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Assessing the Implications of the Red Sea Conflict on the Indian Supply Chain: A Comprehensive Analysis

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1. ABSTRACT

The Red Sea, a vital trading route for India, is disrupted by the ongoing conflict between the Houthi rebels and Israel. This study aims to investigate how the dispute affects India's supply chain in several different industries. The possible repercussions include restricted access to raw materials, delays and higher prices in maritime transportation, and concerns of energy scrutiny from disruptions in gas and oil. To lessen the impact on the economy we examine alternate trade routes and assess the potential effects on investors' confidence. This study aims to examine and assess the diverse repercussions of the Red Sea War on the Indian supply chain offering insights on strategic planning, policy decisions and risk mitigation measures for the Indian government, businesses and stakeholders.

The Red Sea crisis has had a multifaceted impact on different sectors of the Indian economy. In the healthcare sector, a huge number of medical supplies and prescription drugs which are transported via sea have seen a spike in the shipping cost due to rerouting which has disrupted the medical supply chain. On the other hand, there is no direct impact on the consumer sector; however, the increased freight prices and geopolitical concerns impact the wholesale price index which is expected to hike and influence the food grain prices and exports of basmati rice in particular owing to the well-established domestic supply chain. The FMCG industry is comparatively protected from the adverse effects of the crisis in contrast to industries such as agricultural and maritime foods.

This crucial route, particularly affecting goods moving between Europe, North Africa, and the Middle East, historically used for nearly half of India's exports and a third of imports, is now deemed unsafe. Ships are being rerouted around Africa's Cape of Good Hope, leading to a 30% increase in transit times and a surge in shipping costs. Indian companies are feeling the heat – Arvind Ltd. faces lost revenue due to order backlogs, while exporters like Euro Fruits grapple with quadrupled freight costs and declining grape quality. The auto industry is also impacted, with companies like MG Motor India experiencing delays and rising logistics expenses.

India's energy, resources and industrial sectors have all been severely disrupted by the Red Sea crisis with critical exports including chemicals and petroleum products being heavily impacted. Since the Suez Canal handles a significant amount of India's import of crude oil, rerouting owing to continual conflicts presents logistical difficulties and possible inflationary pressures. The government is actively engaging in efforts to mitigate these impacts by looking into alternative shipping lanes and providing assistance to affected exports. The possibility of delays and financial costs is still a major issue for businesses navigating obsta-

cles relating to insurance premiums and logistical difficulties.
To navigate these challenges, the Indian government is exploring a multi-pronged approach. Financial support in the form of direct subsidies, soft loans, and government-backed cargo insurance could help businesses offset increased costs and mitigate risks associated with delays and rerouting. Additionally, India is looking to diversify its trade routes by exploring alternative sources for crude oil and LNG imports, along with utilizing ports outside the conflict zone. Long-term solutions are also being considered, such as investing in the Northern Sea Route and expanding land transport infrastructure. Renewed focus on the India-Middle East-Europe Economic Corridor (IMEC) project could offer a comprehensive network connecting India, the Middle East, and Europe. By implementing these strategies, India can build a more resilient supply chain and minimize the long-term impact of the Red Sea conflict on its trade.

KEYWORDS: The Houthis of Yemen, Indian exports, India's supply chain, Geopolitical tensions, Supply chain bottlenecks, Supply shortages, Viable alternative trade routes, Economic repercussions of the Red Sea, Risk mitigation techniques.

2. INTRODUCTION

Imagine the Red Sea stretching out like a turquoise ribbon for 1,200 kilometres. It all starts near Suez in Egypt, where an ancient sea (the Gulf of Suez) once flowed. This ribbon winds its way down south for another 1,930 miles, eventually meeting the Gulf of Aden and continuing all the way to the Suez Canal. Think of it as a watery highway, separating countries like Egypt and Sudan from Saudi Arabia and Yemen. Even Israel and Jordan get a sip of this sea in the north!

This waterway is a superstar in the world of trade, carrying all sorts of goodies between Europe and Asia. But the Red Sea is more than just commerce. It's a kaleidoscope of colours, with vibrant coral reefs teeming with life stretching along its coast for over 1,200 miles. Some of these reefs are older than you can even imagine – 7,000 years old! No wonder the Egyptians made part of it a national park – Ras Mohammed National Park, to be exact.

Things have gotten a little tense lately though. Yemen's Houthi rebels, known to be friendly with Iran, have been stirring up trouble. They're attacking ships in the Red Sea and firing missiles at Israel, all in the name of helping Palestinians. This puts a lot at stake – the Red Sea carries a huge chunk of the world's oil, and these attacks are making everyone nervous. It all started with a big fight in the Middle East, and the Houthis just jumped right in. They announced their missile and drone attacks on Israel on October 31st, 2023, and promised to keep it going until things calm down. It's a similar situation to what's happening in Iraq, Syria, and Lebanon, where Iranian-backed groups are causing problems.

On December 9th, 2023, the Yemeni rebel group known as Ansar Allah, or "partisans of God" according to the Guardian, significantly heightened anxieties in the Red Sea. Their spokesperson made a chilling declaration: any vessel traversing the Red Sea bound for Israeli ports, regardless of origin, would be targeted by their forces unless food and medical aid reached Gaza. This escalation came with a familiar rallying cry: "Death to America, Death to Israel." Backed by Iran, the Houthis, as they're commonly called, control a significant portion of Yemen's western territory, including the Red Sea coastline. Their rise to power began in 2014 with the capture of the capital, Sanaa, plunging the nation into a devastating war. [i]

The Red Sea holds immense importance for India's trade routes due to its proximity to the Suez Canal. This vital waterway allows Indian exports – steel, machinery, textiles, chemicals, vehicles, and agricultural products – to reach markets in Europe, the Americas, the Middle East, and beyond, significantly faster and cheaper than the lengthy journey around Africa's Cape of Good Hope. However, recent security concerns, like the Houthi activity in the Red Sea, have disrupted this efficiency. These events underscore the critical need for India to develop a multi-layered strategy for its supply chain, one that incorporates risk mitigation and alternative pathways to ensure the continued reliability of this crucial route.

