

# Non-Traditional Threats in Western Indian Ocean Region

M UMER KHAN


VISITING RESEARCH SUBJECT MATTER EXPERT- SANDIA NATIONAL LABS  
GRADUATE - MIDDLEBURY INSTITUTE OF INTERNATIONAL STUDIES (MIIS) AT MONTEREY

SAND2016-6673PE

1



# Outline

- ▶ Introduction and Scope of the Study
  - ▶ Defining Non- traditional Maritime Threats
  - ▶ Smuggling Routes and Cartels – Supply Side
  - ▶ Motivations of Terrorist Groups - Demand Side
  - ▶ Conclusion
  - ▶ Recommendations
  - ▶ Future Projects
- 

# Scope and Purpose

3

To analyze the potential for nuclear and radiological trafficking by studying the different smuggling patterns, trade routes, and non-state actors operating in western Indian Ocean Region(IOR)

# Indian Ocean - An introduction

- ▶ Connects three major land masses: Africa, Asia and Australia
  - ▶ Sub regions :
    - Middle East and Gulf
    - Red Sea and Horn of Africa
    - East Africa and Sub-Sahara
    - South Asia
  - ▶ Major Conflicts:
    - Insurgency in Yemen and Pakistan (Baluchistan province)
    - India – Pakistan conflict, Iran – Saudi Arabia proxy wars and East African civil wars
    - Non State Actors such as Islamic State, Al-Qaeda in Indian Subcontinent, Al-Shahab Group and Al- Qaeda in Arab Peninsula
    - Multiple humanitarian crisis
- 

# Non- traditional Maritime Threats

5

- ▶ Small Arms and Light Weapons
  - African economy lost 18 billion dollars due to perennial conflicts
  - Iranian support to Houti insurgents
- ▶ Narcotics trafficking
  - 3 billion trade in Afghanistan
  - 40 percent is trafficked via Arabian Sea
  - Africa: a trans-shipping point
- ▶ Piracy
  - ▶ Since 2008, 581 reported attacks by pirates
  - ▶ Only Two attempted attacks in 2016



# Non- traditional Maritime Threats

6

## ▶ Maritime Terrorism

- 2000: USS Cole attack in the Gulf of Aden
- 2001: Tamil Tankers a boat into MV Silk Pride
- 2002: Attack on Limburg oil tanker
- 2008: Mumbai attacks
- 2014: Attack on Pakistani Navy frigate



## ▶ Proliferation

- Missiles shipment from North Korea to countries in South Asia, South East Asia and Middle East
- Chinese exports of missiles to Saudi Arabia
- Interdiction of *BBC China* – AQ Khan Network



# International Task Forces in IOR

7

- ▶ Combined Task Force 150: promote maritime security to counter terrorist acts and related illegal activities, which terrorists use to fund or conceal their movements
- ▶ Combined Task Force 151: Established in 2009 specifically to run counter-piracy operations
- ▶ EU naval task force: Prevent and repress acts of piracy and armed robbery off the Somali coast
- ▶ NATO's Operation Shield: Works with other task force to deter piracy



# Traditional Smuggling Routes

8

Countries	States/Provinces	Cities
India	Gujrat(1 600 km)	Kandla, Gulf of Kutch Porbandar, Veraval, Jamnagar and Surat
	Karnataka	Mangalore, Ullal, Malpe and Karwar
	Maharashtra(720 km)	Shekadi coast (Raigad), Mumbai port
Pakistan	Baluchistan	Jeewani, Gawadar, Pasni, Ormara, Gaddani
	Sindh	Keti Bandar (Thatta), Mauripur(Karachi)
Oman	-	Mutrah
Tanzania		Tanga, Zanzibar and Dar es Salam
Yemen		Mocha
	State of Hadhramaut	Mukalla
Somalia		Kismayu
Djibouti		Obock
Kenya	-	Mambosa

