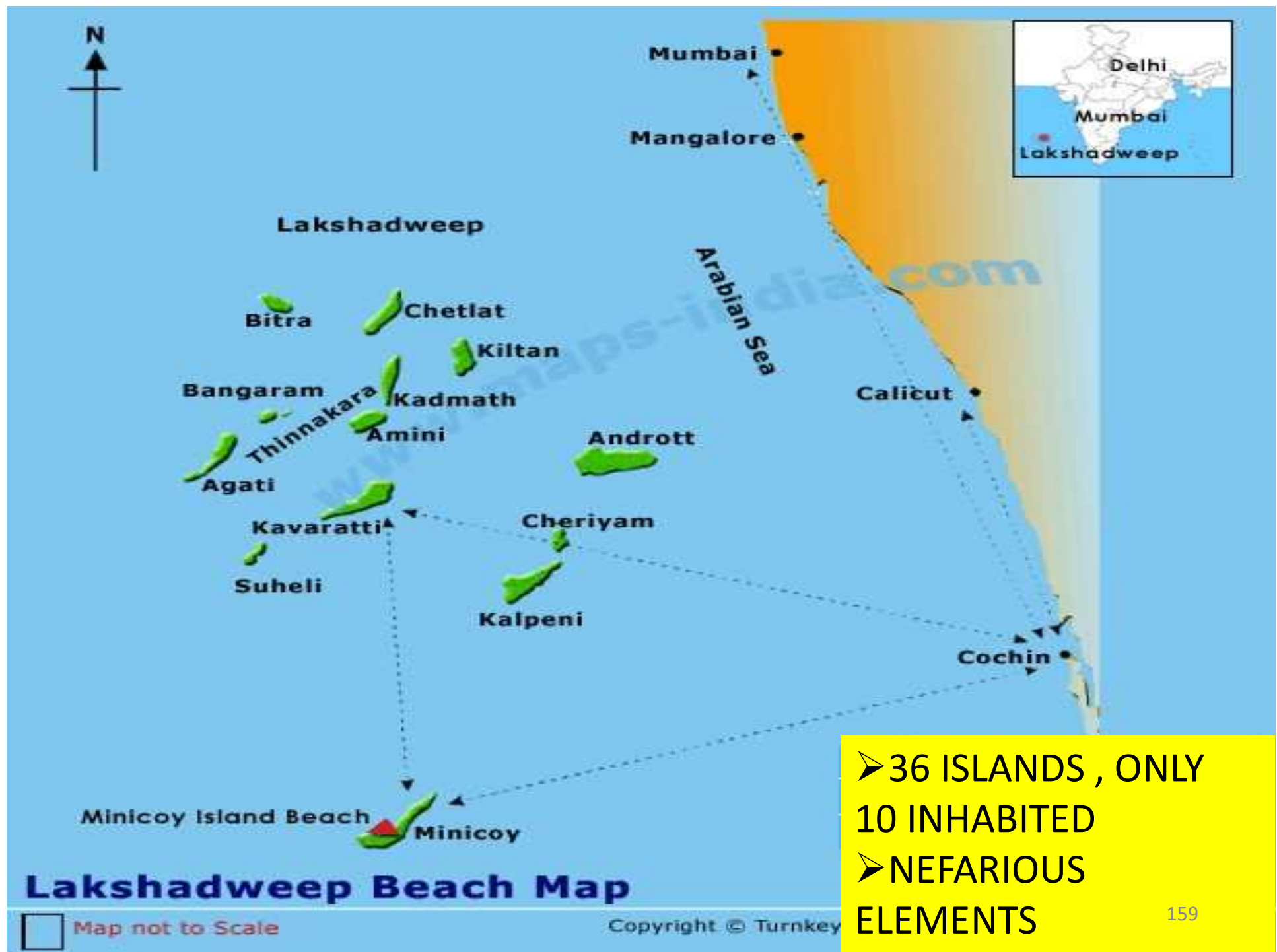




## DRUG HAUL BY ICG MARCH 2021







➤ 36 ISLANDS , ONLY  
10 INHABITED  
➤ NEFARIOUS  
ELEMENTS

# SEVERAL DRUG HAULS BY COAST GUARD OFF GUJARAT TOO







HEROIN SEIZURE  
MUNDRA PORT- SEPT 2021 -FROM AFGHANISTAN  
3000 KG  
21,000 CRORES



# ILLEGAL MIGRATION

# MEDIA REPORTS -NIA- INVESTIGATING HUMAN SMUGGLING OF SRI LANKANS VIA TUTICORIN TO MANGALORE & MADURAI AND ONWARD TO CANADA







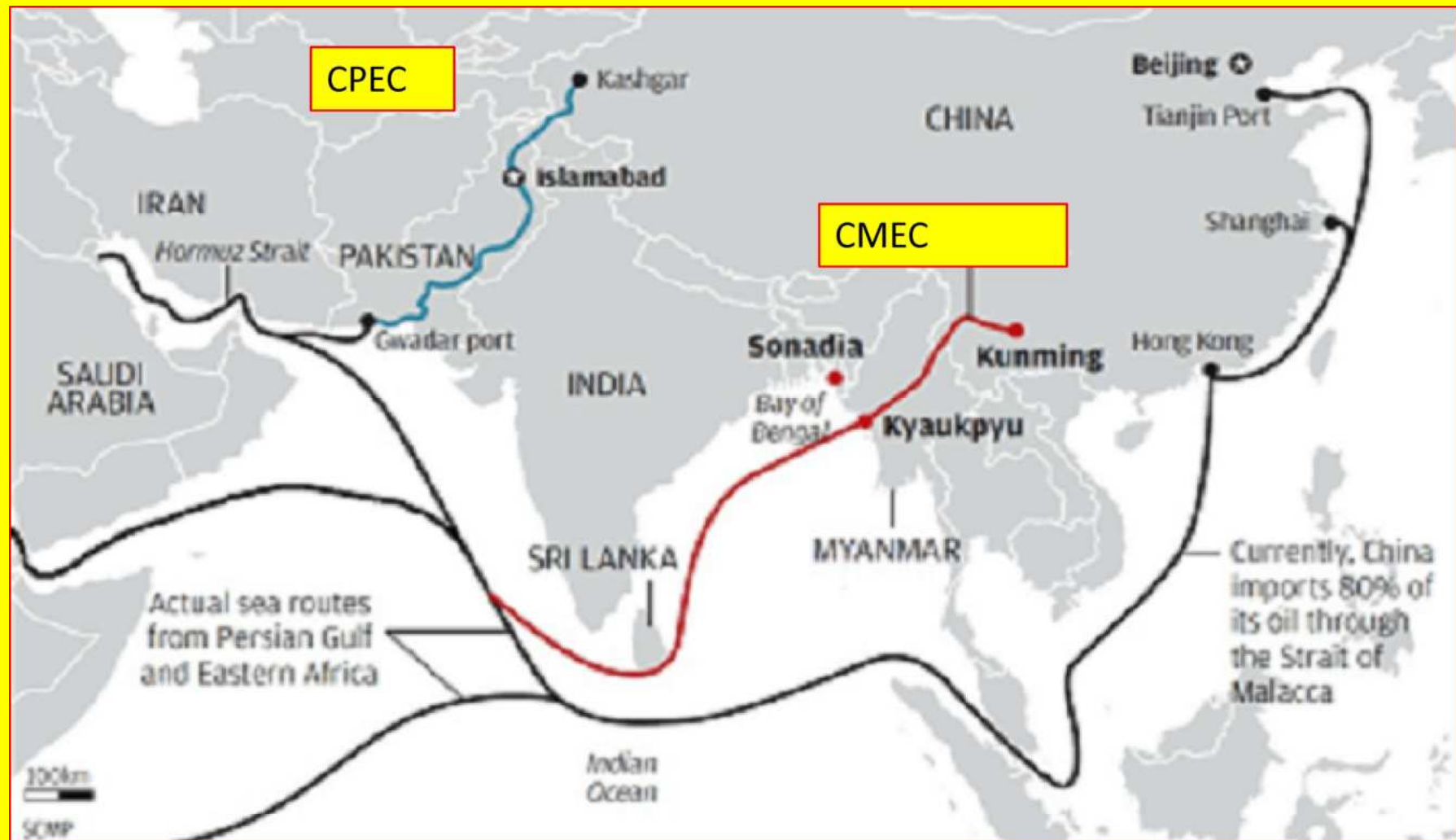
# THE DRAGON AT SEA



- **CHINA'S VULNERABILITY - IMPORTS 80% OF HER CRUDE FROM WEST ASIA & WEST AFRICA WHICH PASSES THROUGH IOR, LONG LOGISTIC TAIL 5500 NM - MALACCA DILEMMA**