3. PROBLEM STATEMENT

The Red Sea region, a crucial maritime trade path connecting Asia, Africa, and Europe has recently experienced increased geopolitical tensions and military conflicts. The rising geopolitical tensions in the Red Sea area, characterized by conflicts and military actions, present a significant challenge to the stability of global trade routes and consequently impact India's intricate supply chain network. This analysis seeks to thoroughly examine and assess the diverse repercussions of the Red Sea War on India's supply chain across various sectors such as maritime transport, energy, and raw material imports:

Key subjects to be addressed in the paper are as follows:

- **Disruption of Maritime Routes:** the Red Sea is an important marine corridor for India. A good number of Indian exports and imports traverse through this marine corridor. Disruption in Shipping Lanes: The ongoing war could potentially disrupt shipping lanes, which could cause delays, higher costs, and a greater risk of supply chain congestion.
- **Energy Security Concerns:** As India relies predominantly on oil and gas imports for its energy needs, any disturbance in the Red Sea region could impact the country's energy security. The disruption in the movement of crude oil and LNG could lead to a situation of supply-side constraints, subsequently impacting various industries and the economic stability in the country.
- **Raw Material Dependency:** Many critical raw materials essential for Indian industries are sourced from regions near the Red Sea. The conflict may result in interruptions in the supply of key raw materials, affecting manufacturing processes and potentially causing a ripple effect across the entire supply chain.
- **Financial Implications:** Increased insurance costs, potential damage to shipping infrastructure, and geopolitical uncertainties can lead to financial implications for Indian businesses involved in international trade. These financial challenges may cascade down the supply chain, affecting the cost structure and profitability of various industries.
- **Investment Climate:** impact does the Red Sea conflict have on investor confidence in India, particularly in sectors vulnerable to disruptions in maritime trade.
- **Alternative Trade Routes:** alternative trade routes that India can explore to mitigate the impact of the conflict on its economy.

The goal of this research is to present a thorough understanding of how the Red Sea conflict has affected India's economy, offering insights that can inform policy decisions, strategic planning, and risk mitigation measures for the Indian government, businesses, and stakeholders.

4. LITERATURE REVIEW

4.1. Public health impacts of an imminent Red Sea oil spill by Benjamin Q. Huynh, Laura H. Kwong[ii]

According to the report, Yemen's imports of food, gasoline, and clean water might all be disrupted by a probable oil spill from the sinking oil ship Safer, which could also jeopardize the Red Sea fishery. The pollutants from the leak are also expected to raise the risk of cardiovascular hospitalization, according to the study. The study highlights the necessity of taking immediate action to stop the impending oil leak from having potentially disastrous repercussions on public health.

4.2. Strategic Importance of the Red Sea by Colonel Turki Al-Anazi T [iii]

This research paper explores the Red Sea's geopolitical relevance. Due in large part to its position as a major connection in world trade—the Suez Canal—the Red Sea's strategic significance has increased. The growing great power rivalry in the region—which includes Iran, China, and the United States—is another topic covered in the report. Furthermore, it highlights the significance of the Red Sea for international security as well as its influence on the intertwined trans-regional dynamics between the Horn of Africa and the Middle East.

4.3. Study of Emerging Issues in Supply Risk Management in India by Manisha Ketkar and O.S. Vaidya [iv]

The obstacles faced by Indian manufacturers are examined in this research paper with a particular emphasis on supply chain disruption management. It draws attention to long-term hazards such as poor logistics, transportation, and utility infrastructure, issues with suppliers and labour, and the requirement for efficient risk mitigation techniques. The insights presented in this paper are beneficial to Indian businesses and advance our knowledge of risk management of supply chain in light of global supply chain trends.

4.4. Disruption in global supply chain and socio-economic shocks by Zhang Yu, Asif Razzaq [v]

The COVID-19 has significantly impacted international trade, social interactions, and everyday life. The paper outlines the difficulties that businesses—especially micro, small, and medium-sized ones—face as a result of interruptions in the global supply chain. These difficulties include a lack of labour, a halt in production, a shortage of raw materials, and transportation limitations. The writers stress the necessity of sustainable methods of production and consumption in light of ongoing disruptions to the world supply chain. The study offers insightful information about the COVID-19 pandemic's lessons for strengthening supply networks' resilience and encouraging sustainable production and consumption.

5. OBJECTIVES

The escalating Red Sea Conflict, fuelled by the ongoing clash between Houthi rebels and Israel, has raised concerns about its potential to disrupt global trade routes, including those impacting the Indian supply chain. The goal of this research article is to provide a thorough study of this problem. To accomplish this, we will delve into the historical roots and key players involved in the conflict, while meticulously dissecting the structure and components of the Indian supply chain, particularly those most vulnerable to disruptions. By rigorously evaluating the direct and potential consequences of the conflict, encompassing both immediate and long-term impacts, we aim to provide a holistic view of the current situation. Moreoever, we will attempt to project a future overview, analysing potential trajectories of the conflict and mitigation strategies employed by Indian authorities, offering valuable insights for policymakers, businesses, and stakeholders alike. The objectives in pointers are as given below;

1. To understand a detailed overview of the Red Sea Conflict, including its historical background, key actors involved, and the root causes leading to the current situation.
2. To analyse the structure and components of the Indian supply chain with respect to the war.
3. To evaluate the direct consequences of the Red Sea Conflict on the Indian supply chain and giving a future overview.

