

**The Arctic : Geopolitics, International
Relations and Energy Security
A View From India**

09 – 10 Jan 2012

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Disclaimer

The views expressed here are solely those of the speaker; they do not necessarily reflect the official policies or positions of the Indian Government.

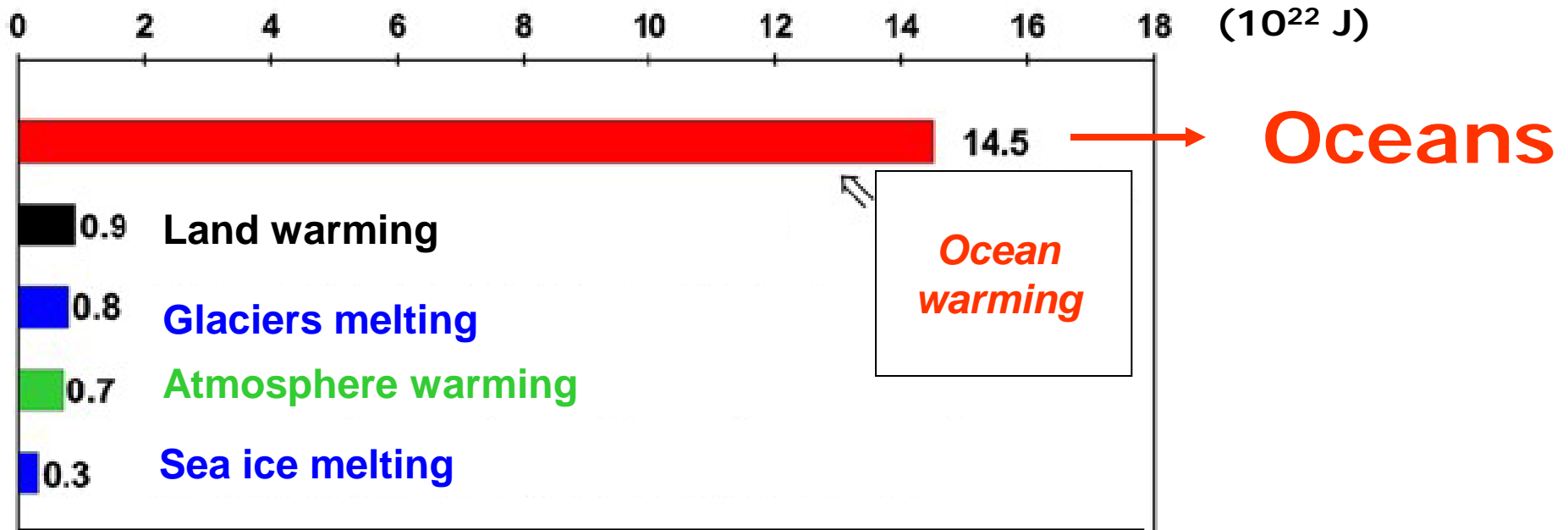
India of 2012 : Some Trends

- Energy intensive phase of economic growth.... (Coincides with potential energy bonanza of the Arctic).
- Rapid migration from rural to urban areas, many of which located on coastline of peninsular India.
- Vulnerabilities in neighbouring countries, typical of developing nations.

