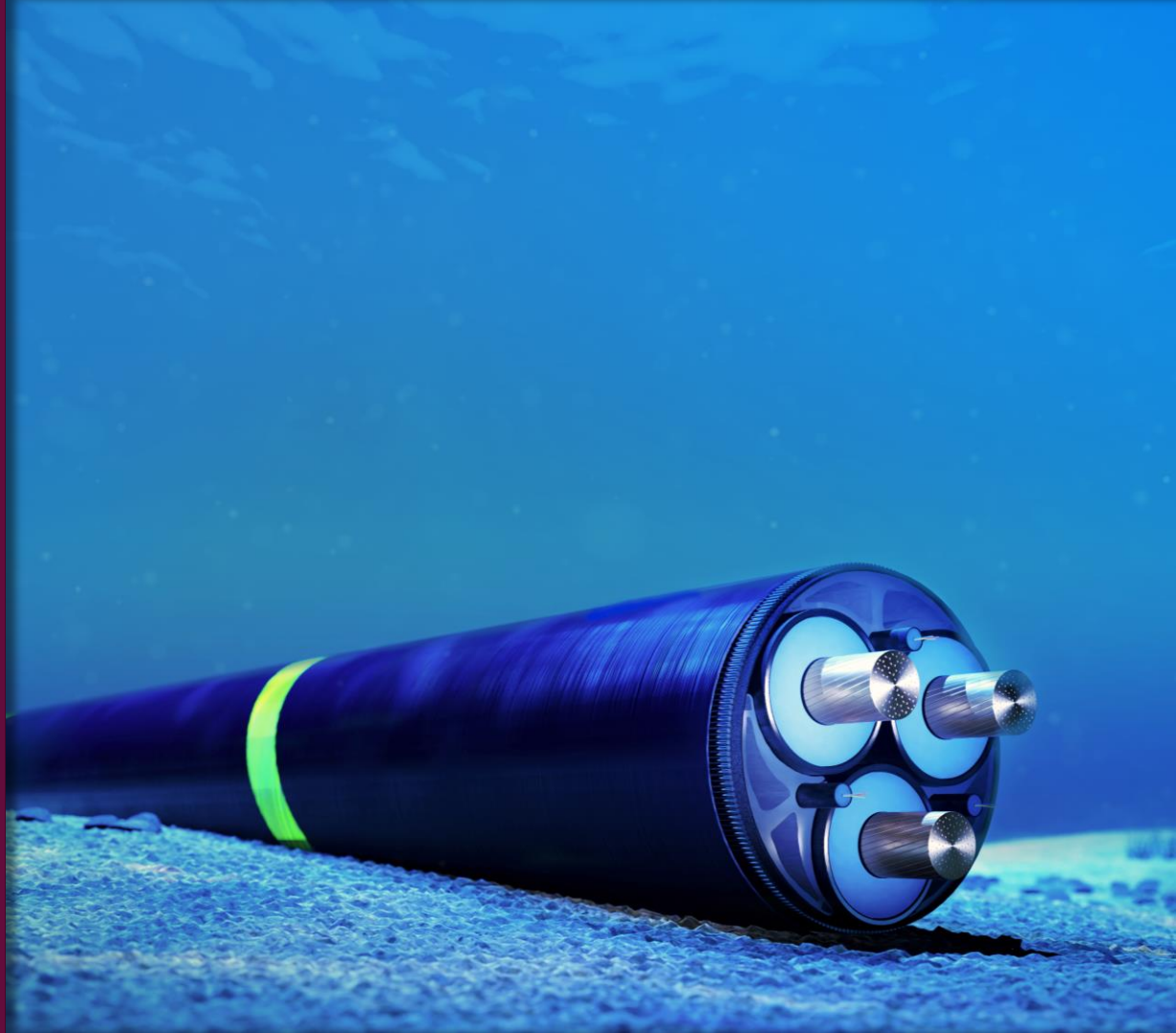


Takshashila Discussion
SlideDoc

*Submarine Cables: A
Maritime National
Security Perspective for
India*

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v 1.1, November 11, 2020





India's economic recovery and national security in a post COVID-19 world heavily depends on its digital connectivity to the rest of the world. Submarine cables are crucial to ensuring this connectivity. We recommend that India safeguard its submarine cables through:



Deployment of an all-encompassing Sound Surveillance System (SOSUS).



An increase in sortie rates and numbers of Maritime Patrol/ELINT Aircraft.



An increase in patrolling in specific areas by the Indian Coast Guard, CISF, Sagar Prahari Bal of The Indian Navy and Marine Police.



An increased focus on proliferating restoration capabilities for private consortiums by providing incentives.

EXECUTIVE SUMMARY

India's maritime national security establishment must prioritise the protection of submarine telecom cables as critical national infrastructure.