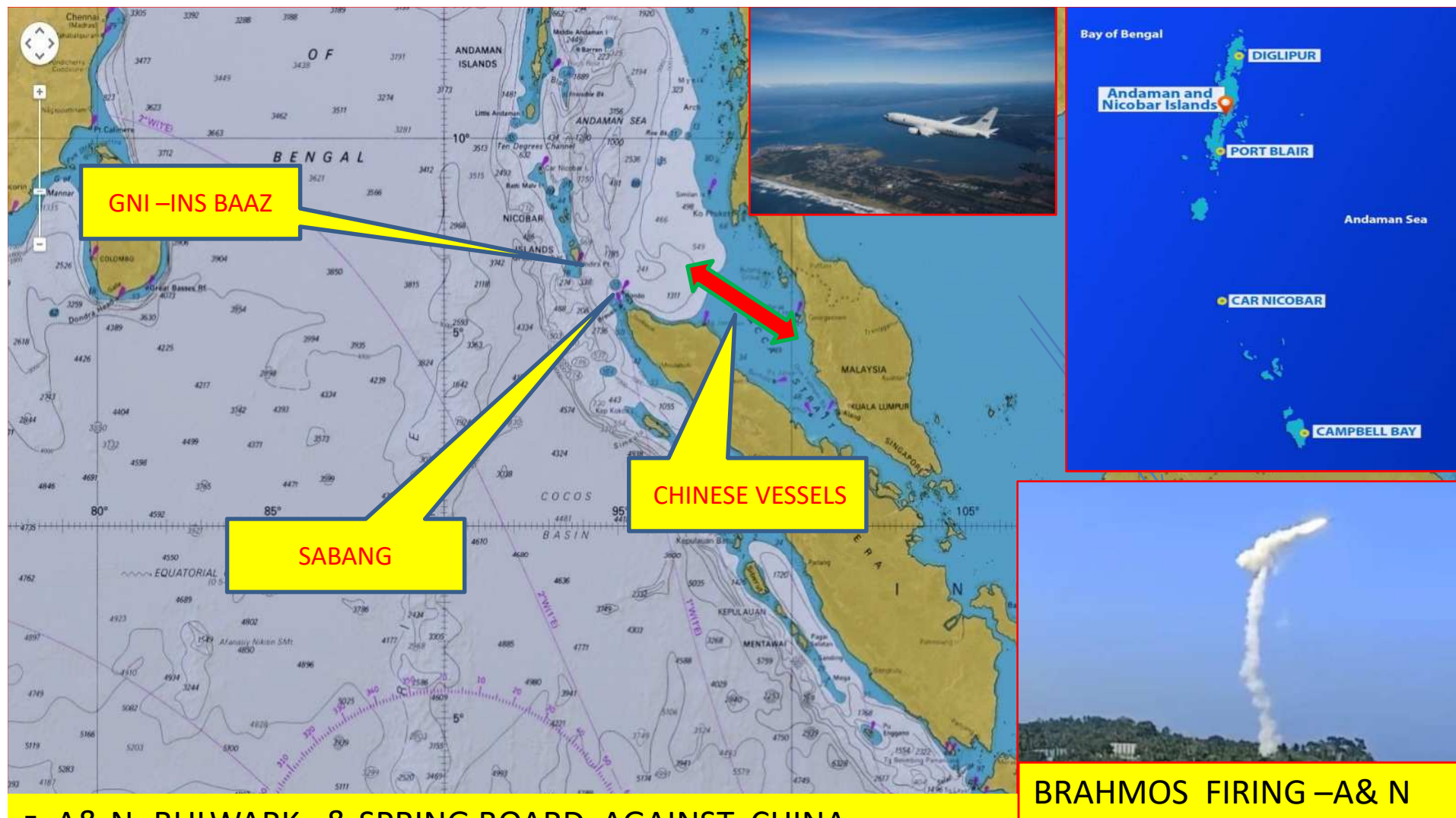
- **INDIA GEO- STRATEGICALLY LOCATED TO INTERDICT CHINA'S VESSELS**





THE DEFENCE AGAINST CHINA IN OUR NORTH AND EAST LIES  
IN THE INDIAN OCEAN





- A& N -BULWARK & SPRING BOARD AGAINST CHINA
- NORTH SOUTH SPREAD -700 KM ; 4 AIRPORTS
- MALACCA FUNNEL -GNI – SABANG ; BOTH SIDES OF MALACCA
- BRAHMOS
- MARITIME THEATRE COMMAND



# CHINA ASYMMETRIC THREATS

- **CHINESE TRAWLERS ARE A COMMON SIGHT CLOSE TO OUR EEZ**
- **INTELLIGENCE COLLECTION**
- **20 TRAWLERS OPERATING FROM GWADAR**



## RECENT QUAD OUTCOME -INDO- PACIFIC PARTNERSHIP FOR MARITIME DOMAIN AWARENESS

- TO TRACK CHINESE FISHING VESSELS – IUU FISHING- NEAR INDIAN EEZ TOO
- CHINA ALSO USES FISHING VESSELS:-
  - TO COLLECT INTELLIGENCE
  - TO ASSERT TERRITORIAL CLAIMS USING ITS MARITIME MILITIA
- OFTEN GO DARK –SWITCH OFF TRANSPONDERS
- COMMERCIAL SATELLITES & EXISTING INFORMATION SHARING ARRANGEMENTS WILL BE USED



## CHINESE RESEARCH VESSELS IN IOR

- CHINESE RESEARCH SHIPS SIGHTED /DETECTED CARRYING OUT HYDROGRAPHIC AND OCEANOGRAPHIC SURVEY IN IOR .
- VISITED KARACHI.
- CAN ALSO USE UNMANNED UNDERWATER VEHICLES



YUAN WANG 5



SATELLITE AND MISSILE TRACKING SHIP

# YUAN WANG 5

- SRI LANKA - HAMBANTOTA -99 YEARS LEASE – CHINA
- POLITICAL , DIPLOMATIC, MILITARY ,SOCIAL MEDIA FLUTTER
- INDIA HELPING CHINA - ECONOMIC CRISIS
- SRI LANKA SOVEREIGN NATION AND REQUIRES CHINA FOR DEBT RESTRUCTURING – IMF LOAN
- MSR EQUIPMENT IF FITTED CAN BE USED FOR MILITARY OR HYDROGRAPHIC SURVEY WHICH IS ILLEGAL
- SHIP AT SEA MORE DANGEROUS THEN IN HARBOUR





## MISCELLANEOUS THREATS

# **PROLIFERATION SECURITY**



**NORTH KOREAN VESSEL KU WUL SAN –KANDLA -2006**

➤ MV DA CUI YUN



- HONG KONG FLAGGED SHIP – BOUND FOR KARACHI
- DETAINED IN KANDLA
- FEB 2020
- AUTO CLAVE USED IN BALLISTIC MISSILE LAUNCH  
DECLARED AS INDUSTRIAL DRYER







**IRANIAN DHOW -BAROOKI- OFF KERALA -  
2015**



# MV WISDOM- OFF JUHU

## JUN 2011



# MV PAVIT -JULY 2011







LADY HAN









## BEIRUT EXPLOSION

AUGUST 2020

2750 TONS –AMMONIUM NITRATE

217 KILLED

7000 INJURED

20 KM RADIUS AFFECTED



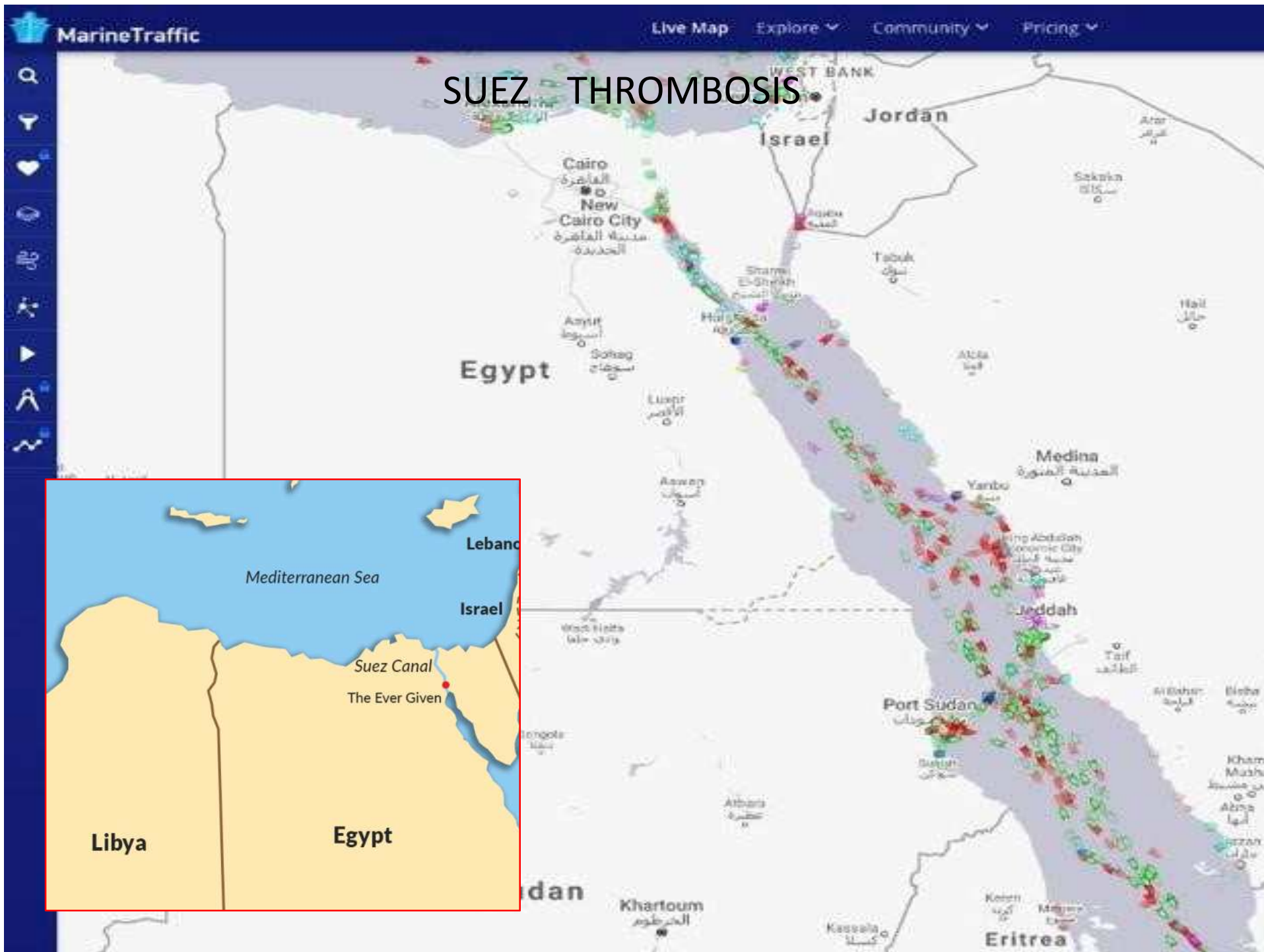


# AMMONIUM NITRATE

- **USED FOR MAKING FERTILIZERS**
- **KEEP LYING IN PORTS AND GODOWNS**
- **CAN EXPLODE WHEN HEATED**
- **MIXED WITH FUEL OIL BECOME EXPLOSIVE**
- **MEDIA REPORTS INDICATE AMMONIUM NITRATE LYING AT CHENNAI PORT WAS MOVED TO HYDERABAD**







