



# Capacity Building as an answer to **Piracy**

By Professor Alex Bordetsky and Ioannis  
Nellas



# Outline

- ✓ **Introduction**
- ✓ **Capacity Building**
- ✓ **New Ideas in MIO**
- ✓ **Scenario**
- ✓ **Economic Approach**
- ✓ **Conclusions**



# Research Objective

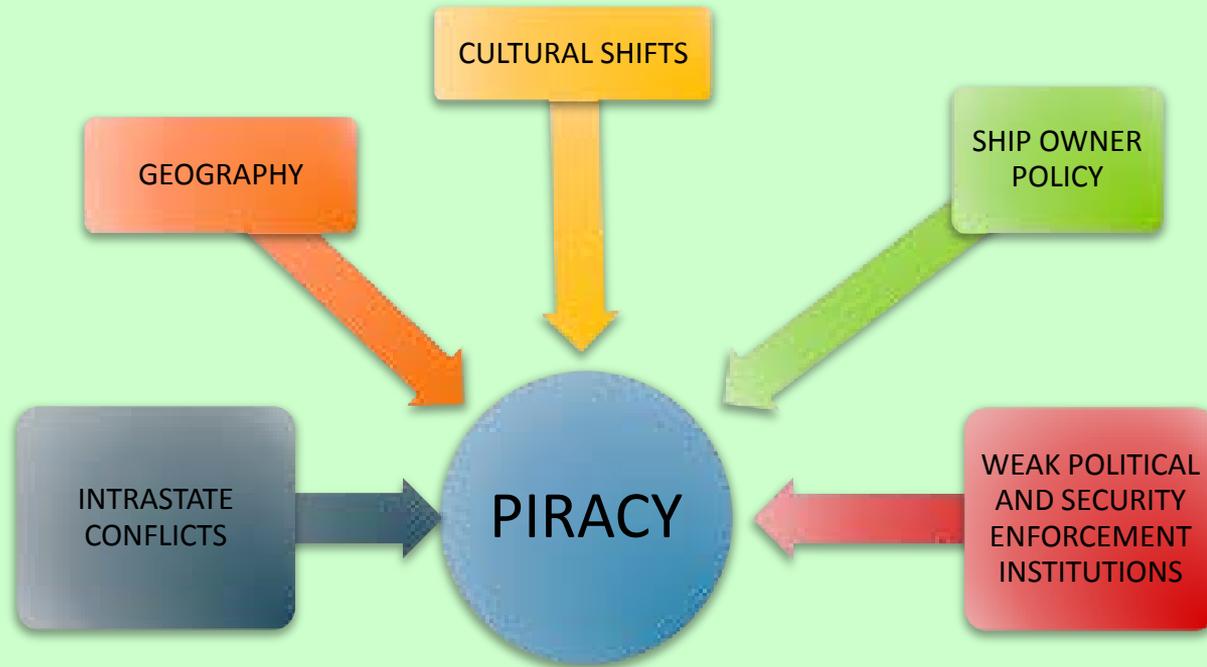
**The main research objective of this thesis was to propose an innovative capacity building strategy which most likely would produce a solution to the piracy problem in the Horn of Africa.**



# Piracy Today

- ✓ More than **25** countries are engaged into fighting piracy
- ✓ The current methods of addressing piracy are **partially** effective since a high number of piracy attacks still occurs
- ✓ Economic **bi-products** of piracy annually lie in the scale of 10 \$ billions
- ✓ The average annual cost of naval deployments exceeds **\$ 0.5 billions**

# Origins of Piracy in the HoA





# What is Capacity Building

Capacity building can be defined as:

Planned development of (or increase in) knowledge, output rate, management, skills, and other capabilities of an organization through acquisition, incentives, technology, and/or training

**From:** Business Dictionary, <http://www.businessdictionary.com/definition/capacity-building.html>

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# Capacity vs Capability

## Capability:

- ✓ The ability to produce a measurable effect
- ✓ Demonstrated under specific conditions and standards, with proper equipment
- ✓ Not merely a military term



# Capacity vs Capability

## Capacity:

- ✓ Starts with a demonstration of capability
- ✓ The ability to execute a capability on call, again and again, over time