# Illicit goods exchanged at Sea





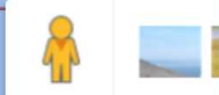
Search Google Maps

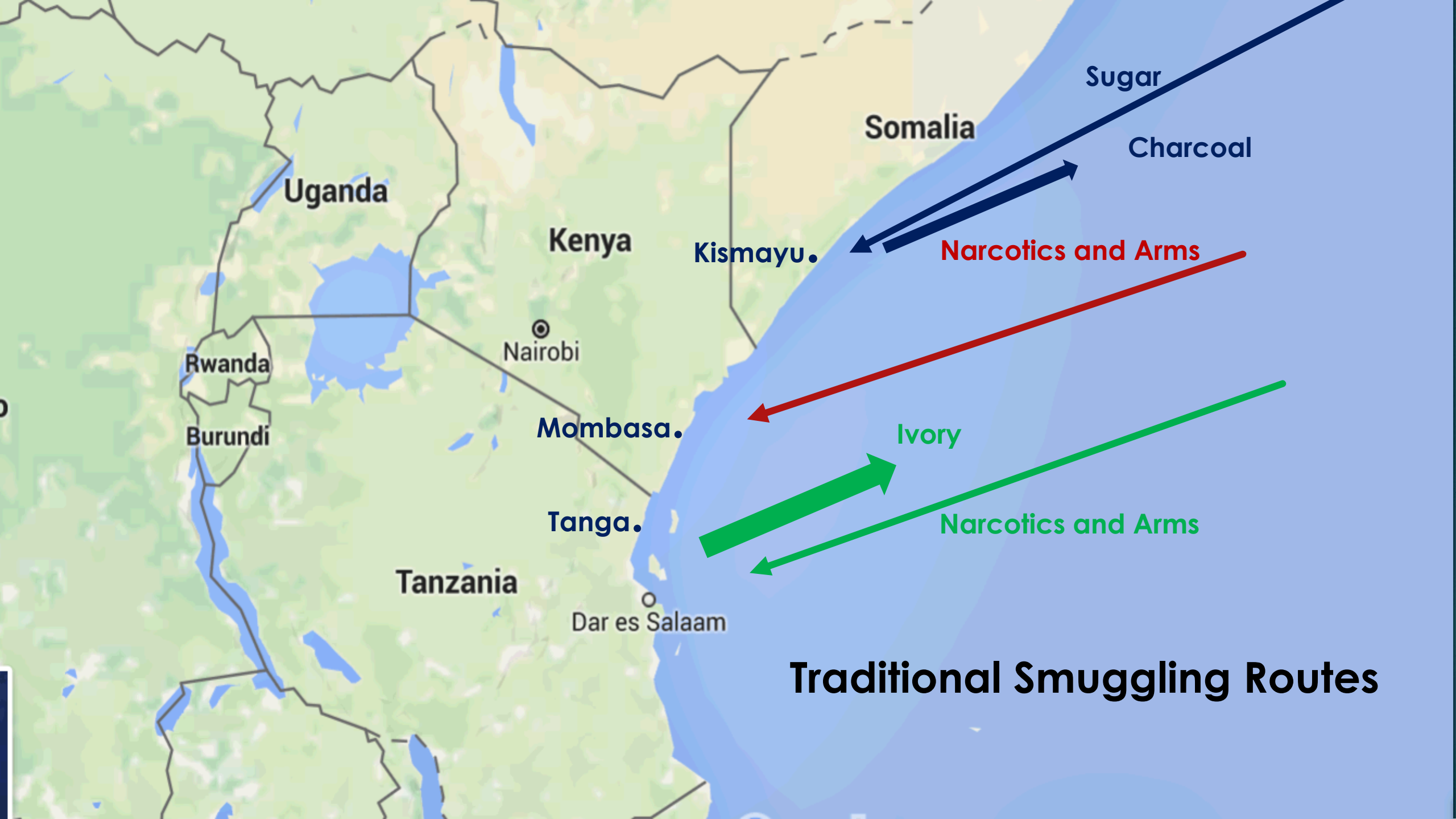


# Traditional Smuggling Routes



Earth





Uganda

Rwanda

Burundi

Tanzania

Kenya

Nairobi

Mombasa.

Tanga.

Dar es Salaam

Somalia

Kismayu.

Sugar

Charcoal

Narcotics and Arms

Ivory

Narcotics and Arms

Traditional Smuggling Routes

# Demand Side – Motivation of terrorist groups

12

## ➤ Threats :

- South Asia bedeviled by terrorism
- Threat of Spectacular Attack
- ISIS outshining Al- Qaeda
- Al Qaeda created its South Asian Wing
- Cooperation between Pakistani Taliban, Al – Qaeda and Indian centric Jihadi militants

## ➤ Incidents reflect potential vulnerabilities:

- 2,477 incidents of nuclear and radiological material out of regulatory control from January 1993 to December 2013 (Source: IAEA ITDB)