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1. WHY SUBMARINE CABLES MATTER

 \$10 tn

Worth of financial transactions go through submarine cables every day(Sunak 2017).

 97%

Of all global communications are carried by submarine telecom cables(Sunak 2017).

 < 3%

Of all global communications are carried by satellite systems.

Submarine cables are crucial to India's national prosperity, avenues of economic recovery and growth. They directly support a lot of government owned infrastructure as well as the government's ability to function and communicate both domestically and internationally(Sunak 2017). Whether owned and tended to by the government or by private interests they are **critical national infrastructure** on par with the electricity grid.

2. RISK & RELIABILITY

Upwards of 100 cases of connectivity outage due to damage to submarine cables are reported every year but most are due to non-belligerent action. Special repair ships must be on station to conduct repairs which are extremely difficult to carry out at sea (Sunak 2017). There are also well-established precedents of submarine cables being: **First casualties in a conflict**, going as far back as WWI when German cables were severed by the Royal Navy (Tuchman 1985). **First targets of naval espionage** as evident from Operation Ivy Bells which saw a US Navy submarine USS Halibut snoop on Soviet cables in Soviet territorial waters (Sontag 2000).

BACKGROUND

Submarine cables are at least as critical to the day-to-day functioning of a country as the electricity grid. They are also vulnerable to attack or espionage and are difficult and expensive to repair.



3. THE CAVEAT OF PLAUSIBLE DENIABILITY



An anchor or fishing net dropped in close proximity and pulled up without concern is enough for causing damage to submarine cables, this can very well be used as cover by saboteurs when they purposely target a country's connectivity.

4. FEW PROTECTIONS UNDER INTERNATIONAL LAW



UNCLOS (United Nations Convention on the Law of the Sea) has provisions clearly defining how new cables are to be laid and how to repair existing ones from a legal standpoint (Sugadev 2016). In case of belligerency between nations “UNCLOS doesn't prohibit nations from treating undersea cables as legitimate military targets during wartime” (Sunak 2017). UNCLOS may be applicable only to portions of cables on the seabed and not the landing stations, it seems (Sunak 2017).

5. THE INDIAN CONTEXT

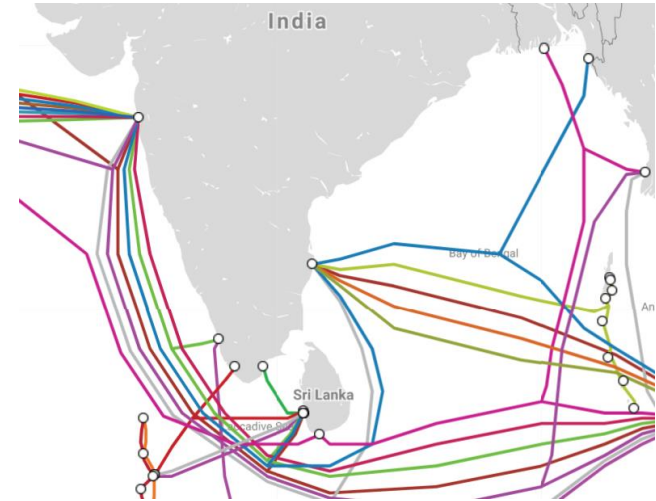
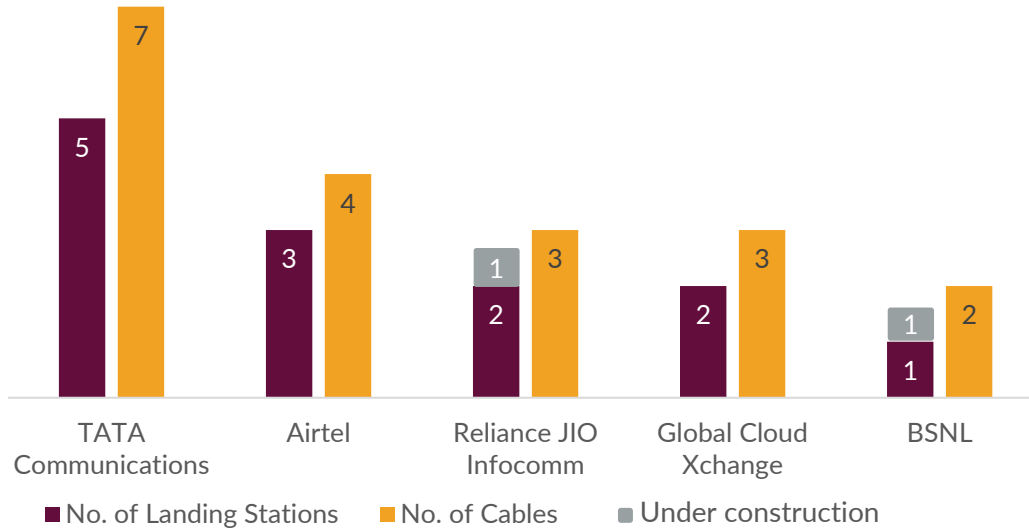


India has made it mandatory for all ships that may tend to or repair submarine cables in its territorial waters to go through a complex process of seeking permissions from several functionaries. This prioritises security at the cost of relatively quicker restoration capacity. This also means that cable network owning consortium partners must permanently maintain ships with the prerequisite permissions, instead of enjoying flexibility in hiring any available ships if or when an outage occurs (Rapp 2012).