## SUEZ THROMBOSIS

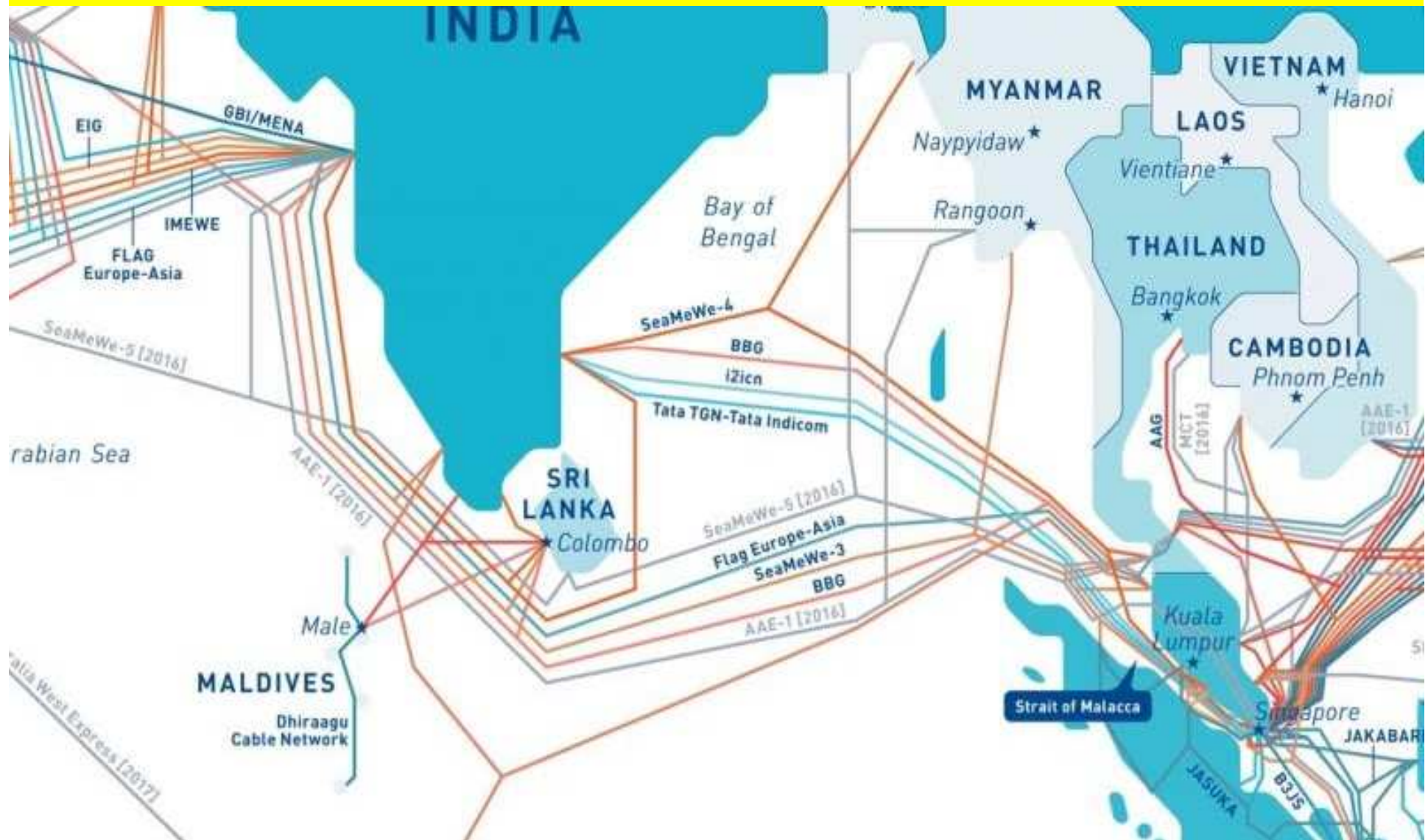


# SHIPS TO SAIL AROUND AFRICA

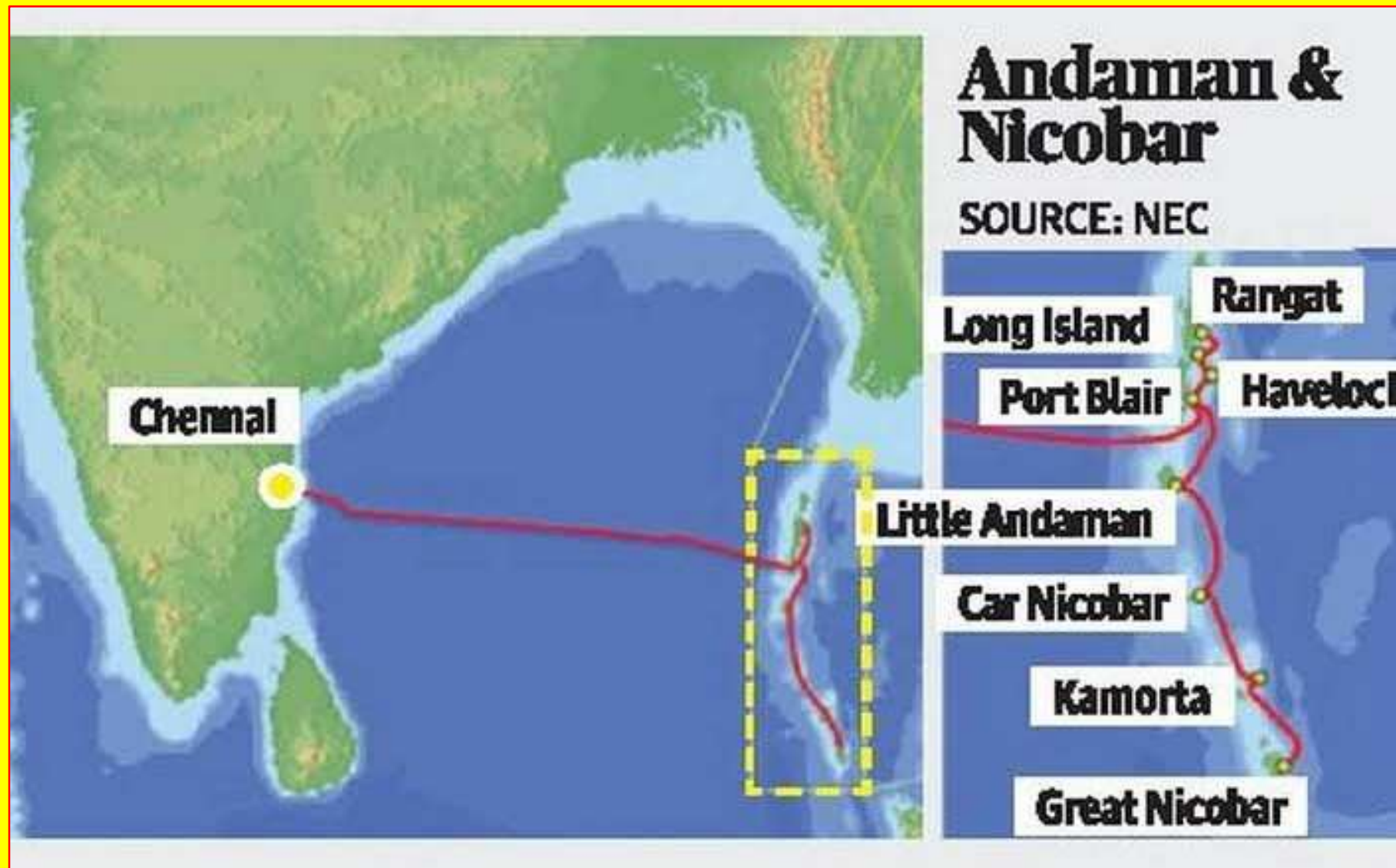
Due to backlog in the Suez Canal, ships may re-route



# SUBMARINE INTERNET CABLES











NATURAL DISASTER – EARTH QUAKE / TSUNAMI  
SHIPS ANCHOR FOULING  
FISHING VESSEL SNAGGING

TERRORISTS COULD ATTACK  
UNDERWATER DRONES  
TRAINED DOLPHINS COULD PLACE EXPLOSIVES

# MARITIME CYBER SECURITY

# MARITIME LOGISTICS CHAIN

OWNERS

SHIPPING COMPANIES

SHIPPING AGENTS

SHIP MANAGERS

CHARTERERS

CONTAINER STUFFING/ DE –STUFFING AGENTS

STEVEDORES

SHIP CHANDLERS

SHIPS CREW ( MULTI –NATIONAL)

PORT AUTHORITIES

CUSTOMS



# MARITIME CYBER SECURITY

- PIRATE ATTACK SUPPORTED BY CYBER ATTACK
- GPS SPOOFING
- ELECTRONIC CHART SPOOFING
- AIS SPOOFING
- CHANGE LOADING SEQUENCE OF CONTAINERS
- MASKING OF CONTAINERS WITH CONTRABAND
- MAKE OIL & GAS RIGS NON-OPS



# VULNERABILITIES

# CRUISE LINERS





# CRUISE SHIPS

- KOCHI , MANGALORE ,MUMBAI ,KOLKOTTA ETC
- LARGE NO OF GUESTS & CREW : 3000 -5000
- FOREIGNERS OF VARIOUS NATIONALITIES
- PERFECT TARGET FOR TERRORISTS TO DRAW WORLD ATTENTION





# COASTAL ASSETS

- PORTS & HARBOURS - 12 MAJOR PORTS

## *REFINERIES AT PORTS*



- TANKERS, PORT OIL HANDLING FACILITIES AND REFINERIES AT PORTS
- NATIONAL OIL GRID
- ALL VULNERABLE





TANKER ALONGSIDE

## FLOATING BOMBS



TANKER AT SINGLE POINT MOORING (SPM)