# Incidents of Nuclear/ Radiological Smuggling

13

- ▶ 2015: Beryl mineral smuggling racket in India
- ▶ 2015: Nuclear material seized from Mosul University
- ▶ 2015: Attempted sale of Cesium-137 to ISIS in Moldova
- ▶ 2014: Surveillance of nuclear scientist conducted by ISIS in Belgium
- ▶ 2013: Leftist guerilla group procured uranium in India
- ▶ 2012: Taliban threatened to attack nuclear site in Pakistan
- ▶ 2010: Yemen radioactive stocks 'were easy al-Qaida target
- ▶ 2007: Attack on irradiation facility in Indian administrated Kashmir
- ▶ 2003: Jamaat-ul-Mujahideen bought 225 grams of uranium in India



# Radioisotopes - Potential Security Risks

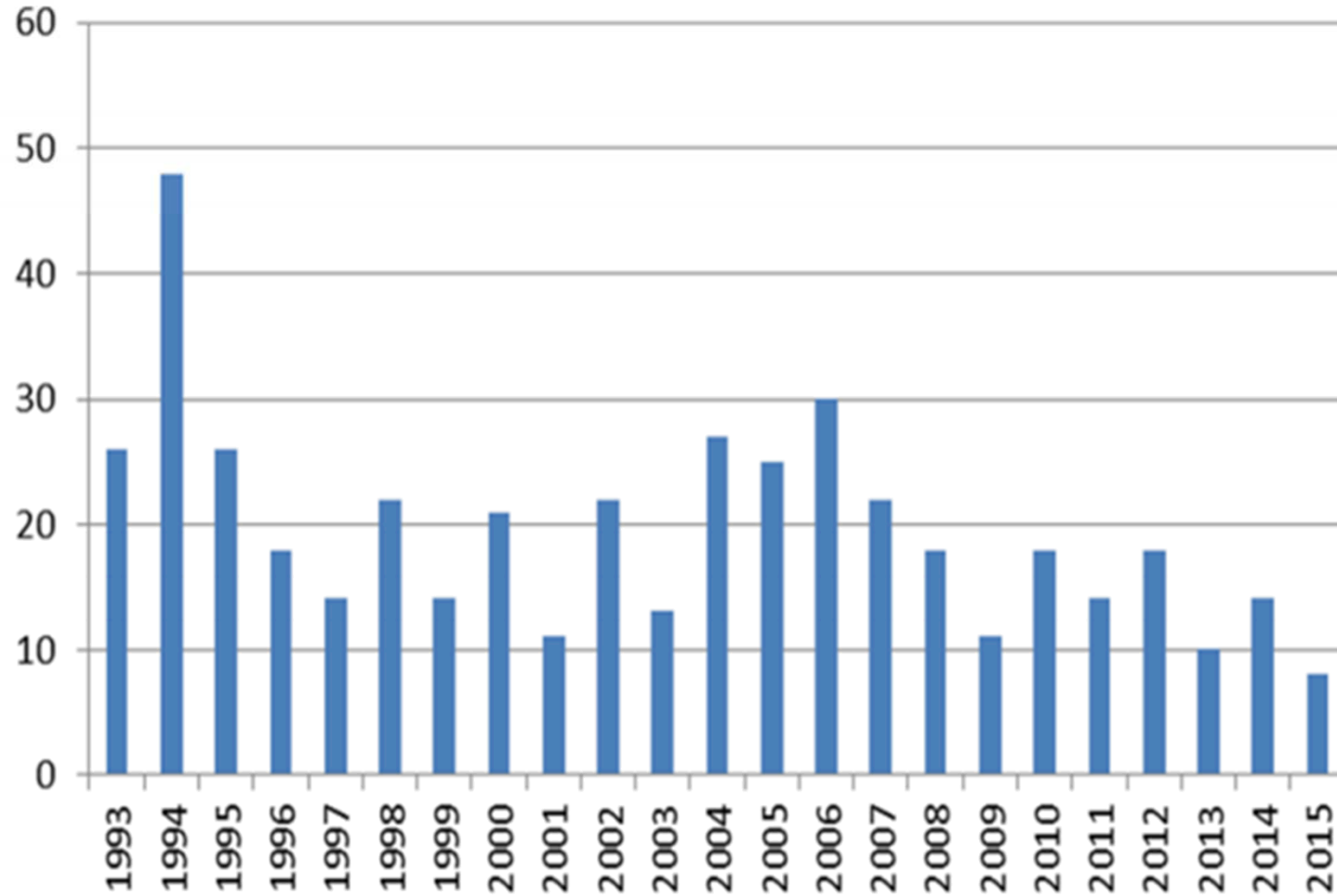
14

Radioisotope	Half-Life	Specific Activity (Ci/g)	High Energy Alpha Emissions	High Energy Beta Emissions	High Energy Gamma Emissions
Cobalt-60	5.3 years	1,100	N/A	Low Energy	Yes
Cesium-137 (Barium-137m) <sup>a</sup>	30 years (2.6 min)	88 (540 million)	N/A	Low Energy (Low Energy)	N/A (Yes)
Iridium-192	74 days	>450 (std) >1,000 (high)	N/A	Yes	Yes
Strontium-90 (Yttrium-90) <sup>b</sup>	29 years (64 hours)	140 (550,000)	N/A	Yes (Yes)	N/A (Low Energy)
Americium-241	433 years	3.4	Yes	No	Low Energy
Californium-252	2.7 years	536	Yes	No	Low Energy
Plutonium-238	88 years	17.2	Yes	No	Low Energy