4. To interpret the historical and contemporary factors influencing conflict in the Red Sea region, and if there is any link between the previous and current war(s).

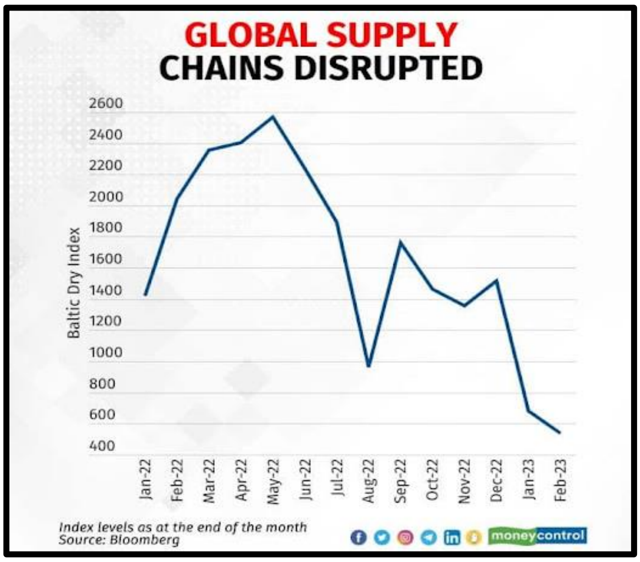
6. RESEARCH METHODOLOGY

6.1. Russia-Ukraine War

6.1.1. Brief About the War

The current global conflict between Russia and Ukraine began in February of the year 2014 and is known as the Russo-Ukrainian War. The first eight years of conflict also featured cyberwarfare, increased political pressure, and naval mishaps. Viktor Yanukovych, the Russian oriented president of Ukraine, was overpowered by the Transformation of Nobility, which was sparked by various varied protests in early 2014. After much discussion, Russia annexed Crimea. The Donbas war was then started in April of 2014 when militants supported by Russia took control of cities in the eastern Donbas area of Ukraine. The rebels received significant, covert support from Russia, and Ukrainian attempts to recover all areas weren't successful. Russian troops took part in the conflict, despite Russia's denial of agreement.

Both the countries then tried signing a treaty (Minks II agreement), but neither of them ever properly implemented it. Due to various warfare and attacks the Donbas war resulted in nothing but blood and massacre. Russia then began to build a strong border between its neighbouring country ie. Belarus and Ukraine. They also constantly denied any speculations to overthrow or attack Ukraine considering that Belarus is their friend. Vladimir Putin even rejected Ukraine's existence and said that it never has existed. He made sure that Ukraine be never allowed to join the military alliance and denounced the enlargement of NATO. Russia affirmed the independence of the DPR and LPR. Putin declared on February 24, 2022, that Russia had no intention of attacking or eradicating Ukraine and that a "extraordinary military operation" would be carried out to "demilitarise and denazify" the country. Following the widespread condemnation of the Russian attack, many nations tightened the sanctions already in place against the country. Russia proceeded to give up their demand for Kyiv in the first part of April. Ukrainian forces began regaining territories in the northeast and south after the Admirable. Russia announced the annexation of four partially occupied districts at the end of the year, causing international outrage. Russia conducted erratic offensives in the Donbas throughout the winter. The war has come about in a refugee crisis and tens of thousands of passings. [vi]



6.1.2. Impact of the War on the Worldwide and Global Supply Chain

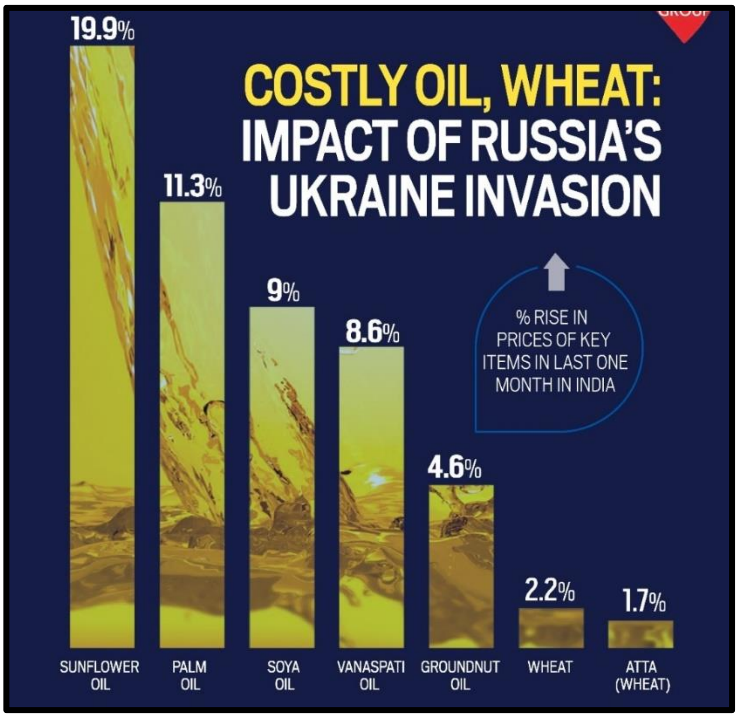
Worldwide supply networks have been thrown off balance by the war, making it more difficult and expensive for firms to get the supplies they need. The acute cost of existence Obviously, many would argue that war is never a good idea. However, it felt particularly cruel that Russia would launch a full-scale attack on Ukraine.