LNG CARRIER



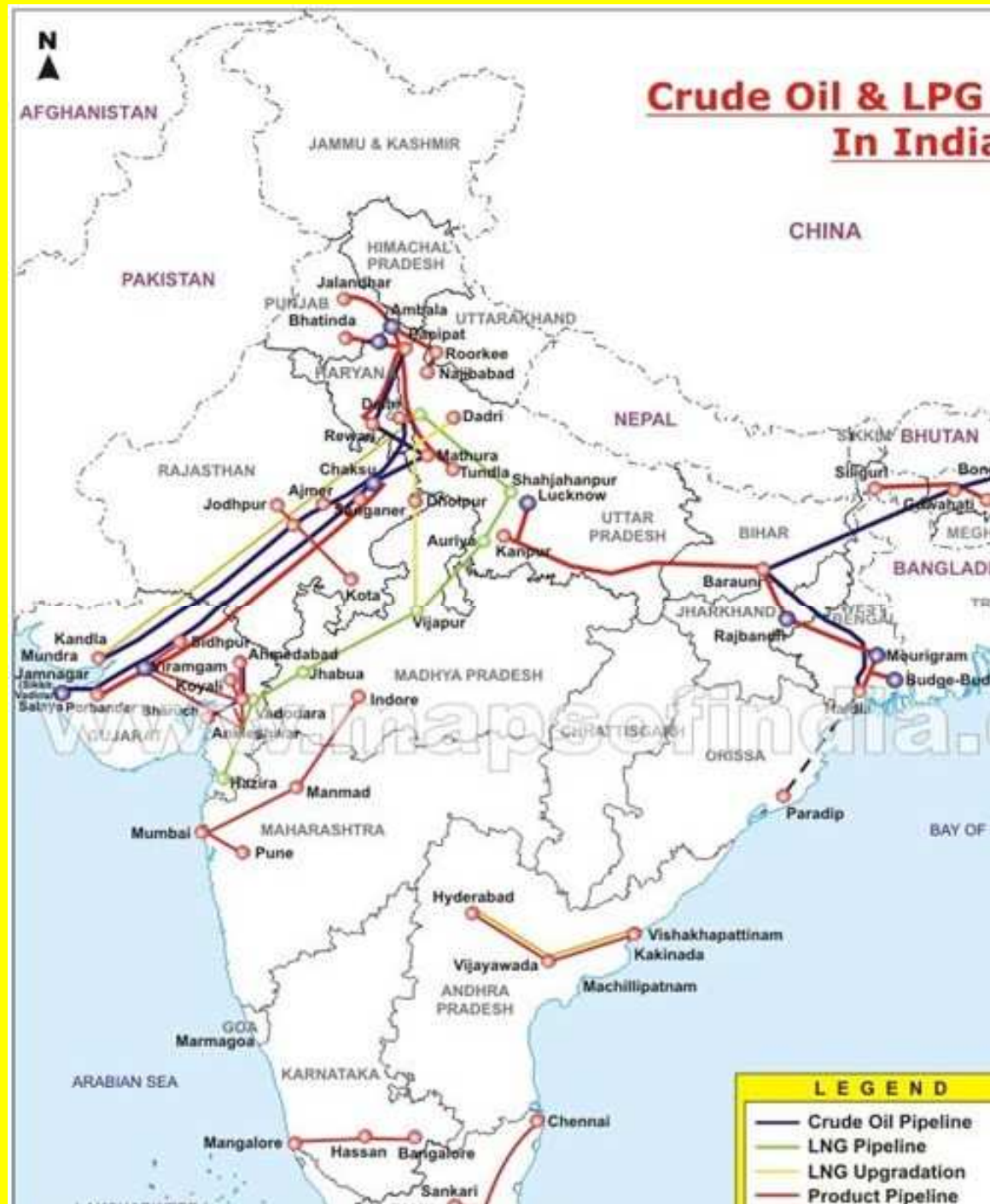
## OIL & GAS –STRATEGIC CARGO

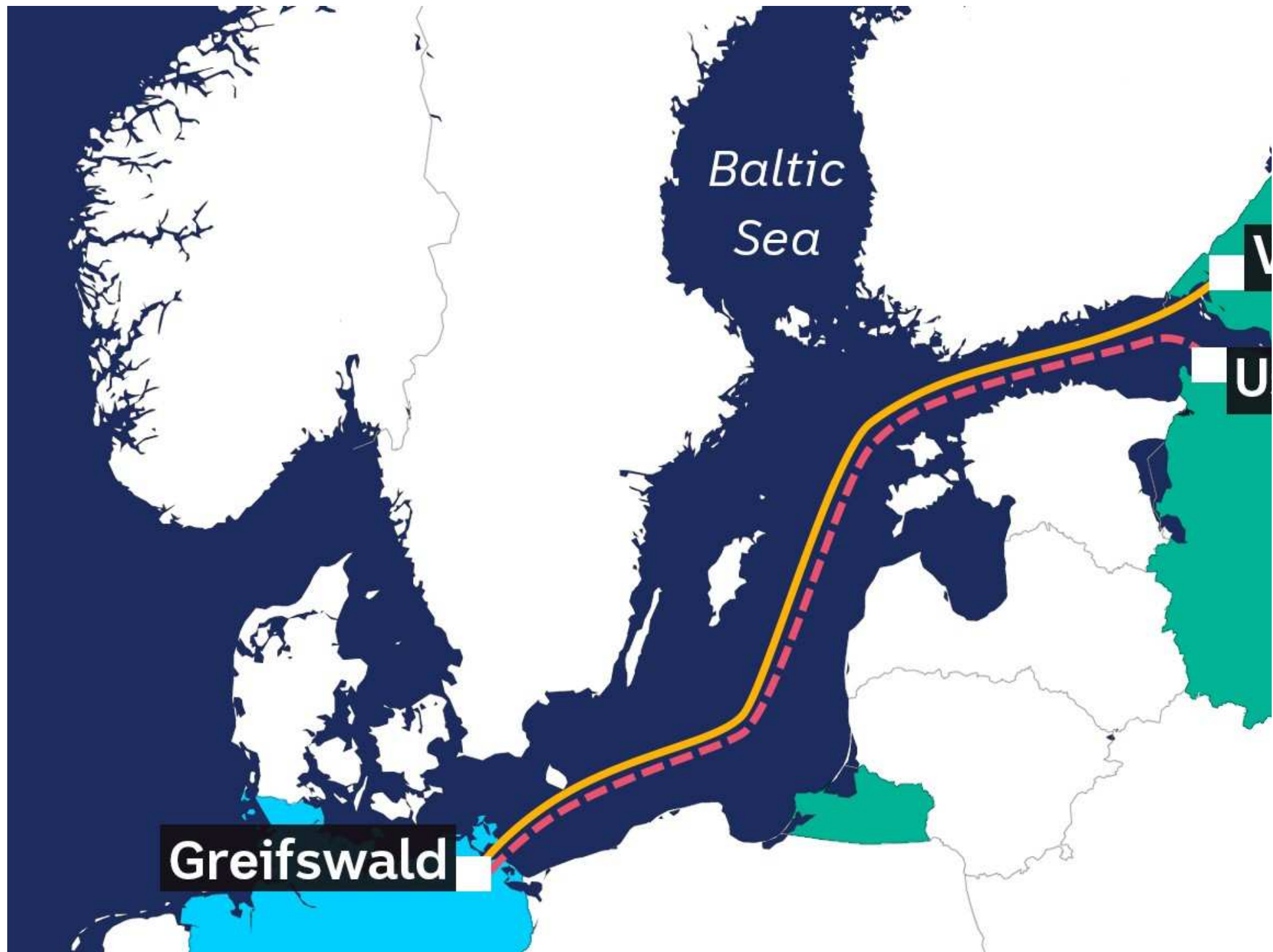
- TANKERS/LNG SHIPS
- FLOATING BOMBS
- CAN BE EXPLODED OR SUNK IN THE MOUTH OF NARROW HARBOURS LIKE KOCHI ,MANGALORE ETC TO CLOSE PORTS
- CAN THEMSELVES BE USED AS A WEAPON TO RAM A INFRASTRUCTURE – a la 9/11
- CARGO CAN CAUSE ENVIRONMENTAL DISASTER

# THREATS TO OFF SHORE STRUCTURES

- EXPLOSIVES /LIMPET MINES ATTACHED TO LEGS OF RIGS
- **SMALL BOATS LOADED WITH EXPLOSIVES TO RAM THE RIGS**
- ENVIRONMENTAL DISASTER
- ECONOMIC DISASTER







# COASTAL ASSETS

## NUCLEAR PLANTS

- TARAPUR
- KAIGA
- KUNDAKULAM
- KALPAKKAM

## •THUMBA EQUATORIAL ROCKET LAUNCHING STATION (TERLS)

. SRIHARIKOTA- ANDHRA PRADESH

## •WHEELER ISLAND- ORISSA

## •INDUSTRIAL COMPLEXES- GULF OF KUTCH, GULF OF KHAMBAT

- SHIP BUILDING YARDS- MAZGAON DOCKS , KOCHI SHIYARD ETC
- NAVAL BASES & DOCKYARDS – MUMBAI , KARWAR ETC
- ❖ *NUCLEAR SUBMARINES*
- ❖ *AIRCRAFT CARRIERS*
- ❖ *OTHER SHIPS & SUBMARINES*



INS VIKRAMADITYA



INS CHAKRA



## MINOR PORTS

- 200- INTERMEDIATE & MINOR PORTS
- 9 COASTAL STATES & 4 U/Ts
- STATE SUBJECT
- LACK OF OVERSIGHT
- HUB FOR NEFARIOUS ACTIVITIES
- MEDIA REPORTS QUOTING INTELLIGENCE BUREAU(IB)

# ENVIRONMENTAL

# OIL SPILL OFF CHENNAI





INDIA DESPATCHES –  
EQUIPMENT AND  
COAST GUARD TEAM

JAPANESE TANKER  
MV WAKASHIO

G





## MT NEW DIAMOND





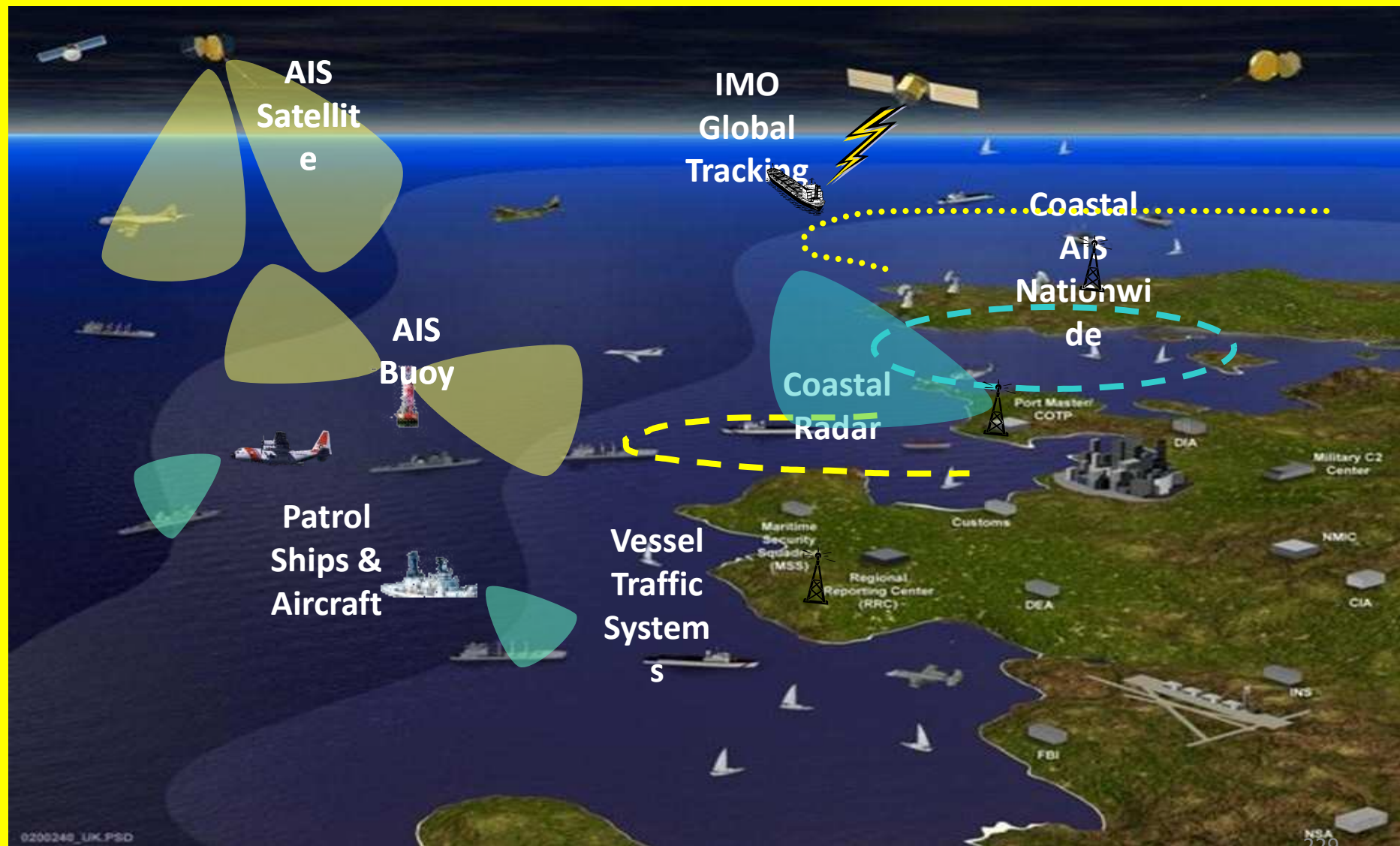
# MV EXPRESS PEARL





# DEFENSIVE /PROTECTIVE MEASURES

# ***MARITIME DOMAIN AWARENESS***





➤ **NATIONAL COMMAND , CONTROL, COMMUNICATION & INTELLIGENCE( NC3 I) FACILITY – GURGAON**







# NATIONAL COMMAND CONTROL COMMUNICATION INTELLIGENCE NETWORK



# RIKMINI-INDIAN NAVY COMMUNICATION SATELLITE



# MARITIME DOMAIN AWARENESS (MDA)



UAV



KA 31



P 8i BOEING



DORNIER

# MARITIME DOMAIN AWARENESS

## COASTAL SURVEILLANCE RADAR STATIONS

(74 )