**Capacity is Capability, fortified with additional resources**

# Piracy in the Long term

The high cost of piracy generates a sustainability issue which in the long run would lead all the involved countries to pursue alternative methods of tackling piracy which includes the implementation of innovative concepts in a pioneering fashion



# Capacity Building Strategy

A successful Capacity Building Strategy should be dictated by the following features:

- ✓ An “innovative non kinetic policy” which includes the utilization of cutting edge technological assets
- ✓ Enhancement of the role of regional countries
- ✓ Strengthening of local security institutions (police, coastguard)



# Capacity Building Strategy

The establishment and operation of a ***Fusion Center*** that gathers all the data coming from the assets in the area and through proper evaluation classifies and forwards the proper information to the Command would provide a significant advantage to the fight against pirates

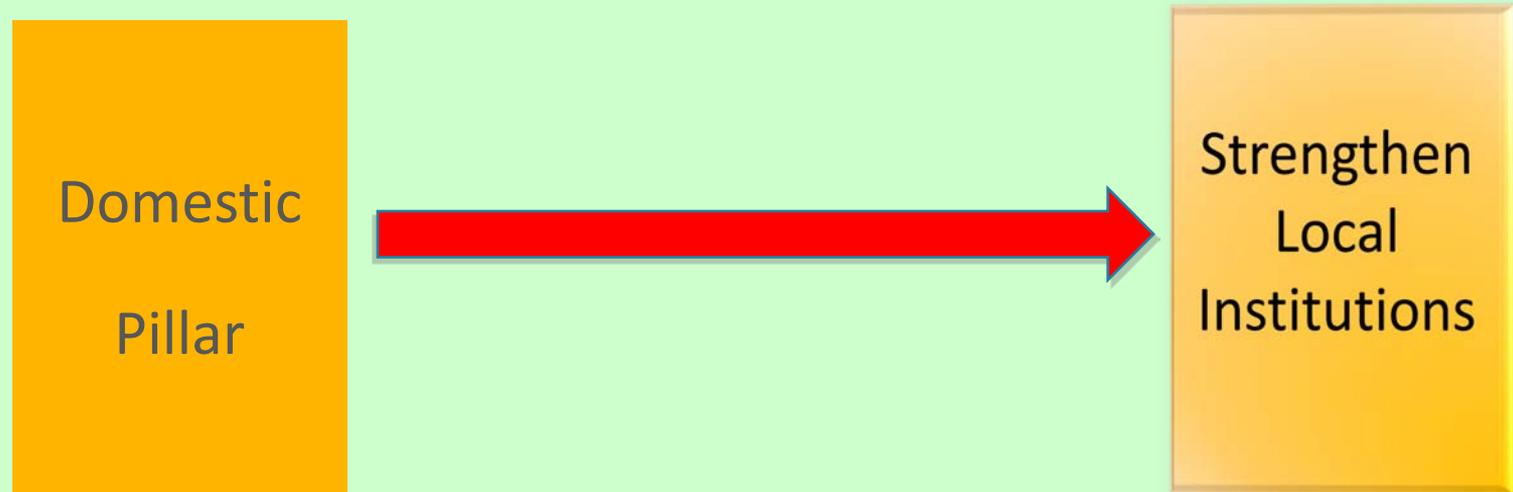
# Necessary Precondition is Coordination



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# Capacity Building Strategy