# IAEA's Incident and Trafficking Database

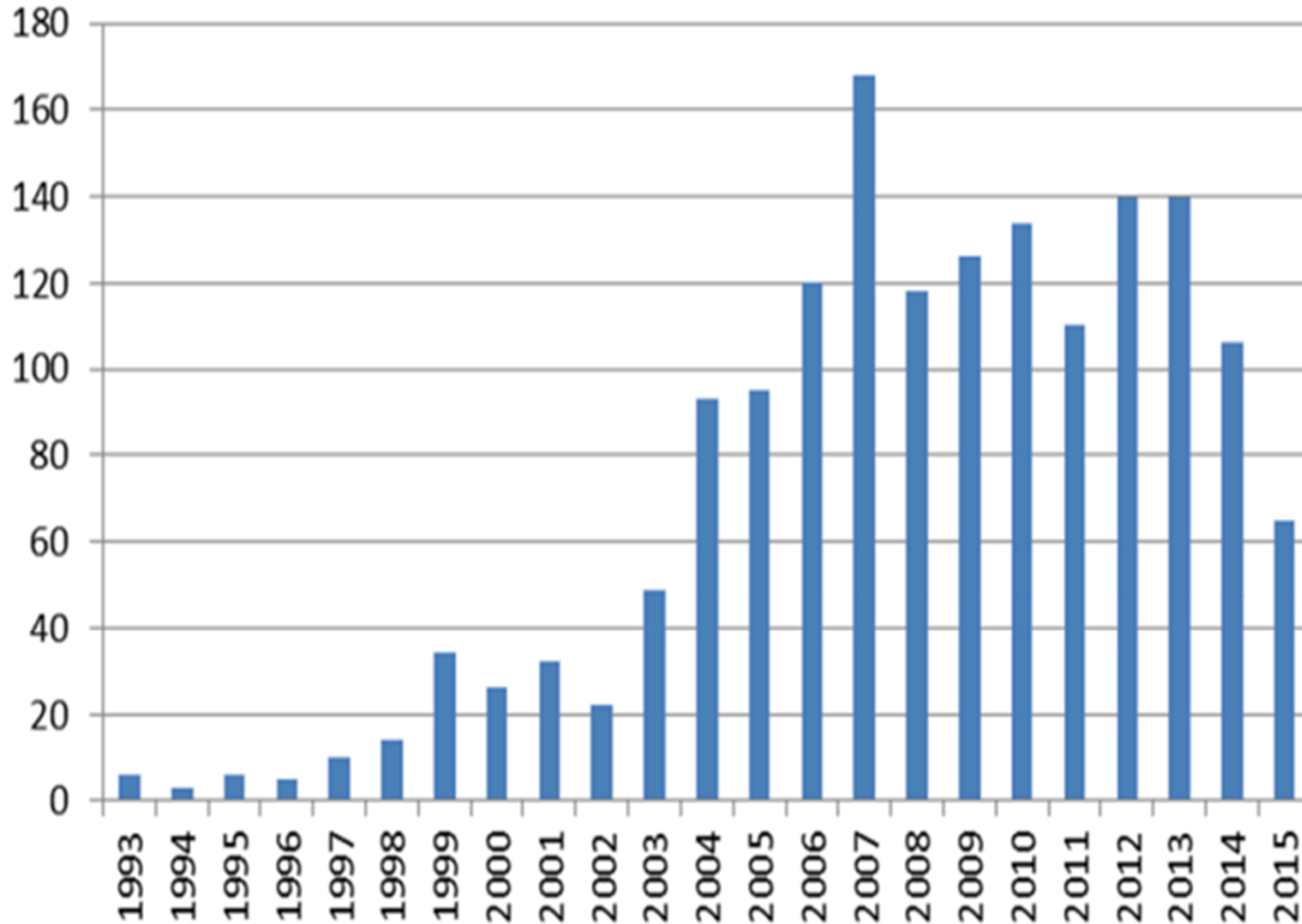
15

**Confirmed incidents involving unauthorized possession and related criminal activities, 1993–2015**