BACKGROUND

Submarine cables are easy to damage and vulnerable to attack. India's current approach prioritises security at the cost of quicker restoration capacity.

5 MAJOR PLAYERS IN INDIA



India is connected to 17 active international submarine cables with 15 landing stations. Landfall is made in 5 cities: Mumbai, Cochin, Trivandrum, Chennai, and Thoothukudi. (Chattopadhyay 2020, map from <https://www.submarinecablemap.com/>)

SOME NUMBERS



T-1. A high or low intensity naval conflict could be heralded by submarine telecom cables being cut by naval ships or submarines of either side.



High possibility of Indian and Chinese naval fleets being deployed to areas with thick submarine cable convergence like Straits of Malacca during border standoffs(PTI 2020). According to historical precedent high or low intensity naval conflict could be heralded by cables being cut by either side.(Tuchman 1985) A Naval ship or submarine can sever cables during manoeuvring in the fog of war.



T-2. With growing trade in the Indian Ocean Region(IOR), the chances of unintentional as well as deniable but intentional damage to submarine cables also increases.

With burgeoning trade and covalence of Sea Lines of Communication(SLOC) a lot of ships pilot their way through IOR. With so many ships piloting into harbours the chances of accidental or plausibly deniable but intentional damage to submarine cables also increases. This caveat of plausible deniability can be multi faceted, unsuspecting or possibly even nonconsenting civilian crews may be involved. These crews can be pressured into performing actions that may damage or sever submarine cables.



T-3. Natural phenomena like earthquakes, underwater landslides, and Tsunamis can easily damage or outright snap cables (US Dept of Homeland Security 2017).

The seabed also experiences devastating natural seismic phenomena like earthquakes and landslides which can cause Tsunamis. These natural phenomena can easily damage the cables or outright snap them, depending on the intensity of the event. (US Dept of Homeland Security 2017).



T-4. Non state actors and insurgents can attack critical infrastructure from the maritime or coastal route. (The Financial Express 2018).

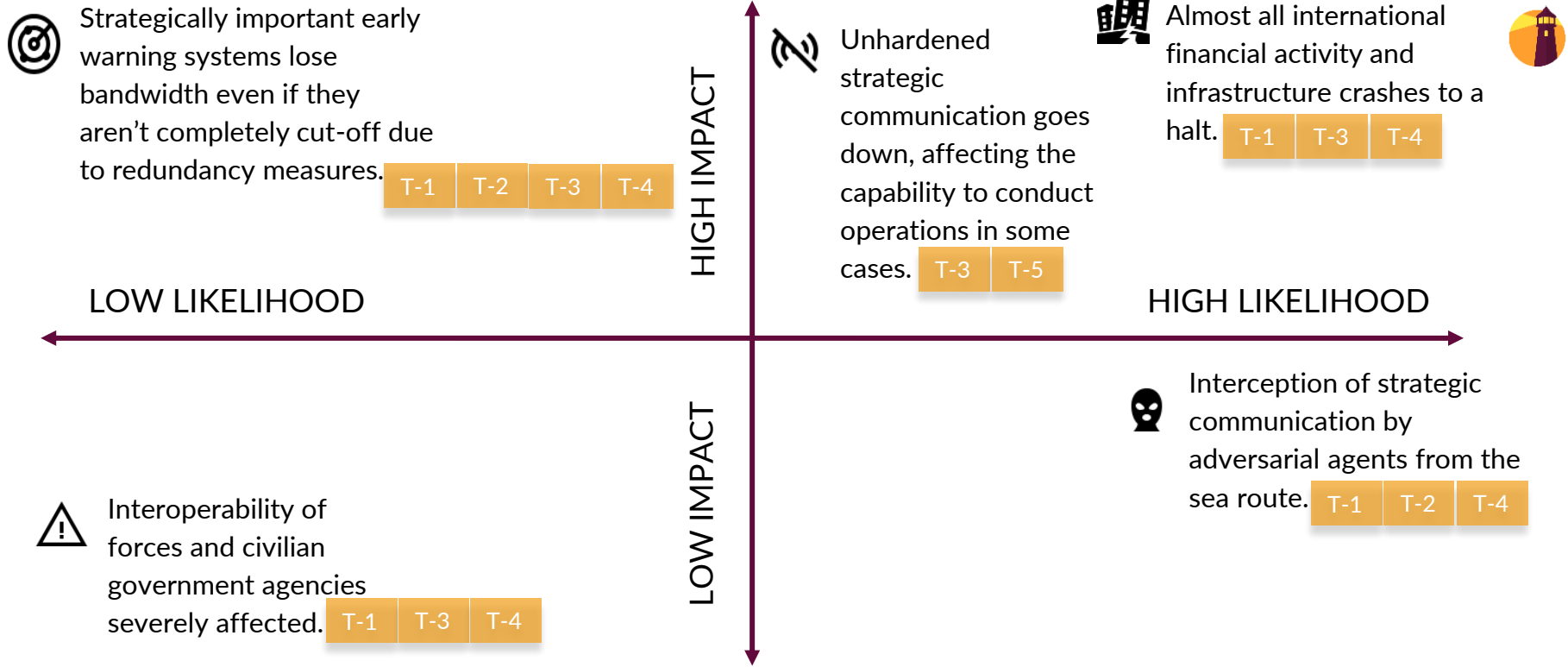
The Indian Navy and other parts of the Indian Security Establishment have gone on record, saying that a threat to national security and infrastructure is expected from the maritime and coastal route, especially where the perpetrators are expected to be so called “non-state-actors” and “insurgents”(The Financial Express 2018)(All India Radio 2019).