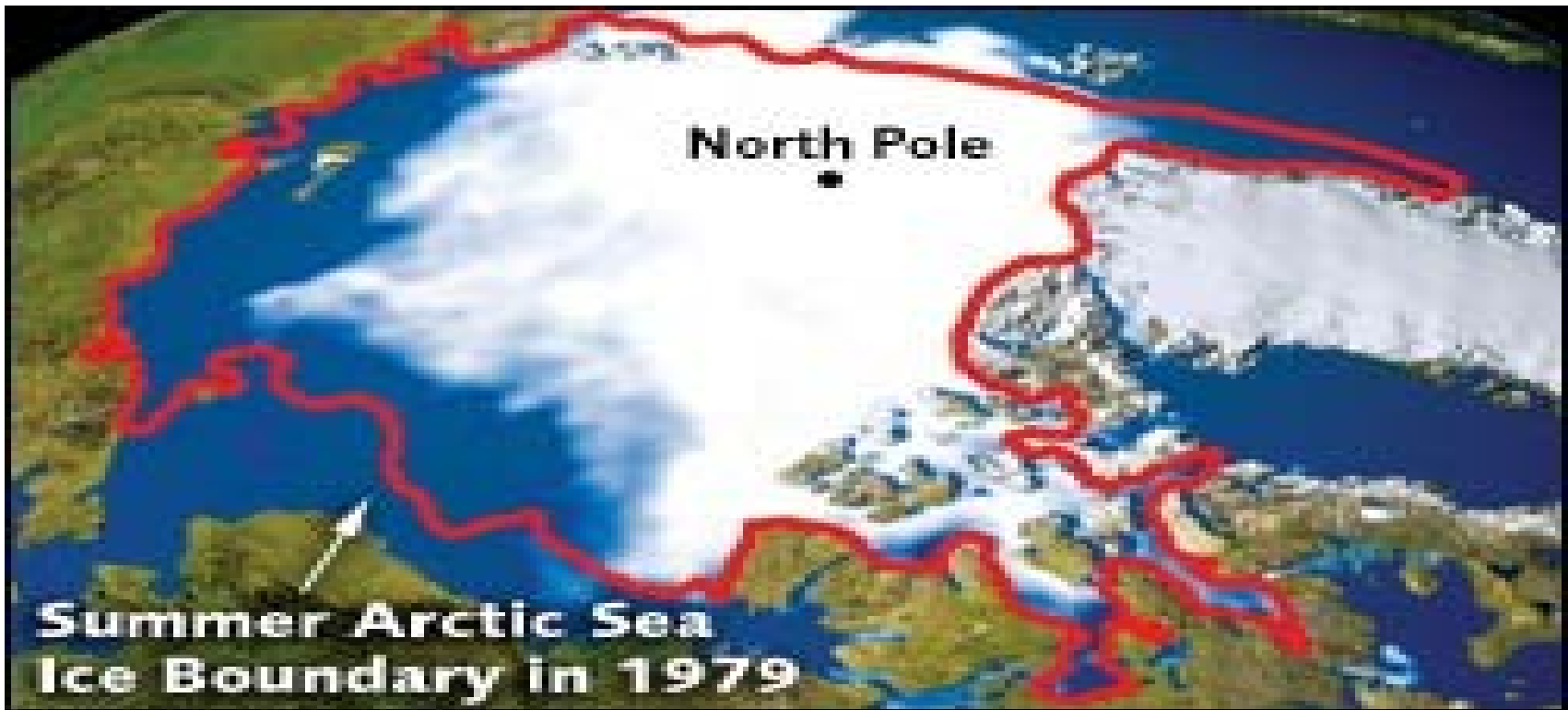
Climate Change and Its Thermal Budget

Thermal budget in the Earth system

Past 50 years



MELTING OF THE ARCTIC



Each summer is breaking the previous summer record of ice melt.

Implications for India

- 1. Rising Sea levels**
- 2. Alternate Shipping Route**
- 3. Hydrocarbon Potential**

Sea Level Rise

Sea Level Rise

- IPCC's estimated range of sea level rise: 0.38-0.59m by the end of the century?
- Growing consensus that this estimate is overly conservative
- Great uncertainty over the critical questions of **how much** and **how quickly?**
- Wild cards – the break up of major ice sheets

Effects of Sea Level Rise

Effect of sea-level rise

People potentially inundated by sea-level rise and storm surges 2100



Sea Level Rise - India

- **Trends in sea level rise through observed data of the past 40 years along the Indian coast indicate a possible sea level rise between 1.06 to 1.75 mm per year.**
- **Populations hubs along the coast. What any sea level rise does to population of 2050 – more severe than to present population.**
- **Disruption of traditional livelihoods of the coastal community. Most fertile rice growing river deltas in Asia.**