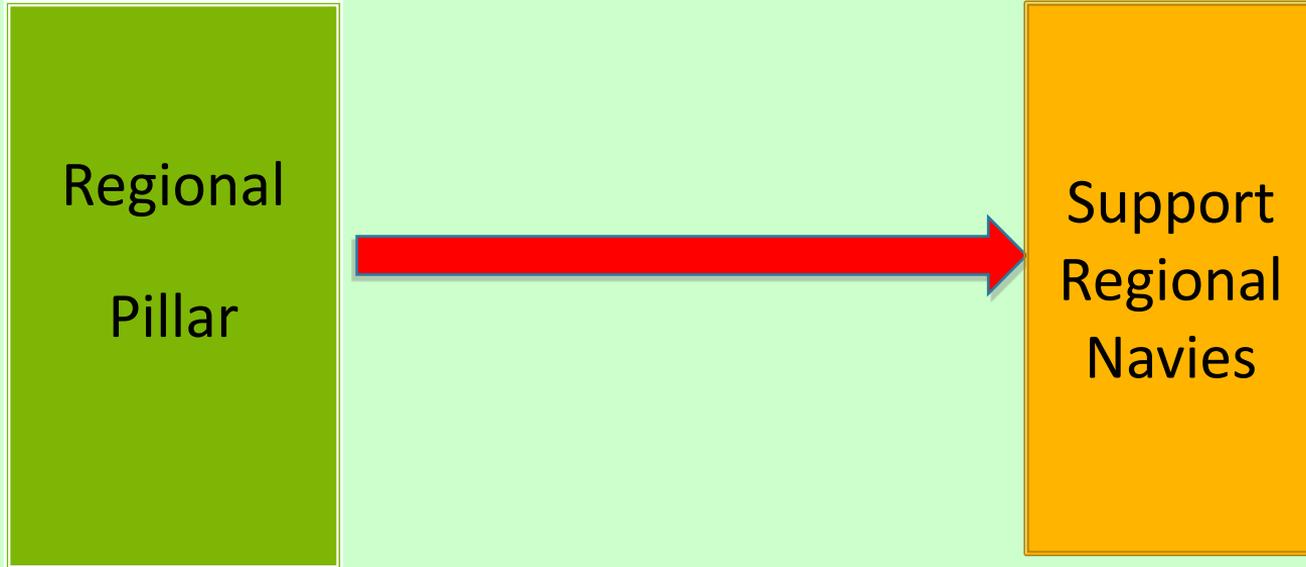


# Domestic Pillar

- ✓ Support local economies and provide incentives to young Somalis to reject the prospect of becoming pirates
- ✓ Support existing political entities (i.e Somaliland , Puntland)by providing equipment and cultivating the “*know how*” of tackling piracy



# Capacity Building Strategy



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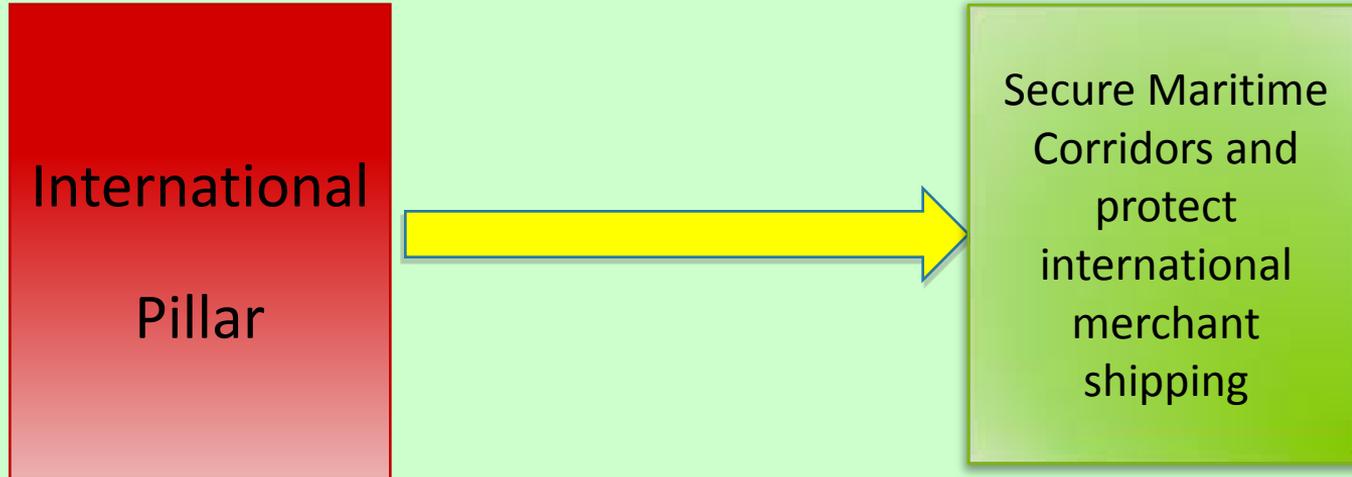


# Regional Pillar

The international community should support and train accordingly navies from regional countries through institutions specialized in anti-piracy training i.e NMIOTC



# Capacity Building Strategy





# International Pillar

- ✓ Currently more than 25 countries are contributing naval forces to address piracy
- ✓ The UN have issued resolution UNCSR 1851 which allows pursuit of suspected pirate ships inside Somali territorial waters by foreign non – Somali naval units