T-5. There have been instances of sharks biting through the insulation of submarine cables(US Dept of Homeland Security 2017).

Marine life activity can also damage submarine cables and cause outages. There have been instances of sharks biting through the insulation of submarine cables(US Dept of Homeland Security 2017). Although ascribed a far lower probability of materialising as a mass threat, it is still one to keep in mind.

THREATS



RISKS

The five Threat vectors can translate into different kinds of Risks to India's economy and security. That mapping is shown alongside each risk in the chart above.



DEPLOYMENT OF AN ALL-ENCOMPASSING SOUND SURVEILLANCE SYSTEM (SOSUS)

An array of hydrophones and sonobuoys that can detect the use of deep sonar(which is among other things used to pinpoint submarine cables on the seabed) along the vital submarine cables in Indian Navy's area of responsibility, dramatically increasing the underwater domain awareness of India and its forces. Currently India only has slated plans for 4 harbor defence systems with an approximate cost of 270 crore (The Hindu 2015). These can serve as the first steps in a wider expanding SOSUS network that shall at its apogee cover most if not all of Indian Navy's areas of responsibility and interest globally, perhaps across oceans.



AN INCREASE IN COASTAL PATROLLING

Patrolling is needed in specific areas where Submarine cables are most vulnerable by Indian Coast Guard, CISF, Sagar Prahari Bal of The Indian Navy and Marine Police along India's coastline. Surveillance by electronic means and done remotely through cameras is no match for the situational awareness that boots on the ground can provide. There is also a high chance of saboteurs being crafty enough to cover their tracks against general ELINT and Remote Surveillance. Only thorough familiarity with their area of responsibility on the part of patrolling troops can ensure that submarine cables making landfall in costal areas and their landing stations are safe from saboteurs and other miscreants.

RECOMMENDATIONS

The best way to mitigate the threats and risks is through proliferation of India's Maritime and especially Underwater Domain Awareness capabilities and infrastructure.



MORE ELECTRONIC SURVEILLANCE AND MARITIME PATROL FLIGHTS

India has acquired a huge boost to its maritime domain awareness with the acquisition of the P-8i Maritime Patrol aircraft fleet. However, the numbers and conceivable sortie rates are stretched thin as it is with Anti Submarine Warfare (ASW) duties and in support of the other two branches over land from time to time. The Short and Medium ranged Maritime Patrol and ELINT fleet should be expanded beyond the relatively old and in inadequate numbers Dornier 228 aircraft. These prospective new aircraft should be used to increase sortie rates and numbers of airborne Maritime Patrol and Anti Submarine Warfare/ELINT assets, in both fixed and rotary wing configurations.



QUICK REPAIRS ARE HALF THE BATTLE

India should also focus on providing better incentives to the corporate consortium owners of the submarine cables who are charged with the restoration work through fiscal measures like tax breaks and subsidisation of certain costs. This will ensure that India will have the ability to bounce back from a situation where multiple important submarine cables are compromised. Every second lost to downtime of communications system is a huge hit to India's economy. It should be imperative that apart from protection, mitigation & restoration should be the topmost priority.

RECOMMENDATIONS

The best way to mitigate the threats and risks is through proliferation of India's Maritime and especially Underwater Domain Awareness capabilities and infrastructure.



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