MUMBAI

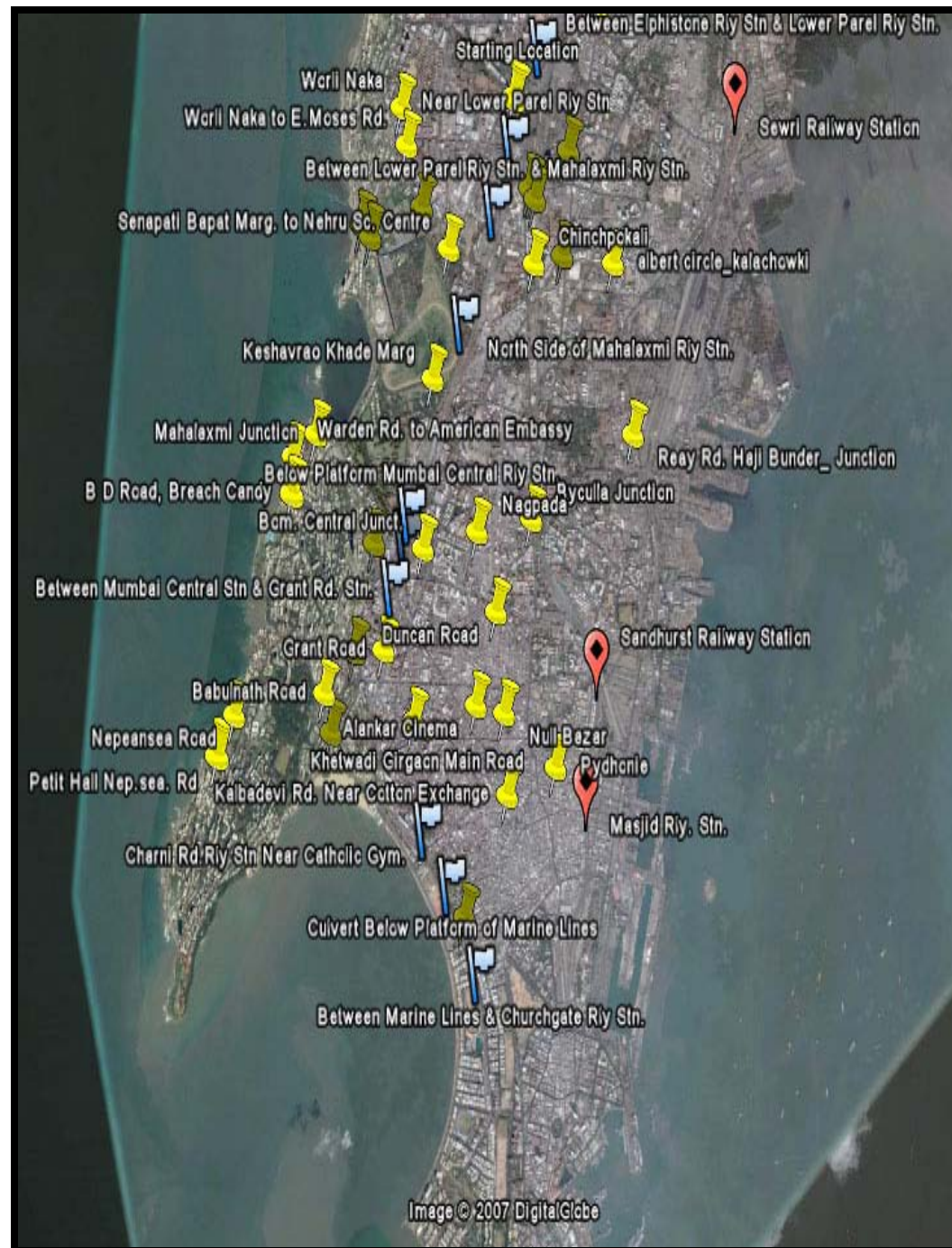
25 % city is below MSL

40 % population living in low lying areas

Frequent flooding and salt-water intrusion will impact on the structural stability of high-rise buildings

“since Mumbai has reclaimed ocean land substantially, they are going to have a tough time. Though the average rainfall would reduce, yet flash rains will be the major cause of worry for urban populace in Mumbai...”

**R.K. Pachauri
IPCC, 2007**



Sea Level Rise - Bangladesh

- Bangladesh is the world's 3rd most vulnerable country to sea-level rise.
- A higher sea level means that the gradient of rivers will be reduced, resulting in **slower drainage to the sea**. ... Flooding upstream .
- Cyclones -- more frequent and powerful. A higher sea level means that storm surges will drive sea water even further inland.