# IAEA's Incident and Trafficking Database

16



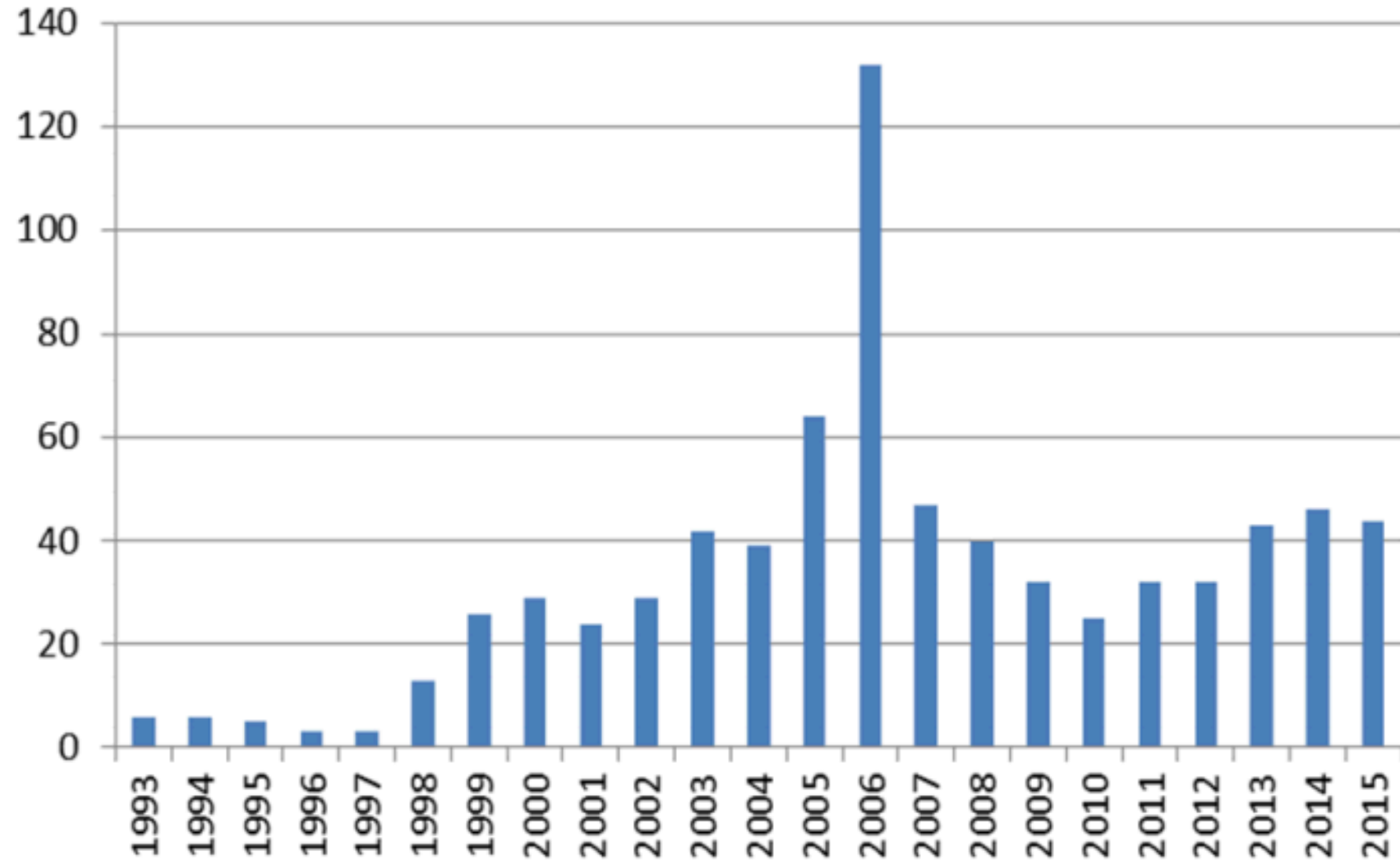
Other Incidents:

- Unauthorized disposal
- Unauthorized shipment
- Discovery of radioactive material