It happened at a time when people were trying to carry on with their normal daily "business as usual" in civilizations all across the world following two exhausting years of unrest right after the great pandemic of covid. In an effort to satisfy consumers' growing demands, businesses had to deal with disorganised supply chains. Russia's invasion of Ukraine caused a surge in demand for basic necessities like food and coal. This resulted in increase of risk of famine. Growing global food insecurity has been majorly impacted by the conflict. Before the conflict, Russia and Ukraine were the largest wheat exporters in the world. Furthermore, they also happen to trade more than half of the sunflower oil produced around the world. As of January 2023, less than 20% of grain trades with low-income countries came from Ukraine, despite their larger populations. Achieving food security by 2030 is one of main Economic and Sustainable Development Goals—without unbiased food distribution may prove difficult, especially given the rise in food supply and exports. The expense of nutrition is still skyrocketing in many developing countries.

Food inflation in Nigeria had increased and surpassed to 24% annually in March of 2023. The harsh economic sanctions imposed on Russia have led to significant increases in energy prices in the global market. Energy also indirectly raises the price of production, capacity, and transportation. The price of Brent increased by over 25% during the first two weeks. Petrol prices in Europe had risen by about 580% from a year earlier by the end of Walk, though they have since decreased. The rhythm of Shape's Frame Foot. The UK and other European nations sought to quickly reduce their reliance on Russian oil. Although the UK does not directly consume a lot of petrol from Russia, it is very strongly linked to the European cheap market. If one could infer another benefit from the conflict, it would be that rising fossil fuel prices should accelerate the development of cleaner energy sources, such as renewables, and promote a reduction in the use of fossil fuels. The decrease in financial development brought on by growing energy costs should also limit the usage of fossil fuels in countries like the UK and EU member states. This may have an unexpected but powerful side effect in light of the impending climate emergency. effects on global markets for budgets. The conflict has affected consumers and businesses globally. Businesses' typical dependency on Russia prior to the war was 0.25%. This meant, for instance, that a company with a $1 billion yield would have $2.5 million in total export and import to and from Russia. However, some countries rely on Russia more than others. Europe has suffered the most. Trade connections have major proper influence on East European countries, whereas ownership connections have influence on West European countries. Differentially, countries like the United States and China have suffered less. [vii]

The financial conflict increases with the length of the war. The immediate lasting and passing within the combat zone may have a greater financial impact than the war in Ukraine. In any event, it has proven to be enormous, especially for Russia and Ukraine. The effects themselves inflict harm by elevating poverty and food insecurity to dangerous heights. The severity of the financial crisis increases with the length of the conflict. Regarding flexibility of the war's effects is unclear. However, with the experiences presented here, we are prepared to start putting together a numerical representation of its financial risks. Even while a definitive end to the conflict is still a way off, these experiences can be a blueprint for future endeavours for our country.

6.1.3. Impact of the War on India



- **Geopolitical Development**

India has strong financial and security connections with Russia. Nonetheless, the United States has emerged as the most important partner to India over the last two and a half decades. When and if, the United States decides to impose sanctions on Russia, India will face a hard time in managing this relationship. This will then have ramifications for NATO and its growing impact, as some countries choose to allocate larger assets and have their main area of focus as to defence.

- **Impact on the Financial and Money Services Sector**

There are now various sanctions that bar and refrain Russia from participating in the SWIFT payment system, here than 11,000 financial institutions use to send and receive money to different countries, this is will for sure affect the processing of bank transfers to and from Russia. Payment difficulties may arise for exporters to Russia.

Exporters to Russia may confront issues in getting instalments.

Since Indian banks' exchange fund operations are limited to limited exchange measures between Russia and India, suggestions about Indian banks are probably going to be insignificant. In a sense, Russia has received an adjusted sheet of US$100 million from one Indian bank. Cyberattacks on lessons pertaining to money could become more frequent.

Companies that are well-known in Russia and Europe may experience financial difficulties. The automotive, oil and gas, oilseeds, electrical and electronic hardware, manure, pharmaceutical, tea, and other industries will all witness a temporary impact on their accounts as exchange becomes more difficult. viii

- **Impact on the Consumers and their Behaviour**

India imports manures and edible oil from Russia, specifically sunflower oil. In 2020–21, The two countries accounted for 80% of India's total sunflower oil production. The suspension of operations at Ukraine's ports is expected to cause disruptions in the supply chain. Other requirements in Russia include electricity, mineral oils, pearls, precious or semi-precious stones,

boilers, atomic reactors, machinery, mechanical apparatuses, electrical apparatuses, and gear. India mostly receives commodities from Ukraine in the form of plastics, polymers, metals, and rural goods.
India's tea exports to the two countries, totalled 40 million kg and 1.7 million kg. The increasing pressures are probably going to have an impact on India's tea exports, which could lead to an overabundance situation in households that would promote a decrease in prices.
Buyer estimations and control could be affected by increasing swelling and a potential increase in arrangement rates.

- **Impact on the Life, Sciences and Healthcare Division**

Of the total amount of pharmaceuticals exported from the country, 2.4% comes from Russia and 0.74% comes from Ukraine. In FY21, India exported medicines valued at US$24.5 billion. Pharmaceutical exports from India to Russia totalled over US $600 million in FY 2021, a growth of roughly 6.95% over the previous year. Ukraine, on the other hand, provided over US $181 million in FY 2021, representing an year on year increase of roughly 44%. The increasing tensions between Russia and Ukraine may cause unrest in the Indian pharmaceutical sector's overall drug and intermediate exports.
Cash that has lost value could help export-focused industries like medicine. Exchange receivables from Russia that are considered unusual may not be settled because of sanctions against Russian banks. [ix]

- **Impact on the Government & Open Administrations Segment**

Government finances are anticipated to be impacted by rising oil costs brought on by the disruption in the supply of petrol and oil, which could result in lower capital expenses. Currently, importing oil from significant producers—like Venezuela and Iran—is quite difficult. Russia is a significant supplier of guard hardware to India. Supply chains in the protection industry may become stretched, which would impact Russian first stages' operational accessibility. Trades of goods produced within the organisation with Russia appear to be hindered. The current sanctions on major Russian banks may also have an impact on imports of guard equipment. The administration will probably push harder for Atmanirbhar Bharat, or self-reliance, in energy (rough oil) and creating protection, but the decisions.