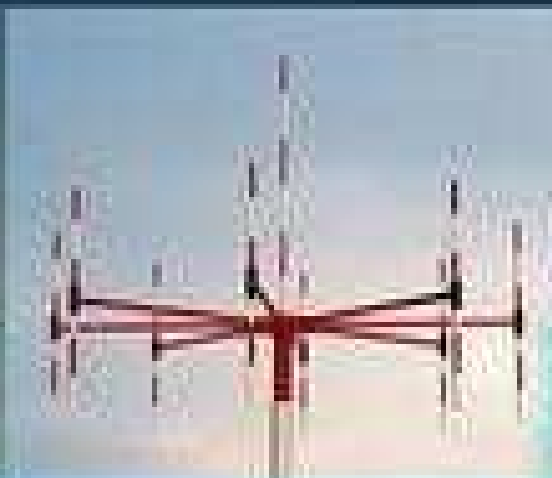
- NETWORK OF RADARS –
- SEYCHELLES (8) MAURITIUS(8) SRI LANKA(6)
- MALDIVES (10)
- MYANMAR, BANGLADESH



# VESSEL TRAFFIC MANAGEMENT



MARINE AIS



DIRECTION FINDER



RADAR

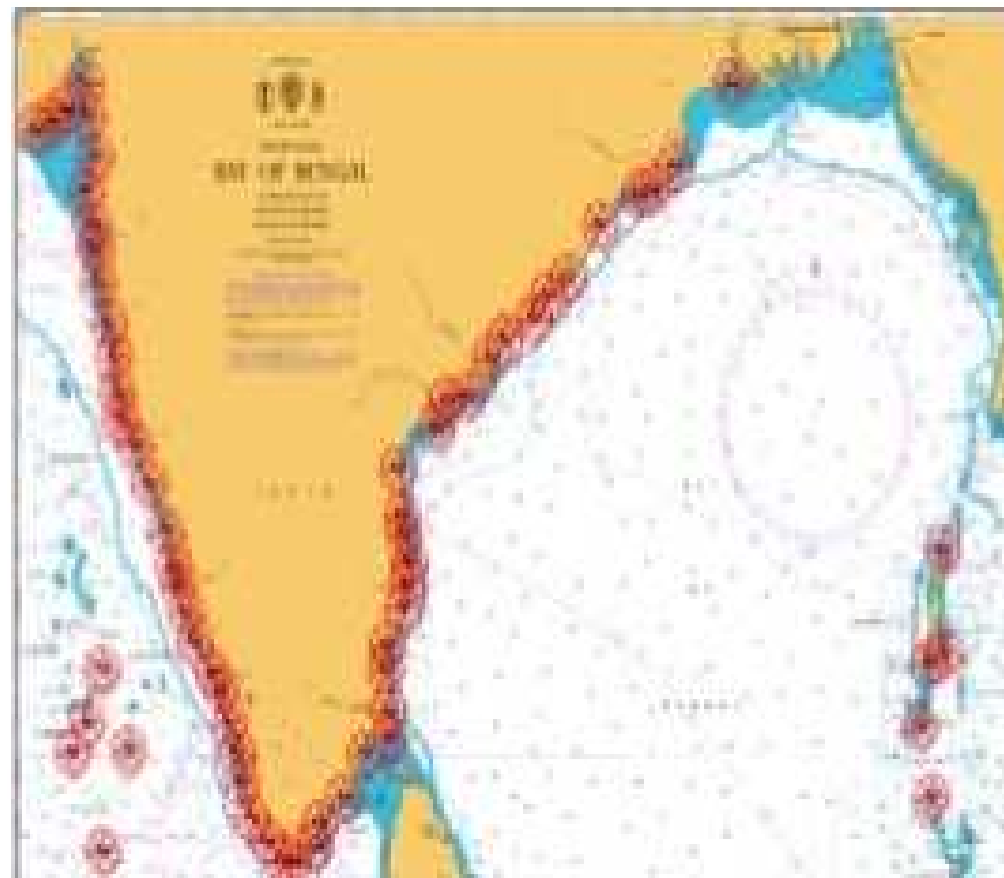


CAMERAS

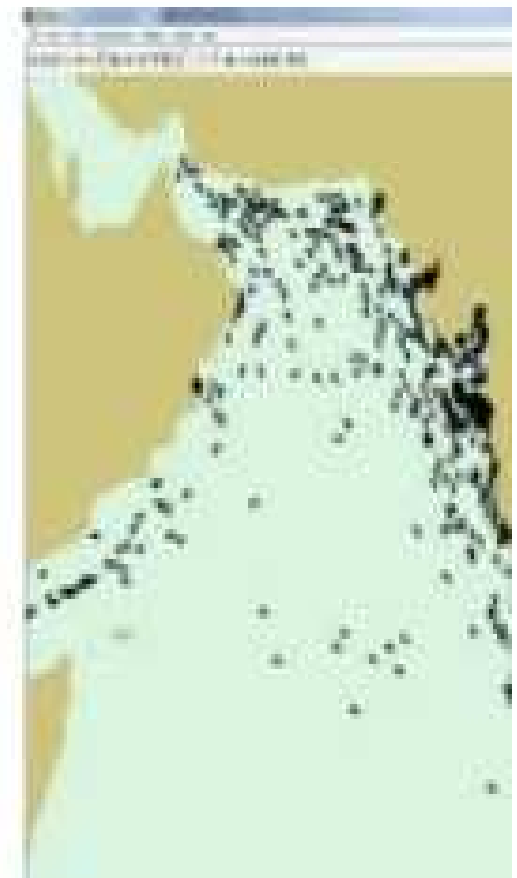


CONTROL CENTRE

## NATIONAL AIS NETWORK COVERAGE

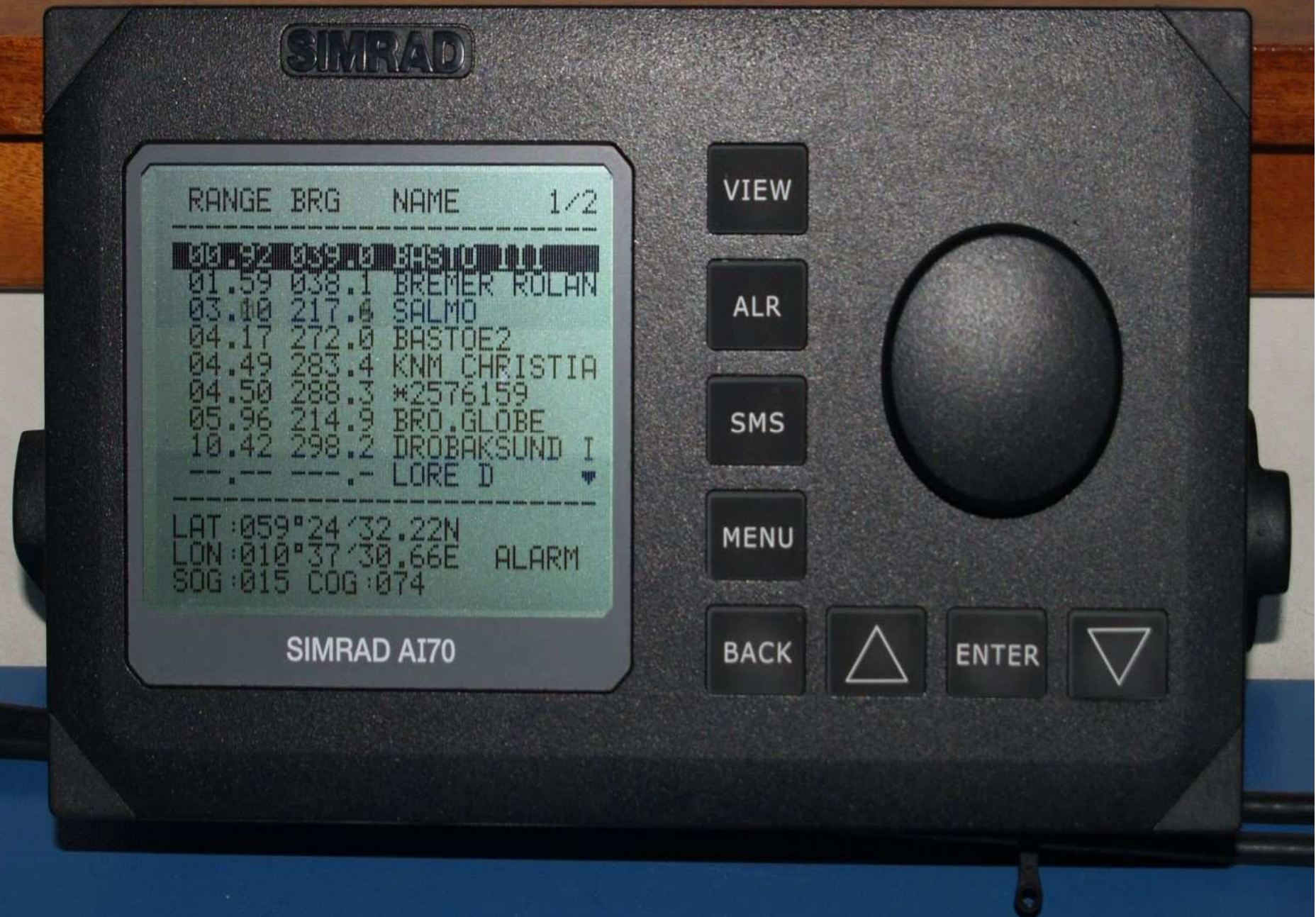


## TYPICAL NAIS DISPLAY

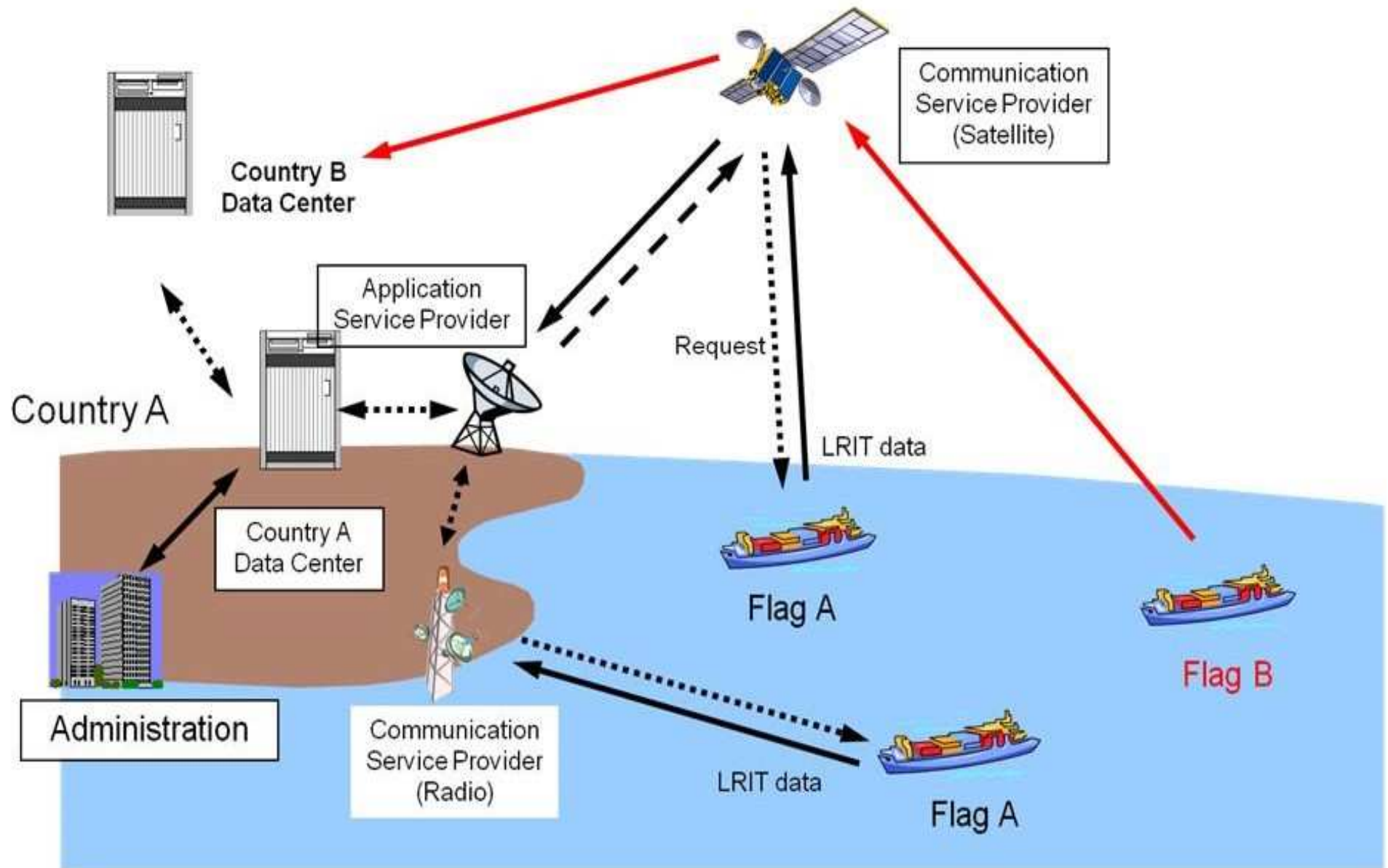




# AUTOMATIC IDENTIFICATION SYSTEM



## LRIT Configuration





# INTERNATIONAL SHIP AND PORT SECURITY CODE (ISPS)- POST 9/11

PORTS ARE THE INTERFACE BETWEEN SHIPS,CARGO & CREW AND  
FOREIGN SHORES

# INTERNATIONAL SHIP AND PORT SECURITY CODE( ISPS) – POST 9/11

- DESPITE CLAIMS, NO INDIAN PORT IS REALLY ISPS COMPLIANT
- PORTS LIKE MUMBAI CAN EASILY BE PENETRATED EVEN TODAY – 15 YEARS AFTER 26/11
- WATER FRONT SECURITY IS WEAK SPOT .
- CISF









VISHAKAPATNAM INNER HARBOUR