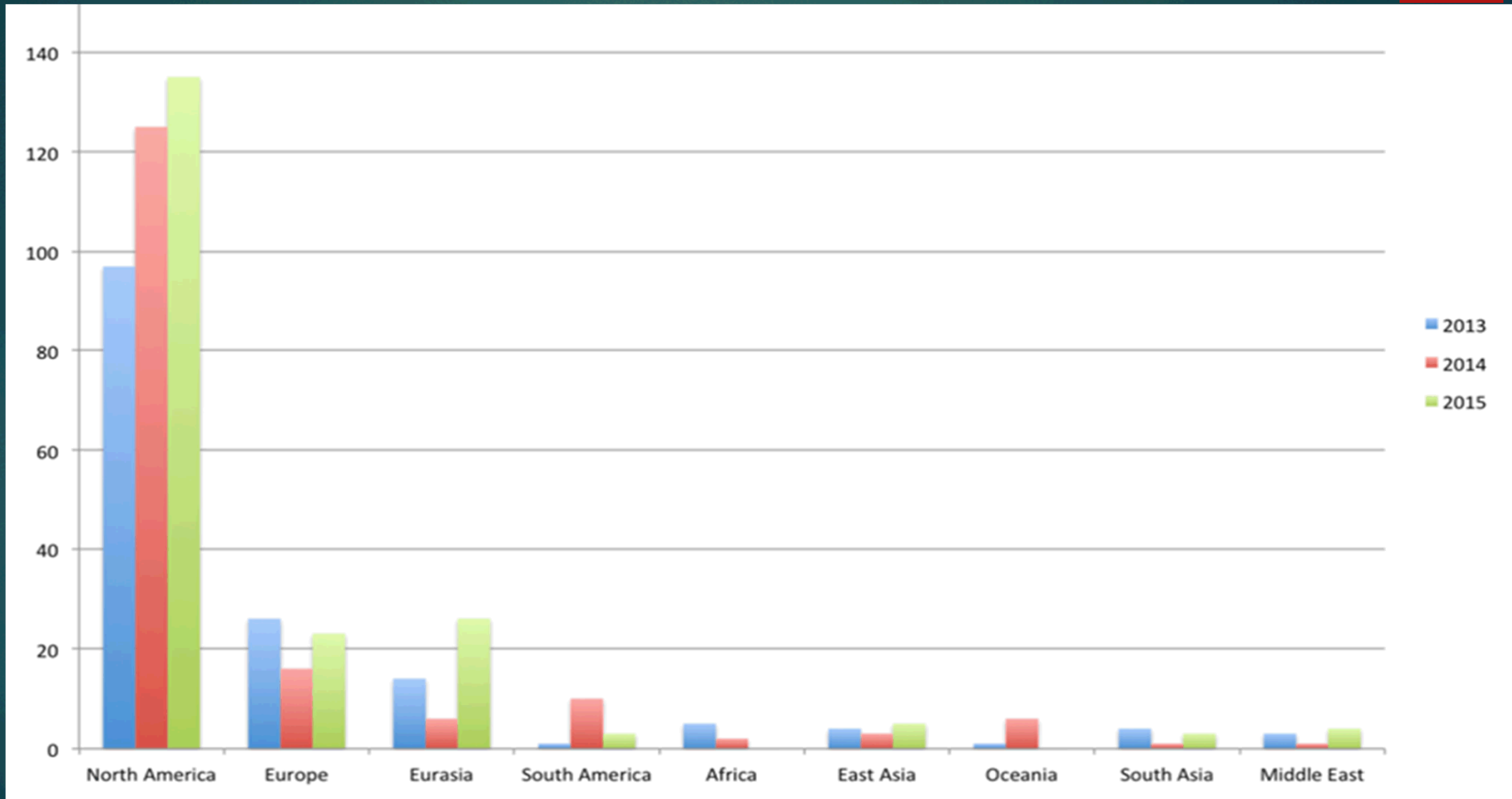
# IAEA's Incident and Trafficking Database

17

**Confirmed incidents involving theft or loss, 1993–2015**



# Variable Nuclear Security Culture



# Conclusions

19

- ▶ Lack of threat appreciation from maritime smuggling
- ▶ Criminals piggy backing on smugglers to fund their activities
- ▶ Law and order issues stems from conflicts
- ▶ Need to implement laws, regulations, and policies to combat illicit trafficking of nuclear and other radioactive material
- ▶ Lack of fishing policies and other employment opportunities forces fisherman to partake in illegal activities
- ▶ Underestimating the motivations of the terrorist groups operating in the region
- ▶ Lack of training and capability of coast guards in IOR

# Recommendations

20

- ▶ Comprehensive study to encourage states to develop regional INCSEA agreements
  - Only cooperation will build trust to go after malevolent non-state actors
- ▶ Global Water Watch Way
  - Public outreach program to ensure information gathering
- ▶ Mechanism to identify and geo-locate small vessels
  - Automatic Identification System(AIS)
- ▶ Shared Indian Ocean littoral States Surveillance Systems
  - Integrated database to share real time data