- **Impact on the GIC Division**

Businesses appear more inclined to move or open GICs in India than in countries in Eastern Europe, such as Poland, which shares borders with Ukraine.

- **Impact on the Energy and Resources Sector**

Approximately 85% of country's need for rough oil and over 50% of its regular petrol needs are imported.
The fringes of the ERI sector will probably be impacted by the growing costs of (LNG).
In an unlikely event that the situation worsens, government-owned oil and gas companies with interests in Russian oil and gas projects may be impacted. Palladium, is widely used in India to produce mobile phones and alarm systems, is sourced primarily from Russia. This metal's price has increased overall.
Other commodities that are impacted are wheat, titanium (used in aviation industry), nickel (to make stainless steel), and characteristic gas. Abridging Russian sends out would help Indian steelmakers to capture the send-out advertise share.
In conclusion, the crisis in Russia has unintentionally drawn increased attention from around the globe to India. India's financial approach—particularly its drive for self-reliance—may promote scrutiny even as it marks and seeks free exchange assertions with significant trading partners like the United Arab Emirates, Australia, and Great Britain—especially as its accommodative response encounters resistance. The Biden group has issued a warning, saying that it is not in India's best interests to "accelerate or increase" imports of Russian vitality and other goods and has called on businesses to collaborate with the country to help

reduce its reliance on Moscow. Whatever the case, India's stance is determined by its own interests, above all by financial and security considerations.

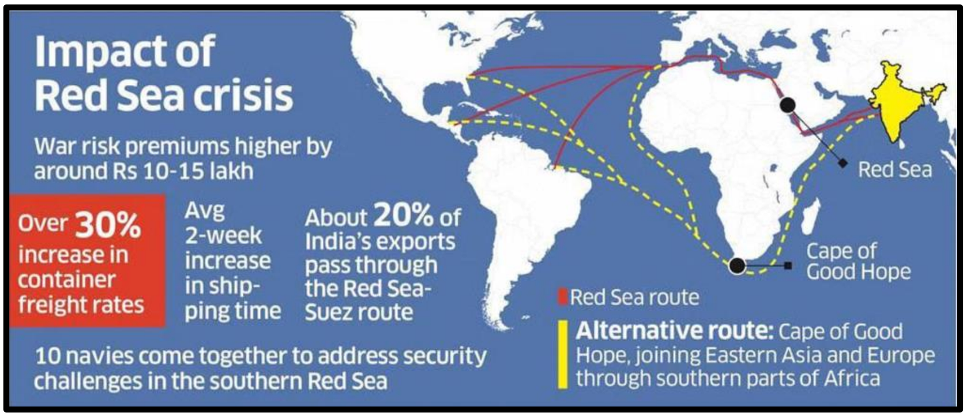
India cannot, at least not in the near future, back down from its position despite its international stature. Consequently, India's external strategy and its associations with influential worldwide entities like the US and Russia will continue to be intricate and multifaceted, with a keen understanding of its financial and security interface. [x]

7.2. The Red Sea War

7.2.1 Brief About the War

The recent Red Sea conflict, which began in October 2023, is an ongoing military standoff between:

- Yemen's Houthi rebels (backed by Iran) and
- Israel



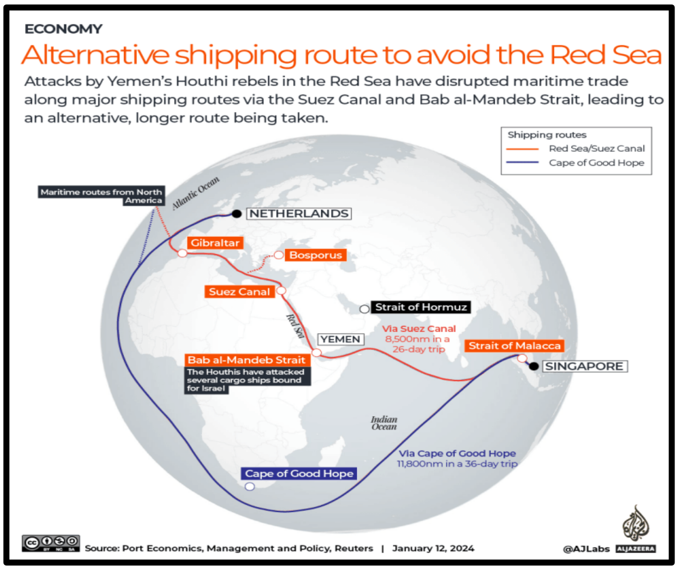
As mentioned in the Introduction and the main focus of the Research Paper, the war started with the Houthis launching a missile and drone attacks against Israel, likely in response to Israel's actions in the Gaza Strip. The Houthis have also targeted commercial ships in the Red Sea, disrupting trade and causing environmental concerns. An international military coalition led by the United States has been formed to protect the Red Sea from Houthi attacks, including airstrikes against Houthi targets within Yemen. Currently, the conflict remains unresolved with ongoing tensions and occasional attacks. However, the focus on the Red Sea has raised concerns about the disruption of global trade routes which will form the next few sections of the Research Methodology, impact of the war on various sectors and aspects of the Indian economy.

- **Impact on Healthcare Sector**

India’s pharmaceutical exports increased 9.3% year on year to $2,477.43 million in December amid the rising impact of the red sea crisis on several commodity export from the country.[xi] The Sea is a crucial route for transporting medical equipment, medications, and raw material for pharmaceutical production. As a result of the Sea crisis, there has been a disruption in the medical supply chain. Furthermore, a significant increase can be seen in the shipping cost due to rerouting and longer journeys.