# CONTAINER SECURITY



**CAN CARRY OVER 23000 CONTAINERS**

# POST 9/11 -CONTAINER SECURITY

- CONTAINERS(20 FT, 40 FT ) -TROJAN HORSES  
( TERRORISTS, WEAPONS & EXPLOSIVES ETC )
- PAUCITY OF ADEQUATE X-RAY MACHINES
- 100% SCREENING IMPOSSIBLE
- TECHINT & HUMINT AT CONTAINER STUFFING/ DE-STUFFING CENTRES IS THE KEY.
- CUSTOMS PERSONNEL PLAY AN IMPORTANT ROLE .

# EXPLOSIVE SCRAP



➤ FROM IRAQ,IRAN ,AFGHANISTAN IN  
CONTAINERS FOR SMELTING IN DELHI.  
HARYANA,RAJASTHAN

➤THERE WERE EXPLOSIONS FROM LIVE  
AMMUNITION

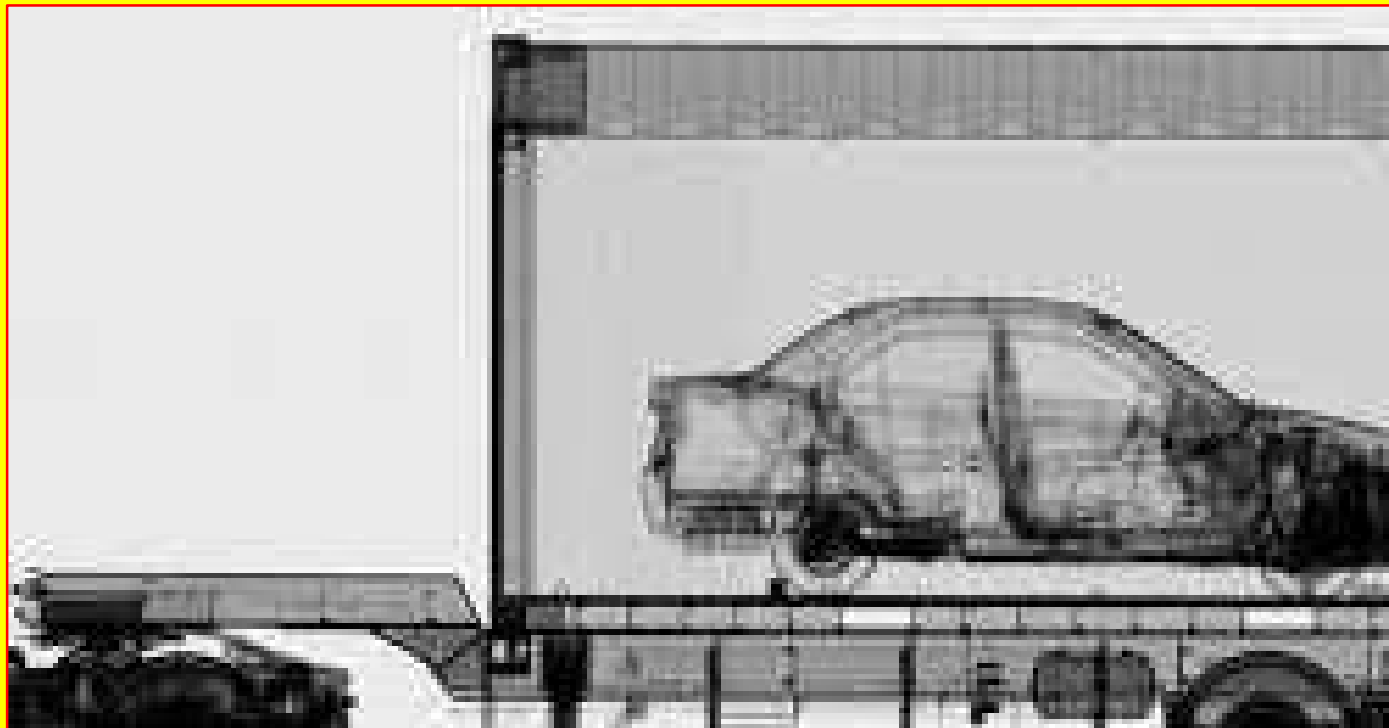






## IMPORT OF HAZARDOUS TRASH

- MEDICAL/BIO-WASTE
- NUCLEAR WASTE
- ELECTRONIC WASTE



## BLASTS IN CONTAINER SHIP –DUBAI





# SHAPING THE MARITIME DOMAIN

# MARITIME COOPERATION- NEIGHBOURS & FRIENDS

➤ OVER SEAS DEPLOYMENT ( OSD ) AND PORT VISITS OF OUR SHIPS

➤ JOINT EXERCISES –

➤ EEZ PATROL

➤ HUMANITARIAN ASSISTANCE & DISASTER RELIEF (HADR )

➤ NAVAL TRAINING

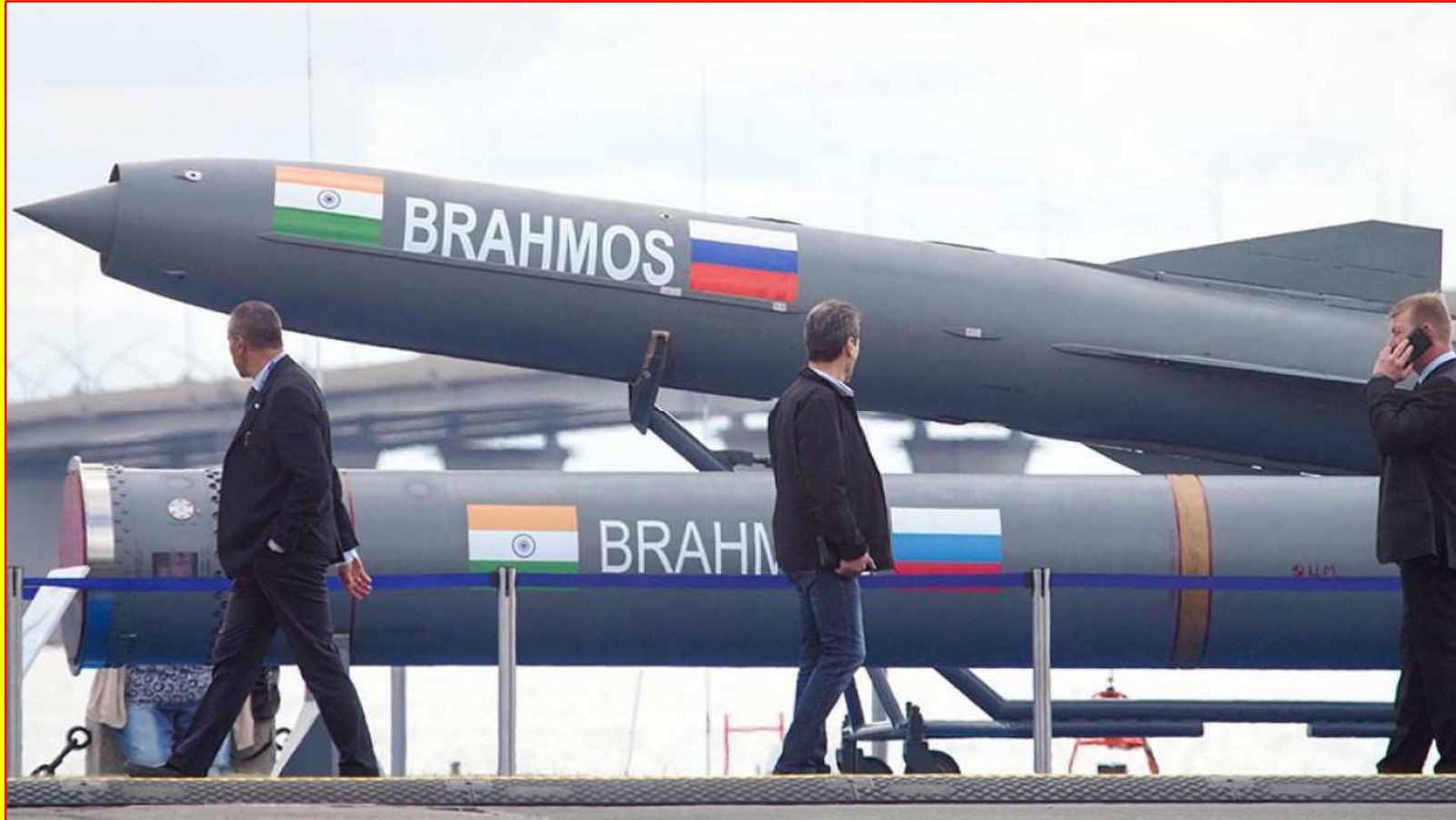
➤ CAPACITY & CAPABILITY BUILDING . Gifting /supply of:

▪ PATROL CRAFT , HELOs, FIXED WING AIRCRAFT

▪ SRI LANKA ,MALDIVES, SEYCHELLES , MAURITIUS , VIETNAM









# STRATEGIC AGREEMENTS

## UNITED STATES

### QUAD

- LOGISTICS EXCHANGE MEMORANDUM OF AGREEMENT (LEMOA) 2016
  - ACCESS TO DIEGO GARCIA ,GUAM ,DJIBOUTI
- COMMUNICATIONS COMPATIBILITY AND SECURITY AGREEMENT (COMCASA ) -2018
- MISTA- MARITIME INFORMATION SHARING TECHNICAL AGREEMENT
- BASIC EXCHANGE AND COOPERATION AGREEMENT ( BECA)- FOR GEOSPATIAL INFO
- 2+2 DIALOGUE

## JAPAN

### QUAD

- LOGISTIC SUPPLY AGREEMENT (LSA) -
- 2+2 DIALOGUE

## AUSTRALIA

### QUAD

- MARITIME LOGISTIC SUPPLY AGREEMENT (MLSA)
- 2+2 DIALOGUE

## **VIETNAM**

- PILLAR OF ACT EAST POLICY
- 12 PATROL CRAFT GIFTED RECENTLY
- BRAHMOS MISSILES

## **▪SINGAPORE**

- LOGISTIC SUPPLY AGEEMENT WITH INDIA
- IFC – GURGAON – INFO SHARING WITH IFC SINGAPORE

## JOINT EXERCISES

- MALABAR - INDIA US JAPAN AUSTRALIA
- AUSINDIA – AUSTRALIA
- JIMEX - JAPAN
- KONKAN - UK
- INDRA - RUSSIA
- VARUNA – FRANCE
- SIMBEX – SINGAPORE
- SLINEX- SRI LANKA
- NASEEM AL BAHAR – OMAN
- SAMUDRA SHAKTI -INDONESIA
- COORDINATED PATROL( CORPAT)
- THAILAND
- MYANMAR
- INDONESIA
- BANGLADESH



# COORDINATED PATROLS WITH INDONESIA





# PURPOSE OF JOINT EXERCISES

1. INDICATE INTENT AND CAPABILITY TO DETER
2. TO HONE PROFESSIONAL SKILLS
3. IMBIBE BEST PRACTICES
4. ENABLE INTER-OPERABILITY
5. ENHANCE SECURE COMMUNICATION BETWEEN FORCES
6. SHARING OF TECHNOLOGY IS A PRELUDE
7. ENHANCE MARITIME SECURITY
8. CONFIDENCE BUILDING MEASURES
9. SAR , HADR , ANTI PIRACY

# MISSION SAGAR



1. ASSISTANCE TO FIGHT COVID -19
2. 540 TONS OF MEDICINES AND FOOD MATERIAL- 5 ISLAND NATIONS
3. MEDICAL TEAMS

Source: National Maritime Foundation

## OP SAMUDRA SETHU

INS JALSHWA  
INS AIRAVAT  
INS SHARDUL  
INS MAGAR

POST COVID 19  
REPATRIATION -4000 INDIANS

MALDIVES  
BANDAR ABBAS –IRAN  
COLOMBO

23,000KM











**UKRAINE FLAGSHIP SINKING  
BIG WIN FOR UKRAINE**



# BLACK SEA- RUSSIAN NAVY

SEA CONTROL OF NORTHERN BLACK SEA  
BLOCKADE OF UKRAINE COAST, ODESSA

TO PREVENT ANY REINFORCEMENTS OF WEAPONS,  
STORES AND PERSONNEL BY SEA,

AMPHIBIOUS ASSAULT ON MARIOUPOL  
MARIOUPOL LINKS DONBAS TO CRIMEAN PENINSULA

NAVAL GUNFIRE ON SNAKE ISLAND NEAR ODESSA

RUSSIAN SHIPS & SUBMARINE FIRED LAND ATTACK MISSILES- KALIBR  
TO INFLUENCE LAND BATTLE, SUPPORT LAND PINCERS



- NUCLEAR THREAT
- HYBRID NATURE OF WAR
- POOR LOGISTICS
- POOR MORALE
- INFO WARFARE
  - CYBER
  - PSY OPS
  - MIS INFO
  - DISINFORMATION
  - DECEPTION
  - SOCIAL MEDIA CAMPAIGN
- INTELLIGENCE – SUPPLIED BY WEST
- DRONE WARFARE
- ATTACK ON MERCHANT SHIPS
- FOOD CHAIN DISRUPTION – WHEAT , CORN



# Locations of Chinese Military Drills

Shortly after U.S. House Speaker Nancy Pelosi's arrival in Taipei on Aug. 2, China announced plans to hold live-fire drills in six maritime areas near Taiwan. Pelosi is scheduled to conclude her visit on Aug. 3, while the Chinese military drills will take place Aug. 4-7.

- Live-fire drill regions in August 2022
- Live-fire drills areas in 1995 and 1996 (Third Taiwan Strait Crisis)



Sources: Ministry of National Defense, Ocean Affairs Council and China's Xinhua News Agency

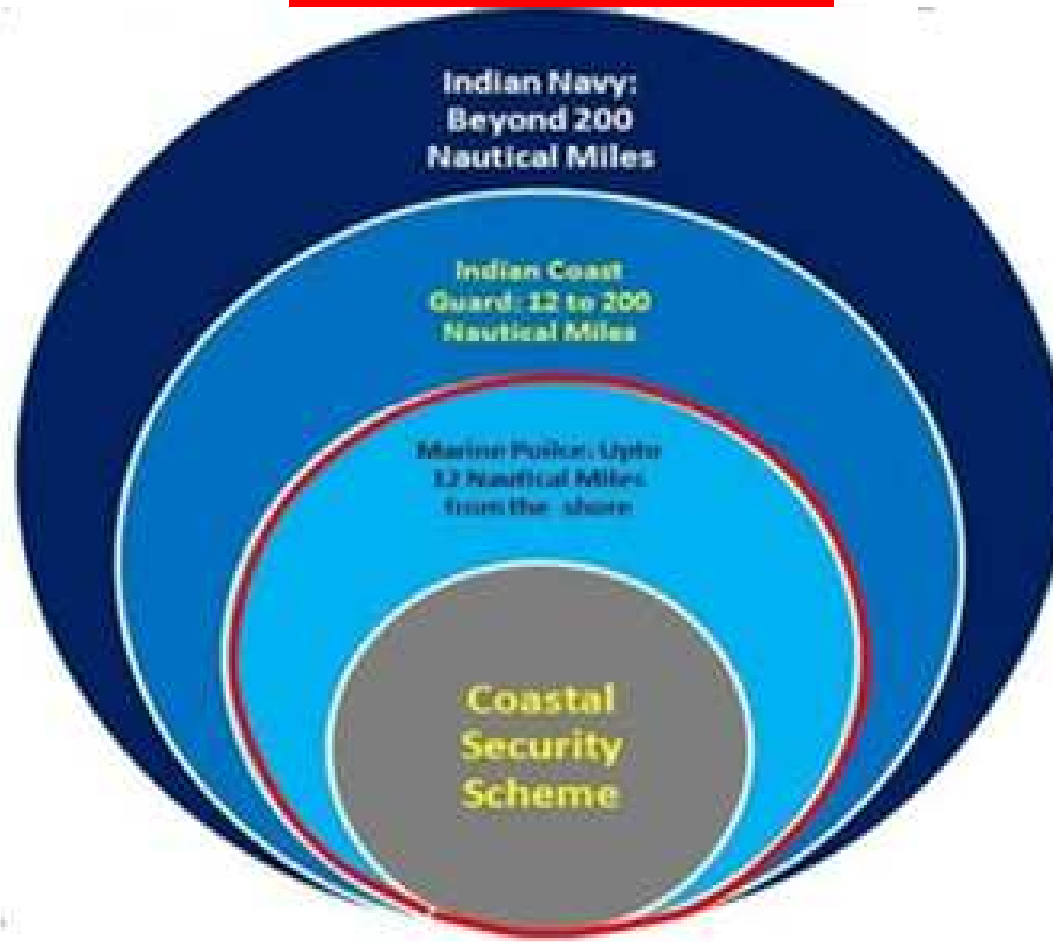
# MARITIME GOVERNANCE

# 3 TIER COASTAL SECURITY FRAME WORK

MARINE POLICE 0-12 NM  
(CURRENTLY TILL 5 NM)  
COAST GUARD 12-200 NM  
NAVY > 200 NM

HIGH SEAS  
INDIAN OCEAN REGION

## JURISDICTION AT SEA



**MARINE POLICE –LAST LINE OF DEFENCE**





INDIAN NAVY

INDIAN COAST GUARD



## MARINE POLICE



# STATE MARINE POLICE (SMP) -13 STATES/U-T

- EACH STATE HAS A DIFFERENT GEOGRAPHY
- BORDER STATES HAVE A DIFFERENT OPERATING ENVIRONMENT
- ALL 13 SMP HAVE DIFFERENT PROFICIENCY LEVELS
- NO SEAGOING CADRE
- SHORTAGE OF PERSONNEL AGAINST SANCTIONED STRENGTH
- NO DEDICATED STATE MARINE POLICE TRAINING CENTRE YET
- YOUNGER POLICEMEN - VERY ENTHUSIASTIC

- BUT TRAINING IMPARTED BY NAVY/ICG  
DISSIPATES FAST
- FREQUENT TRANSFERS
- 5T & 12 T BOATS CAN NOT OPERATE BEYOND  
SEA STATE 3
- TECHNICAL SUPPORT-AMC – INADEQUATE
- LACK OF JETTIES AND INFRA STRUCTURE