Sea Level Rise - Bangladesh

- **Increase salinity in surrounding coastal areas, dramatically reducing yields crops and jeopardizing drinking water supplies.**
- **Overall breakdown of livelihood, law and order**
- **Forced Migration – land border with India sealed – migration through maritime route a distinct possibility.**

CLIMATE CHANGE INDUCED MIGRATION

Greenpeace : “Blue Alert: Climate Migrants in South Asia – Estimates and Solutions”

Nearly 75 million people in Bangladesh could be homeless at the turn of the century and likely to seek shelter in India

NDU, Washington Report (December 2008) : Climate change induced events could result in thousands of Bangladeshi refugees entering India and this had the potential to result in social chaos

Indian shores particularly the Andaman & Nicobar (A&N) Islands vulnerable



Sea Level Rise - Maldives

- **Maldives holds the record for being the lowest country in the world, with a maximum natural ground level of only 2.3 m with the average being only 1.5 m above sea level.**
- **Plans to look into purchasing land in India, Sri Lanka, and Australia.**

Male

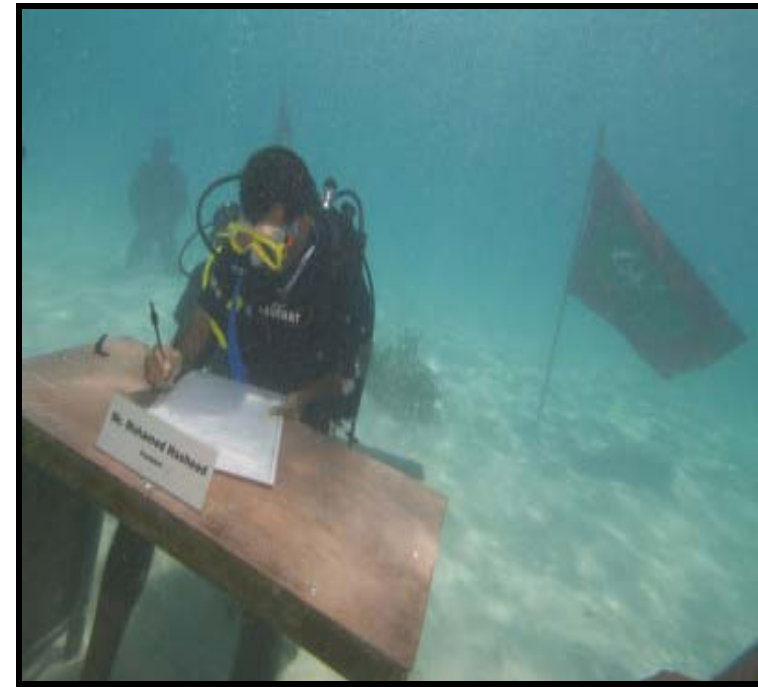


- Capital of the Maldives
- Area: 1.8km²



Maldives holds first under-sea cabinet meeting near Girifushi, a military training camp near capital Male

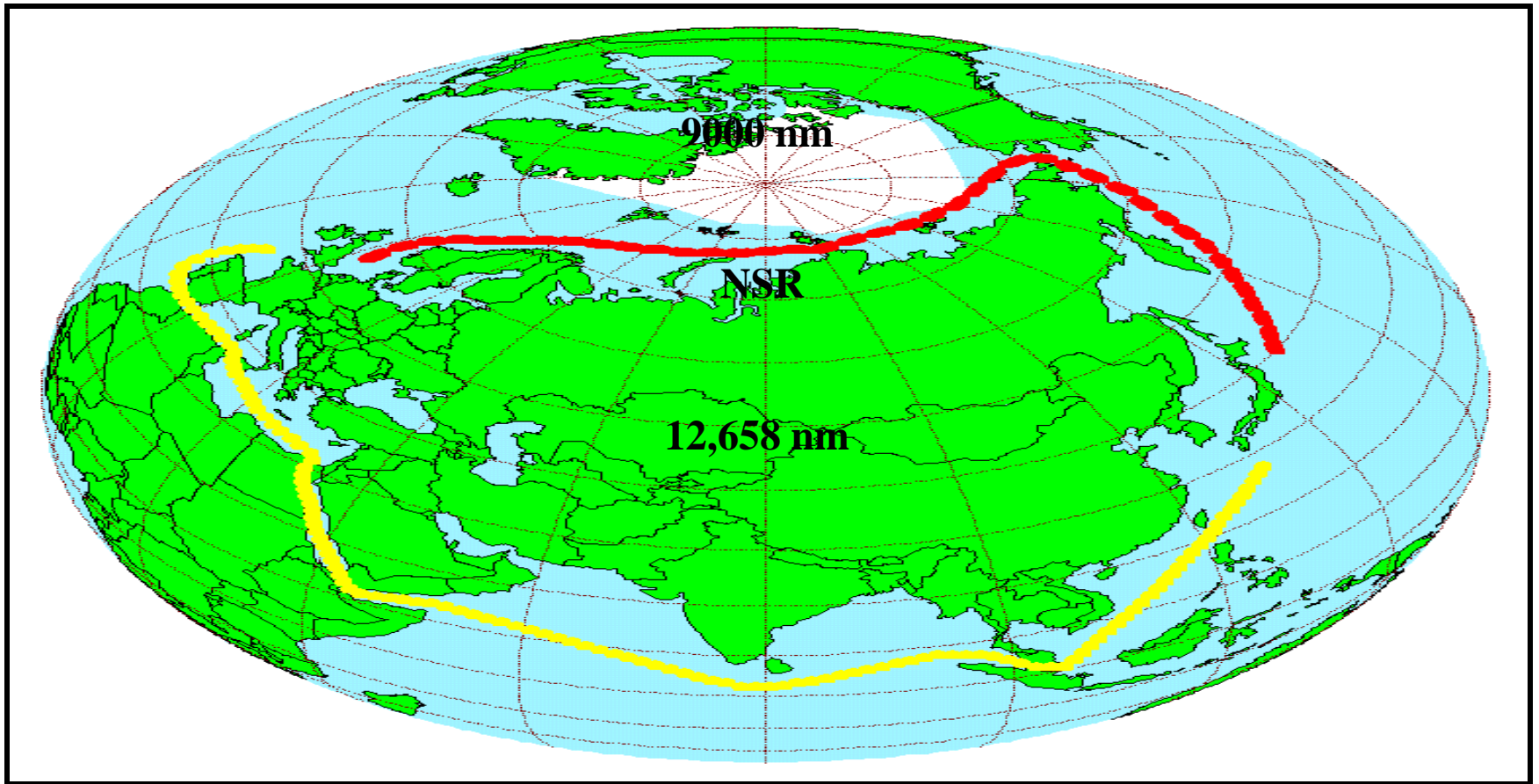
President Nasheed regularly calls for urgent action on climate change