# International Pillar

- ✓ Obvious solution would come from a direct intervention from the international community by deploying ground forces and establishing local peace and order (building a sovereign state )
- ✓ Political situation has reached a stalemate since 1992
- ✓ Governments are very hesitant to deploy ground forces since they would have to face severe political cost



# What's next?

- ✓ Horn of Africa is strategically important
- ✓ Considering the political situation only a limited number of actions are available in order to address the piracy issue permanently
- ✓ Main priority is to secure the Sea commons efficiently



# What's next?

- ✓ An efficient course of action aiming in securing the sea commons should be followed
- ✓ The high economic cost which comes from tackling piracy generates a sustainability issue that would lead the involved countries to pursue alternative methods of tackling piracy



# Course of Actions

In order to secure the Sea commons an innovative capacity building strategy should be instigated pursuing the integration of innovative technological assets



# Innovative Technological Assets

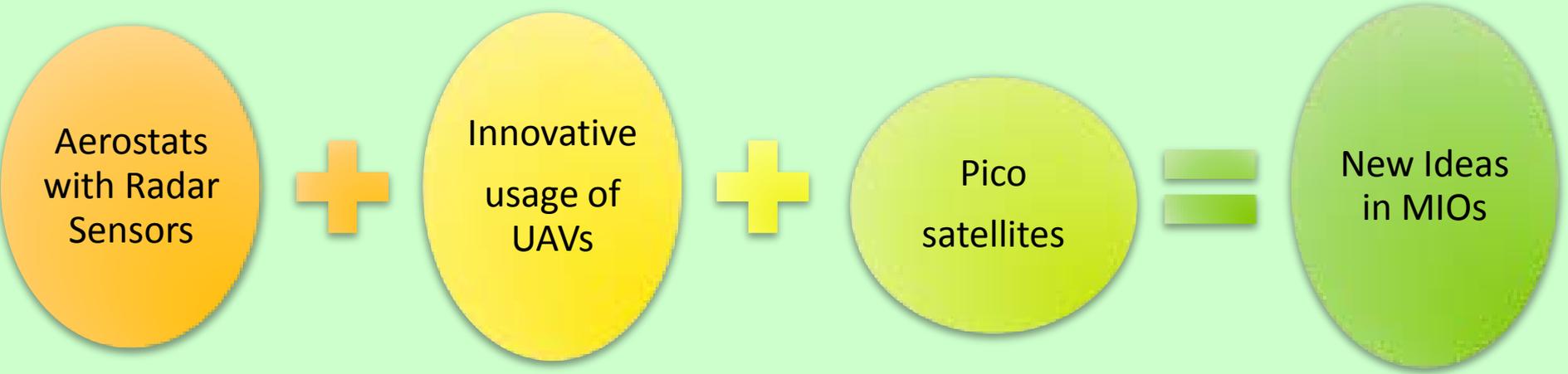
***Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur***

By Giulio Douhet, an Italian strategist in 1921

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# New Ideas in MIOs





# Aerostats in MIOs

Advantages from using Aerostats:

- Payload Flexibility
- Sea based Asset- Mobility
- Body of knowledge available
- Low Economic Cost
- Persistent Surveillance



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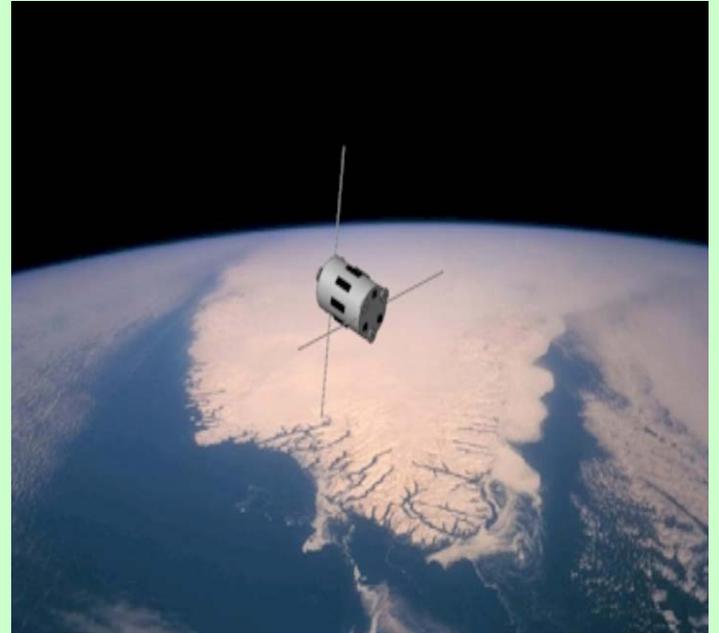
# Aerostats in MIOs