- **Impact on Consumer Sector**

Other than the rising freight cost, there has been a limited direct impact of the sea crisis on the consumer sector. Due to the geopolitical tension around the red sea, the domestic wholesale price index is predicted to rise in December from 0.73% to 3-3.5% in the fiscal year 2025. India is the world biggest exporter of rice and ships more than 4.5 million tonnes of basmati rice out the country annually.[xii] About 35% of the 7.5 million tonnes of production is shipped to Europe, Africa, North America, and the Middle East through the sea.[xiii] The crisis is expected to have a bearing on the exports of basmati rice and there might be a remarkable increase in the prices of foods grains due to the rising logistics cost. Additionally, companies operating in sectors like agricultural commodities and marine food will be significantly impacted, while Fast Moving Consumer Goods (FMCG) industry is less likely to be affected as the rely on established domestic supply chains and alternative shipping routes. India imports 80% of its crude oil needs. Although Sea is one of the key routes for oil shipments for India, there is not significant disruptions in the oil flow.



- **Impact on Financial Sector**

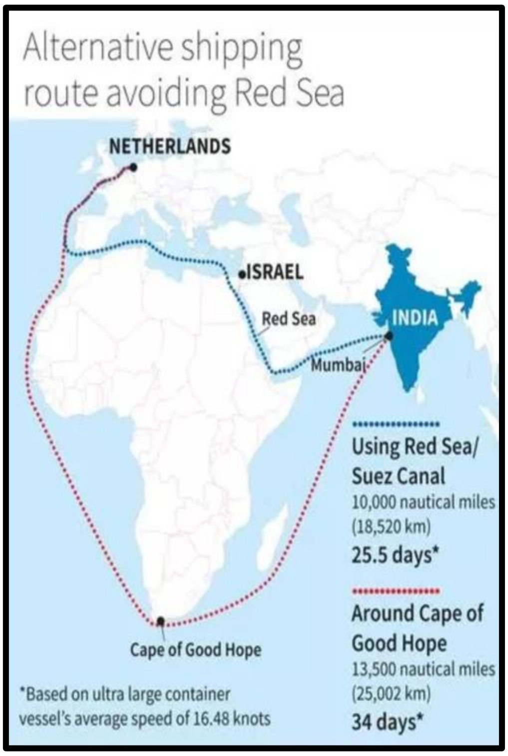
Rea sea crisis poses challenges for many sectors and any aggravation of the crisis can result in a potential threat for the equity markets and stroke inflation. The conflict in the red sea, that is the attacks on ships by Houthi rebels, has increased the expenses for ships, thus affecting the Indian importers. Approximately one third of all container traffic worldwide passes through the Suez Canal, whereas only 12% of the world trade occurs in the Red Sea.[xiv] Ships are rerouting from the far east to Europe and other destinations, adding some 3,000 miles to their journey around the Good Hope Cape. The detour via the Cape extends the journey time from 34 days to 43 days, increases shipping costs by 60% and insurance premium by 20%.[xv] This increased distance is a key factor for delayed shipments, increased shipping cost and delayed payments. While the demand is still high, the delayed shipments cause a shortage of supply thus disrupting the supply chain and shows a potential for fluctuation in the Indian rupee.

- **Impact on the Energy, Resources & Industrials Sector**

Recent developments in the Red Sea have thrown a wrench into the smooth functioning of the Indian market. Disruptions to trade routes are causing major headaches, with crucial sectors like petroleum products, cereals, and chemicals – all major Indian exports – feeling the pinch. To put it in perspective, imagine this: in the last fiscal year, a staggering 65% of India's crude oil imports, valued at roughly $105 billion, traversed the Suez Canal. The situation is further complicated by Indian shippers being forced to reroute some services around the Cape of Good Hope due to the ongoing attacks, as reported by the Financial Times.

Unless a resolution is found to the current Israel-Hamas conflict, the situation in the Red Sea is unlikely to improve. The rebels have made it clear that attacks will continue until Israel changes course. This ongoing crisis has the potential to trigger inflation in India due to a double whammy: a rise in global freight and insurance costs, coupled with the unwelcome return of supply chain disruptions.

Chemicals, plastics, and petrochemicals are other sectors bearing the brunt of the crisis, as they struggle to absorb the rising freight costs.



- **Impact on the Government & Open Administrations segment**

The simmering conflict in the Red Sea has financial experts holding their breath, worried about potential market disruptions. India, heavily reliant on imports for its energy needs (over 85% of crude oil and more than 50% of gas), could see its oil marketing companies, like BPCL, HPCL, and IOC, feeling the pinch.

Recognizing the potential storm brewing, the Indian government has taken proactive steps. An interministerial group, spearheaded by a high-ranking official, recently convened with exporters and logistics providers (as of January 16th, 2024) to brainstorm solutions for maintaining a steady flow of goods. Acknowledging the conflict's impact on shipping costs, the government is actively seeking ways to support these vital sectors. [xvi]

Commerce Minister Piyush Goyal has assured the public that India is prepared for a long haul. Furthermore, Dr. Anup Wadhawan, a key official within the Commerce Department, revealed discussions with the Export Credit Guarantee Corporation Ltd. about offering more favourable interest rates to exporters burdened by rising insurance costs. Exploring alternative shipping routes and strategies to minimize container expenses are also part of the government's plan.

- **Impact on Supply Chain**

Ajay Sahai, head of the Federation of Indian Export Organisations, warns of rising consumer costs due to the Red Sea crisis. For exporters using Free on Board (FOB) terms, where buyers typically cover shipping, the increased freight costs translate to higher final prices for consumers. Even for those who pay shipping upfront (CIF and C&F terms), the need to reroute around Africa adds significant time and expense. Mr. Sahai highlights the burden this places on businesses.