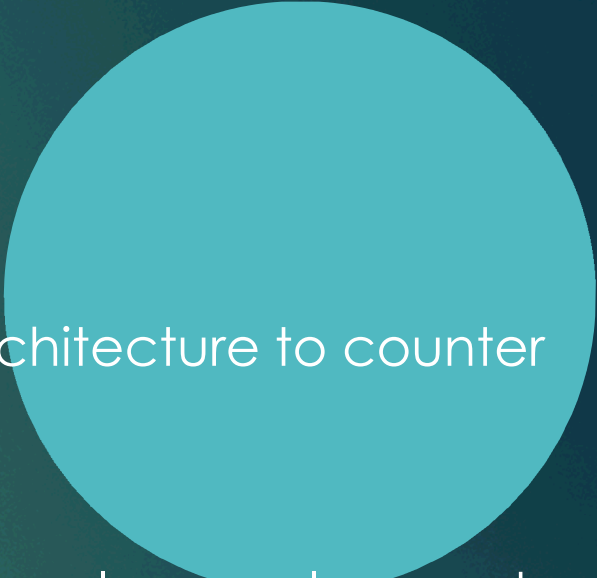
# Recommendations

21

- ▶ Capacity building of Coast Guards and Maritime Security Agency
  - DoE / NNSA can take the lead since IAEA is cash starved and under-resourced
- ▶ National Small Vessel Voluntary Reporting System
  - Incentivize owners to register their fishing schedules
- ▶ Enhancing the role of International task forces to interdict nuclear smuggling
  - Intelligence can be furnished by countries and Interpol
- ▶ Development of ship mounted and all terrain radiation detection technology
  - DOE national labs, IAEA and DNDO can work together/parallel on R&D

# Recommendations

22

- ▶ Use of crisis/crime Informatics Software
    - Designed to map information for first responders in support of humanitarian aid/disaster relief (HADR) operations
  - ▶ Development of Maritime Risk Reduction Centers
  - ▶ Encouraging IOR states to develop a national level detection architecture to counter nuclear smuggling capability
  - ▶ Nudging IOR states to develop nuclear forensics capabilities to analyze nuclear and other radioactive material discovered out of regulatory control
  - ▶ Conducting trainings at Center of Excellence(CoE) for Nuclear Security
    - First responders must be given hands on training to operate nuclear and radiological smuggling
- 

# Future Projects

23

- ▶ Conduct a comparative study of the capability of US coast guards and other coast guards in IOR to suggest potential areas of cooperation
- ▶ Reach out to opinion makers to discuss threat of maritime nuclear and radiological smuggling in Track -2 dialogue
- ▶ Hold table top exercises among retired coast guards, naval officers and experts to make them cognizant of nuclear and radiological smuggling
- ▶ Encourage international maritime security exercises between coast guards of IOR states including Search and Rescue and Interdiction procedures

# Sources

24

- ▶ [Small Arms and Light Weapons : African economy lost 18 billion dollars due to perennial conflicts](#)

Beyond Boundaries in Eastern Africa: Bridging the Security/ Development Divide With International Security Assistance By Brian Finlay, Johan Bergenas, and Veronica Tessler ( Stimson Center)

[http://www.operationspaix.net/DATA/DOCUMENT/4393~v~Beyond\\_Boundaries\\_in\\_Eastern\\_Africa\\_\\_Bridging\\_the\\_Security\\_\\_Development\\_Divide\\_With\\_International\\_Security\\_Assistance.pdf](http://www.operationspaix.net/DATA/DOCUMENT/4393~v~Beyond_Boundaries_in_Eastern_Africa__Bridging_the_Security__Development_Divide_With_International_Security_Assistance.pdf)

- ▶ [Narcotics trafficking 3 billion trade in Afghanistan](#)  
[http://www.nytimes.com/2016/05/04/world/asia/taliban-afghan-poppy-harvest-opium.html?\\_r=0](http://www.nytimes.com/2016/05/04/world/asia/taliban-afghan-poppy-harvest-opium.html?_r=0)

- ▶ [Piracy: Since 2008, 581 reported attacks by pirates](#)  
Eu naval force somalia - Operation Atalanta facts and figure <http://eunavfor.eu/key-facts-and-figures/>

- ▶ Proliferation Routes

- [Missile Proliferation from North Korea to countries in South Asia, South East Asia and Middle East](#)  
<https://www.armscontrol.org/factsheets/northkoreaprofile>
- [Chinese exports of missiles to Saudi Arabia](#)  
<http://www.nytimes.com/1988/03/19/world/spread-of-ballistic-missiles-troubles-us.html>
- [Interdiction of BBC China – AQ Khan Network](#)  
<http://news.bbc.co.uk/2/hi/3481499.stm>