- ✓ The only caveat when utilizing aerostats is when strong winds are blowing in the Area of Operations
- ✓ The intriguing challenge is the acquisition of a 3D radar which satisfies operational needs and can offer credible Recognized Maritime Picture



# Picosatellites in MIOs

- 4-6 picosatellites can offer global coverage
- Cost of re-launching is acceptable and can reach up to thirty times
- Ground stations can be all over the world
- Not geographically and jurisdictionally constrained
- Can stay in orbit up to 70 days offering persistent maritime surveillance



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# Innovative Usage of UAVs

- Low economic cost
- Already available
- Small size
- Pre-boarding checks
- Integration of various sensors
  - IR
  - Synthetic Aperture Camera
  - Light WMD sensor



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# Conceptual Model

Piracy occurs in the high seas, it is very difficult to test proposed conceptual models, consequently an initial scenario was developed in order to determine if there is any potential on the discussed research



# Scenario Hypothesis

The establishment of an aerial monitoring system consisting of aerostats mainly and other unmanned aerial vehicles along the Somalia coast, supported by a minimum number of naval assets and a stronger command and control system.



# Long term objective

The end objective is to produce a conceptual model which would provide a solution characterized by the following features:

- Cost effectiveness
- Advanced Technologically
- Participation of regional countries

# Area of Operations





# Cost Benefit Approach

- ✓ Very difficult to accurately compute the total economic cost of the naval deployments
- ✓ There are many indirect costs which cannot be accurately defined



# Cost of Naval Deployments

- ✓ Around thirty ships in the area of operations
- ✓ Average deployment cost of a frigate is around \$ 1.3 million per month
- ✓ Monthly cost exceeds \$ 40 million
- ✓ Annual cost exceeds \$ 0.5 billions



# Sustainability Issue

The high economic cost generates a sustainability issue in the long run since many countries now contributing forces would not have the capacity to continue contribute naval units for an extended period of time



# Cost of an Air Monitoring System

The total cost includes the following costs:

- ✓ Procurement
- ✓ Operating
- ✓ Support



# Cost of an Aerostat Monitoring System

- ✓ Procurement Cost of a Balloon System: 20-100 \$ million
- ✓ Procurement Cost of an advanced technologically payload:

From \$ 20 million up to \$ 100 million

- ✓ Operating Cost : \$ 700 per hour

**Estimated Total Operating Cost : \$ 6 million per year**

# Surveillance Systems Economic Comparison



- ✓ Aerostats with embedded cutting edge radar sensors can cover circle with an effective footprint of 150 n.m
- ✓ Ships surveillance circle : 30 n.m

# Surveillance Systems Economic Comparison



- ✓ To evaluate the different options for performing maritime surveillance, we have chosen two Measures of Effectiveness (MOE):
  - ✓ **The coverage of 1 square Km for an aerostat costs is \$ 85 dollars**
  - ✓ **The coverage of 1 square Km for a ship costs is \$ 5500 dollars**

# Surveillance Systems Economic Comparison



There is a definite economic advantage in this out-of-the-box approach as a countermeasure against piracy and generates sufficient momentum for further continuation of the discussed research.

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# Conclusions

- ✓ Piracy a phenomenon in escalation
- ✓ Deployment of naval forces is partially effective
- ✓ Very difficult to totally eliminate piracy with the contemporary political agenda



# Conclusions

The study developed previously undoubtedly includes a number of uncertainties, however clearly demonstrates the operational and economic potential in the previously described anti-piracy capacity building conceptual model and provides enough momentum for the continuation of the discussed research



# Conclusions

- ✓ Support local – regional navies through anti piracy training
- ✓ Further research on employing innovative technological assets in a pioneering fashion
- ✓ Support existing political entities in Somalia in order to build strong local institutions (police, coastguard.)



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# QUESTIONS

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