The situation isn't just about cost either. As highlighted by industry expert Mr. Nair, importing vital goods like machinery and medicine from Europe will be significantly impacted due to the longer route. The logistical challenges threaten to disrupt crucial supply chains.

The threat is so serious that authorities are advising ships to take longer routes to avoid pirates entirely. Major companies like Maersk, MSC, BP, and COSCO have already halted or rerouted operations near Yemen's coast.

Figure 1: The Maersk Hangzhou ship sails near the Netherlands in July 2018. The vessel was attacked by Houthi fighters on December 30, 2023, after entering the Red Sea.

Looking ahead, the industry expects delays, rising freight costs, and surging insurance premiums. News reports suggest insurance costs in the Red Sea have doubled, potentially adding thousands of dollars per voyage. Some insurers are even pulling out entirely, while others are imposing significant war risk surcharges. This has even prompted some insurers to completely deny coverage for Red Sea routes, while others are imposing hefty war risk surcharges exceeding $5,200. [xvii]

7.3. Future Implications

Some of the possible future scenarios that may happen due to red sea war are increased hostilities, stronger military presence and there is a possibility of negative economic consequences. The Houthis' political strategy to maintain and expand their grip in Yemen while supporting the Palestinian cause involves disrupting commercial shipping flows in the Red Sea. As part of EU Aspides naval defence initiative, EU increased its presence in the area where US and its allies retaliated by launching airstrikes on Houthi positions.

Geopolitical and military tensions have risen following the disruption in the Red Sea which makes it possible that this already massive conflict can deteriorate further and claim more lives.

Few other implications-

1. Disruptions in the Red Sea impact on international trade networks as well as nearby regions. Any interruption to this vital shipping route could result in cargoes being delayed, thus affecting the overall supply chains of various different countries all over the world.
2. Ships are being forced to travel via Africa's Cape of Good Hope due to fighting in the Red Sea; thus, increasing costs and duration of these journeys. This might result into late shipments potentially hurting those customers or businesses which rely upon prompt deliveries.
2. Consequently, shipping companies may end up spending more on fuel and operations due to diversionary routes that lead to longer trips to Europe. Delivery of items by sea might thus be made expensive as a result of the above mentioned.
3. This in turn raises the overall cost of maritime trade for any extra international shipping company, moreover, thereby imposing an extra additional financial strain.
5. The instability caused by the Red Sea war can make variations in global gas prices or oil. Any interruption to the flow of oil through this vital canal might have an effect on energy markets and raise prices that could affect global consumers and businesses.
6. Such areas which depend heavily on energy imports like Europe and low-income countries therefore are most at risk from disruption in the supply of gas and oil. These regions' economic stability and growth prospects could be adversely affected if violence escalates in the Red Sea.

8. INTERPRETATION

8.1. The Red Sea Crisis and Its Impact on Indian Companies

Arvind Ltd. informed analysts that by that around Rs 20–25 crore in revenue from the December quarter has spilled over into the current one as a result of the crisis, as it was unable to fulfill all orders because of a container backlog. Vice chairman Punit Lalbhai stated during the most recent earnings call that although the company is negotiating the freight rates for the commodities where it must carry the freight, for the majority of orders, the client is responsible for paying the freight.

The management of **Gokaldas Exports** informed analysts earlier this month that the majority of client brands are using air freighting to save time and offsetting incremental insurance by speaking with their logistics partner.

Automobile manufacturers who use this channel to import or export parts reported some operational disturbance. According to Rajeev Chaba, Chairman Emeritus of **MG Motor India**, certain parts are imported from Europe. The crisis will undoubtedly have an effect if it lasts for a long time. Shipments are delayed and logistics expenses have already gone up, he claimed.

Rahul Bharti, Executive Director of Corporate Relations at **Maruti Suzuki**, stated that only a minor portion of the company's overall exports come from the Red Sea route because its shipments are spread over around a hundred nations. In regards to that, they have begun shipping their cars via an alternative route, which might result in a minor increase in price and duration.

Rajesh Mehta, a Leader at **Liladhar Pasoo Group**, understands the tough spot Indian businesses are in with the Red Sea mess and global tensions. His logistics company is here to help. They're figuring out new ways to get things moving despite the disruptions. Air cargo can be a lifesaver for urgent shipments, but they recommend a mix of transport options (air, sea) to find the right balance between speed and cost. They're even exploring creative solutions that combine air and sea freight for extra flexibility. By planning ahead, like predicting cargo volume and optimizing routes, they can keep costs in check and build stronger supply chains. They're also looking at alternative routes, like China-Europe via Los Angeles and sea-land routes through the Middle East for India-Europe trade. Liladhar Pasoo Group isn't afraid of a challenge, and they're confident they'll find innovative ways to keep your business running smoothly. [xviii]

Nitin Agrawal, Head of a major Indian grape exporter (**Euro Fruits**), is feeling the pain. Normally, they ship to Europe through the Red Sea, but now the longer route is costing them four times more and taking twice as long. This hurts the grapes' quality, increasing cost and pushing prices up for European customers. The EU actually gets a big chunk of their grapes from India, especially during peak season (March-April), so this conflict is hitting consumers hard. [xix]

8.2. Trade Disruptions Pre & Post Conflict [xx]

The ongoing conflict in the Red Sea has emerged as a major disruptor for Indian trade, particularly for imports and exports involving Europe, North Africa, and the Middle East. These regions represent a significant portion of **India's total trade volume, with roughly 50% of the country's exports (valued at ₹18 lakh crore) and 30% of imports (valued at ₹17 lakh crore) traditionally relying on the Red Sea** route for efficient movement.