Sea Level Rise – Impact on Maritime Boundary Agreements/ Demarcation of EEZ

- **Maritime Boundaries determined by baseline or low water mark.**
- **Sea Level rise would complicate claims to maritime Boundaries and EEZ.**
- **What will happen to Maldives EEZ ?**

Alternate Shipping Route



- **Transiting the Northern Sea Route above Russia would trim a week's sailing time off a trip compared with use of the Suez Canal.**
- **Reduced time and costs for shipping goods from Europe to Asia is making an ice-free Arctic attractive.**

Alternate Shipping Route

- **The persisting threat of piracy in the Gulf of Aden and the Strait of Malacca provides additional reasons why shipping lanes from Europe to Asia should be shifted to the Arctic.**

Density of Traffic in Indian Ocean – Implications for India

- **Maritime Agenda 2010 – 2020 unveiled by the prime Minister in Jan 2011.**
- **In the form of a study and a plan, compares the Indian maritime sector to global standards to highlight the deficiencies in India. It also brings out the trends in international shipping and port infrastructure and makes future projections to identify the specific areas of improvement required in India's maritime sector.**
- **Whither Arctic melt implications ?**

Alternate Shipping Route – China's Interest

- **Vulnerability of Oil Sloc through Mallaca .
Alternate energy route thus **God Sent**.**
- **Suez and Panama Canal already operating at maximum capacity. Thus Chinese Oil 'thirst' --
Oil from Angola, Nigeria, Gabon**
- **Engaging Iceland to explore development of deep water ports. Iceland strategically located for transshipment ports.**

Hydrocarbon Potential

August 2007



Russia planted a flag on the seabed 4,261 meters (13,980 ft) beneath the Pole in a symbolic claim



Sharp Reactions from the Claimants



NAVIES AT PLAY

US is concerned about Russian strategy in the Arctic Sea region

Along with planting of Flag on North Pole , Russia announced region is connected to Russia's continental shelf

US maritime strategy for the Arctic region:

(a) Enhancement of infrastructure, force structure and capabilities to prepare for climate change challenges

(b) New missions and tasks for the US Navy to keep sea lanes open for navigation and free for all

Arctic Ice Cap – Implications for Maritime Security in IOR

HOW IS IOR IMPACTED ?

- **The combination of new shipping routes, trillions of dollars in possible oil and gas resources, and a poorly defined picture of state ownership makes for a toxic brew -- Territorial disputes between Arctic Stake holders – **Diverting Of Navies** away from Indian Ocean Region.**

Conclusion

THANK YOU