# Sources

25

- ▶ Beryl mineral smuggling racket in India

<http://indianexpress.com/article/india/india-news-india/atomic-material-smuggling-racket-busted-rajasthan-ats-arrests-six/>

- ▶ Nuclear material seized from Mosul University

<https://fas.org/pir-pubs/isil-radioactive-threat/>

- ▶ Attempted sale of Cesium-137 to ISIS in Moldova

<http://www.theatlantic.com/international/archive/2015/10/moldova-nuclear-weapons-isis/409450/>

- ▶ Surveillance of nuclear scientist conducted by ISIS in Belgium

[http://www.nytimes.com/2016/02/19/world/europe/belgium-nuclear-official-video-paris-attacks.html?\\_r=1](http://www.nytimes.com/2016/02/19/world/europe/belgium-nuclear-official-video-paris-attacks.html?_r=1)

- ▶ Leftist guerilla group procured uranium in India

<http://indianexpress.com/article/india/india-news-india/atomic-material-smuggling-racket-busted-rajasthan-ats-arrests-six/>

# Sources

26

- ▶ [Leftist guerilla group procured uranium in India](#)

<http://indianexpress.com/article/india/india-news-india/atomic-material-smuggling-racket-busted-rajasthan-ats-arrests-six/>

- ▶ [Taliban threatened to attack nuclear site in Pakistan](#)

<http://tribune.com.pk/story/432295/taliban-threat-nuclear-site-in-dg-khan-cordoned-off/>

- ▶ [Yemen radioactive stocks 'were easy al-Qaida target](#)

<https://www.theguardian.com/world/2010/dec/19/wikileaks-cables-yemen-al-qaida>

- ▶ [Attack on irradiation facility in Indian administrated Kashmir](#)

<http://www.newsweek.com/india-nuclear-sites-rock-roll-426134>

- ▶ [Jamaat-ul-Mujahideen bought 225 grams of uranium in India](#)

<http://www.newsweek.com/india-nuclear-sites-rock-roll-426134>



# Sources for Areas of Concern- Smuggling Routes

27

- ▶ India Smuggling Area of Concern

<http://www.idsa.in/system/files/Monograph22.pdf>

- ▶ Pakistan Smuggling Area of Concern

Pakistani custom officers

The Transnational Security Threat from D- Company ( Authors: Dr. Sharad Joshi , Gretchen Peters and Phil Williams

- ▶ Yemen

<http://www.aljazeera.com/news/2016/05/war-yemen-13-al-qaeda-fighters-killed-mukalla-160522121341333.html>

- ▶ Somalia

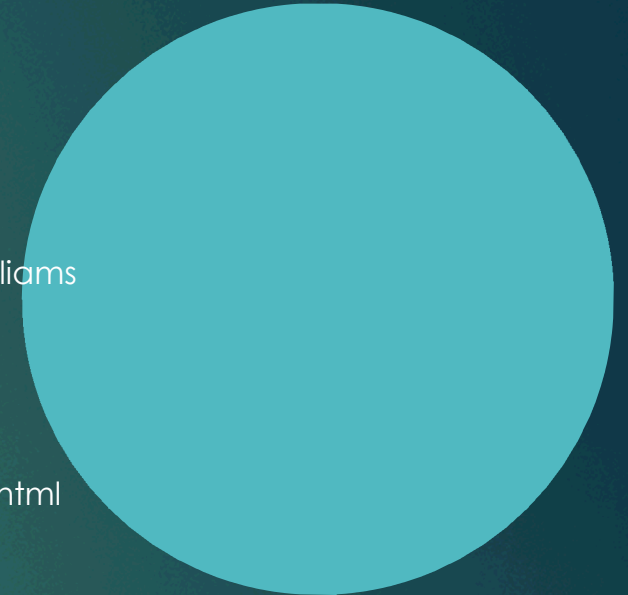
<http://www.reuters.com/article/us-somalia-kismayu-port-idUSBRE9B305R20131204>

- ▶ Kenya

<http://www.economist.com/news/middle-east-and-africa/21678914-army-denies-splitting-profits-400m-smuggling-industry-al-qaedas>

- ▶ Tanzania

<https://eia-international.org/wp-content/uploads/EIA-Vanishing-Point-lo-res1.pdf> page 9 elephant poaching . Ivory was found in Colombo, Phillipines, Manila, Hai Phong (Vietnam) 2009



Thanks