# MARINE POLICE

- **CAG** HAS PASSED STRICTURES AGAINST MARINE POLICE OF SOME STATES
- **MARINE POLICE** IS ONE OF THE MOST IMPORTANT OUTCOMES OF 26/11 RECAST
- THEY REQUIRE THE COMPLETE SUPPORT OF NAVY, ICG, SCIENTIFIC & INDUSTRIAL ORGANIZATIONS

# INDIAN CUSTOMS



➤ CUSTOMS ACT 1978

➤ THE NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES ACT 1985



# MARITIME STAKE HOLDERS

- MINISTRY OF DEFENCE(MOD)
- MINISTRY OF EXTERNAL AFFAIRS(MEA)
- MINISTRY OF PORTS , SHIPPING ,WW
- MINISTRY OF EARTH SCIENCES(MOES)
- MINISTRY OF HOME AFFAIRS(MHA)
- MINISTRY OF PETROLEUM & NATURAL GAS(MOP&NG)
- MINISTRY OF AGRICULTURE
- MINISTRY OF LAW
- INDIAN NAVY
- COAST GUARD
- MAJOR PORTS- 12
- NATIONAL HYDROGRAPHIC OFFICE
- DG SHIPPING
- DG HYDROCARBONS
- DGLL
- SHIP BUILDING YARDS
- CISF
- BSF
- INDIAN CUSTOMS
- R&AW, IB , INTELLIGENCE AGENCIES
- ONGC
- ISRO
- 9 MARITIME STATES& 4 U/Ts
- STATE MARINE POLICE
- INTERMEDIATE & MINOR PORTS
- STATE MARITIME BOARDS
- FISHERIES

# MARITIME GOVERNANCE

- ALL CREATED BEFORE MARITIME SECURITY GAINED CURRENT IMPORTANCE – AND OPTIMISED FOR LAND GOVERNANCE.
- LACK OF SYNERGY -COMPARTMENTALISATION/ LACK OF COORDINATION/ TURF WARS/ INDIVIDUAL SERVICE LOYALTIES
- MOST OF OUR CIVIL SERVANTS LACK MARITIME DOMAIN KNOWLEDGE
- LAND CENTRIC APPROACH TO MARITIME PROBLEMS

# OUR FEDERAL STRUCTURE

COASTAL STATES ARE THE CUTTING EDGE OF COASTAL SECURITY.

BUT NOT ALL STATES

- TAKE COASTAL SECURITY SERIOUSLY
  - OR APPRECIATE THE THREAT FROM THE SEA
  - OR UNDERSTAND THE MAGNITUDE OF THE PROBLEM.
- 
- SOME STATES FEEL COASTAL SECURITY IS CENTRE'S RESPONSIBILITY  
CITING LACK OF FUNDS –WHICH MAY NOT BE CORRECT
- 
- SOME STATES YET TO SET UP MARITIME BOARDS

# CONCLUSIONS-WAY AHEAD

- MARITIME COOPERATION IS THE WAY FORWARD
- HELP NEIGHBOURS IN CAPACITY & CAPABILITY BUILDING
- ENCOURAGE PRIVATE COMPANIES TO TAKE ON MARITIME INFRA PROJECTS ABROAD ESPECIALLY IN NEIGHBOURHOOD
- CURRENT GOVERNANCE STRUCTURE NEEDS TO BE REVAMPED TO INCLUDE MARITIME DOMAIN
- NEED FOR COASTAL SECURITY WILL GROW WITH IMPENDING **EXTENSION OF EEZ (200NM -350NM ) , SAGARMALA & BLUE ECONOMY**
- COASTAL SECURITY BILL 2013- PUT UP TO THE PARLIAMENT BY NAVY /CG – passed recently
- DOMESTIC ANTI PIRACY BILL - 2018 passed recently
- **A SEPARATE CADRE OF SECURITY PROFESSIONALS IN THE CIVIL SERVICES IS REQUIRED**
- BETTER OPERATIONAL AND TACTICAL LEVEL MARITIME /COASTAL INTELLIGENCE REQUIRED . **HUMINT & TECHINT NEEDS IMPROVEMENT**

# CONCLUSION

- **COUNTER TERRORISM IN THE COUNTRY IS POLICE ORIENTED**
- **INDUCTION OF COAST GUARD AND NAVAL OFFICERS REQUIRED TO ADDRESS MARITIME TERRORISM**
- **MORE EMPHASIS ON MARITIME LAW .**
- **MARITIME COURTS NEEDED**
- **'NATIONAL MARITIME SECURITY COORDINATOR' APPOINTED**



FIRST INDIGENOUS CARRIER - IAC1 - INS VIKRANT – COMMISSIONED AT KOCHI IN SEPT 2022





SHANGONG



- CHINA MAY EVENTUALLY HAVE 6- 10 CARRIERS
- NOT ALL REQUIRED FOR SOUTH CHINA SEA
- RECLAIMED SEVERAL ISLANDS IN THE PARACEL & SPRATELY GROUP COMPLETE WITH AIRFIELDS , FIGHTER AIRCRAFT , ANTI –SHIP MISSILES AND AIR DEFENCE SYSTEMS

CHINA – CARRIER GROUP –IOR / INDIAN OCEAN FLEET

# CONCLUSION

- CHINA AT OUR DOORSTEP
- CHINA – PAKISTAN COLLUSION
- INTERNAL SECURITY PROBLEM
- LESSONS OF PANDEMIC
- LESSONS OF RUSSIA UKRAINE WAR
- DEFENCE BUDGET < 2% NEEDS TO BE INCREASED

WISHING YOU FAIR WINDS AND CALM SEAS

MAY LORD VARUNA , THE LORD OF THE SEAS ,ALWAYS BE WITH YOU .



**THANK YOU**



## CONCLUSION

MARITIME CYBER THREAT WILL ONLY GROW WITH DIGITISATION

**BIGGEST ASYMMETRIC THREAT AT SEA –**

**-WITH OUT A SHOT BEING FIRED**

**- WITH OUT CROSSING BORDERS**

CAT & MOUSE GAME

### **HYBRID THREAT**

CYBER THREAT- MARITIME

INFORMATION WARFARE

ELECTRONIC WARFARE

NETWORK CENTRIC WARFARE

PROXY WAR

DRONE WARFARE

PSY-OPS

SOCIAL MEDIA CAMPAIGN

NO WAR DECLARED  
SPECIAL MILITARY OPS  
LAW OF ARMED CONFLICT  
BLOCKADE OF SEVASTOPOL AND KERCH STRAIT

TREATY OF MONTREUX 1936

ATTACK ON SHIPS AND SEA FARERS – GENEVA CONVENTION

GLOBAL SUPPLY CHAIN  
FOOD – WHEAT , CORN  
INSURANCE







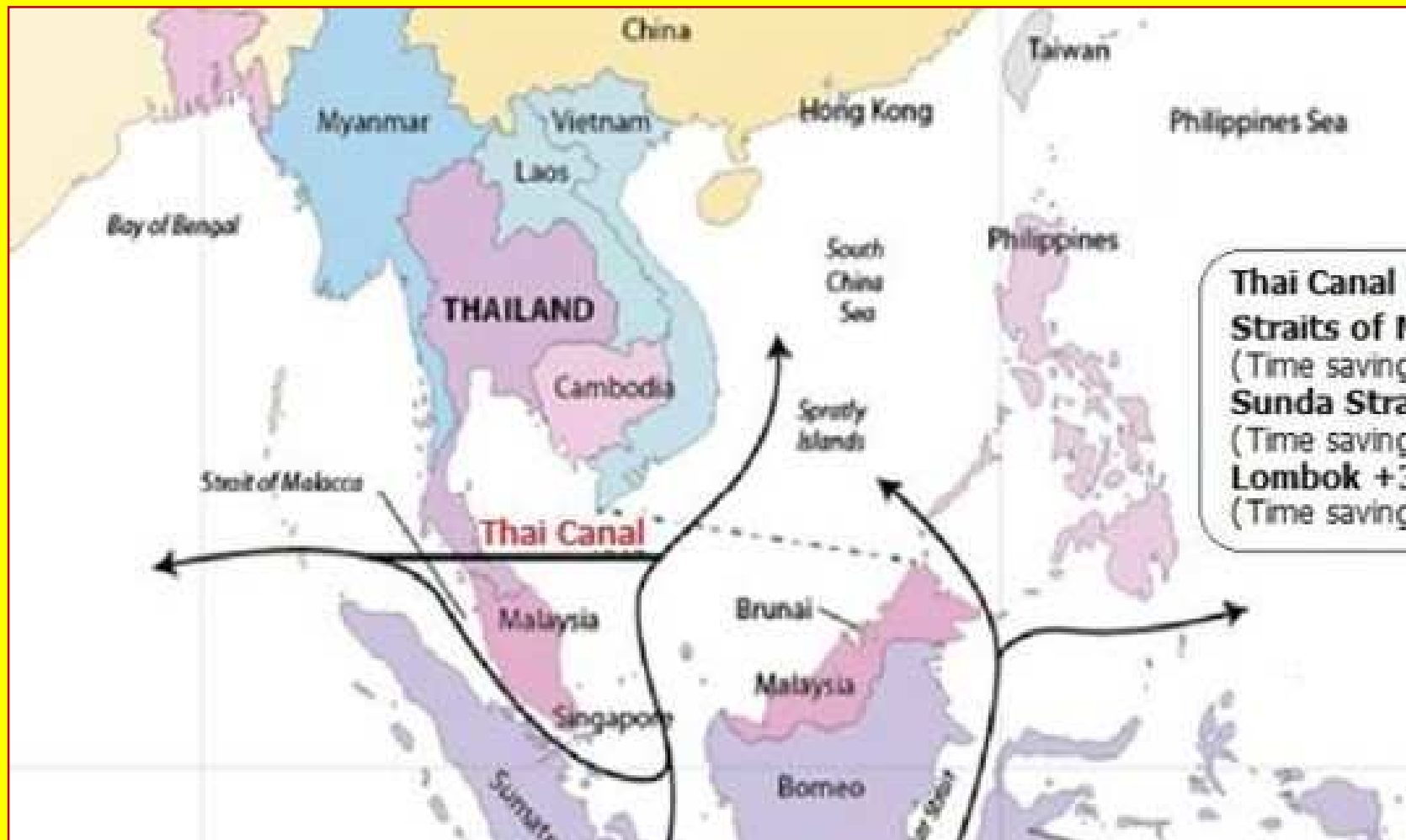




## SOUTHERN HOT SPOT

SRILANKA ,MALDIVES

LAKSHWADEEP ,BHATKAL ,KASARGOD



## PANDEMIC & SEA FARING

SAILORS - CREW CHANGE

PRICES SHOT UP

INSURANCES SHOT UP

GLOBAL SUPPLY CHAIN AFFECTED

FOOD SHORTAGES

SHORTAGE OF CONTAINERS

PORT DISRUPTIONS

CUSTOM CLEARANCES SLOWED DOWN