- **Shifting Trade Patterns and Increased Shipping Costs**

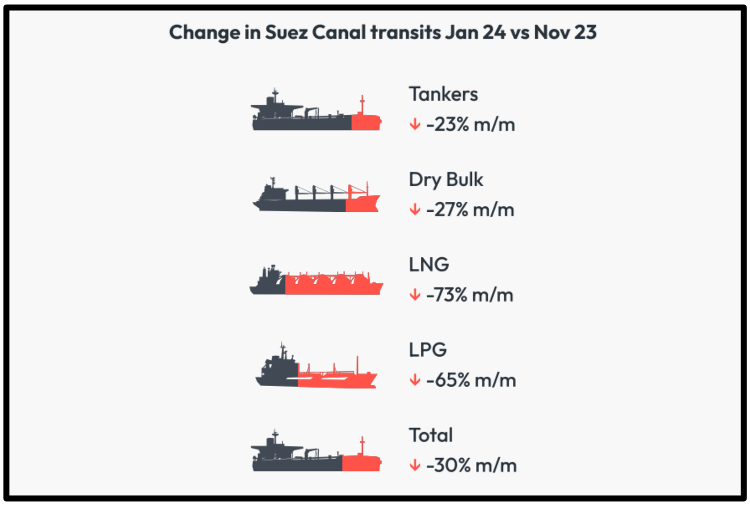
Data from CRISIL Ratings reveals that **nearly 68% of India's total merchandise trade (valued at ₹94 lakh crore last fiscal) is seaborne**. With the Red Sea deemed unsafe for passage, ships are being rerouted around Africa's Cape of Good Hope. This detour, as reported by GTRI, has resulted in a **30% increase in transit times**, potentially leading to delayed deliveries for Indian businesses. Furthermore, **global container shipping capacity has dropped by an estimated 9%**, further straining resources. This situation is mirrored in delays experienced by Asian producers exporting to European consumers, facing up to **20 additional days** due to the rerouting.

The economic impact extends beyond just delays. Container freight rates have also spiked significantly. Reports indicate a **surge of $500 per container** in late December 2023, with major shipping companies like **Hapag-Lloyd and Maersk** raising rates for shipments from India to North Europe. This trend signifies a rising cost burden for Indian businesses engaged in international trade.

- **Trade Volume Shifts and Port Congestion**

The International Monetary Fund (IMF) data provides further insights into the changing trade landscape. **The volume of trade passing through the Suez Canal has plummeted by 50% year-on-year in the first two months of the year, a stark contrast to the estimated 74% increase observed around the Cape of Good Hope.** This significant shift reflects the industry's cautious approach to navigating the conflict zone. By mid-February 2024, data suggests that approximately **621 container ships had opted for alternative routes**.

However, this rerouting has created a new set of challenges. GTRI reports a **surge in congestion at key South African ports like Cape Town, Ngqura, Richards Bay, and Durban**. These congested ports are experiencing delays in loading and unloading cargo, potentially exacerbating existing supply chain bottlenecks and leading to potential shortages.



- **Impact on Specific Sectors and Potential Price Increases**

The disruption caused by the Red Sea conflict is having a cascading effect on various Indian industries. A crucial example lies in India's crude oil imports. **Approximately 65% of these imports, valued at $105 billion and primarily sourced from countries like Iraq and Saudi Arabia, traditionally utilize the Red Sea route**. The current conflict poses a significant threat to the smooth flow of these critical imports. Similarly, trade with Europe and North Africa, valued at $113 billion, is expected to see significant cost increases. Reports suggest potential **hikes in shipping costs ranging from 40% to 60%** for this trade route. Additionally, businesses can expect **delays of up to 20 days and a 15-20% increase in insurance premiums** due to the heightened risk associated with the conflict zone.

These factors will likely translate into rising costs for various industries that rely heavily on imports and exports. **Confectionery companies** are already facing the brunt of high **cocoa** prices and shortages due to delayed deliveries from Africa, impacting their profitability. Similarly, **textile and leather industries**, which typically operate on thin margins, are being forced to renegotiate shipping costs with buyers, potentially squeezing their earnings.

8.3. India's Response to the Red Sea Conflict: Potential Solutions

In response to the disruptions caused by the Red Sea conflict, India is exploring various strategies to mitigate the impact and ensure the smooth flow of trade:

- **Diversification:** India is considering diversifying its sources of crude oil and LNG imports, reducing dependence on the Red Sea route. This could involve exploring new suppliers and establishing alternative trade routes.
- **Port Reliance:** Ports located outside the conflict zone, such as those in Oman and Djibouti, are being examined as potential hubs for transhipment and regional trade. This would help bypass the Red Sea altogether.
- **Financial and Insurance Support:** The Indian government is exploring ways to offer financial aid and insurance schemes to companies impacted by the trade disruptions. This could help businesses cope with the increased costs and potential losses.
  1. **Direct Cost Offsets:** Temporary subsidies for a portion of the increased shipping costs incurred due to rerouting. This could be targeted at specific industries or based on the percentage cost increase experienced by companies.

2. **Soft Loan Programs:** Providing access to low-interest or deferred-payment loans for businesses facing cash flow challenges due to the disruptions. This would allow them to manage the temporary financial strain.
3. **Government-Backed Cargo Insurance:** Introducing a temporary insurance scheme that specifically covers losses or damage to cargo delayed or rerouted due to the Red Sea conflict. This would incentivize continued trade and mitigate business risk.

- **Regional Partnerships:** Strengthening partnerships with regional players like Saudi Arabia and the UAE is another potential solution. Increased cooperation could promote economic stability and potentially lead to joint efforts to de-escalate the conflict.
- **Alternative Routes:** India is also evaluating long-term solutions like investing in the Northern Sea Route and expanding land transport infrastructure. This would provide alternative maritime and land-based trade routes, reducing reliance on the Suez Canal and Red Sea.
- **IMEC Initiative:** The India-Middle East-Europe Economic Corridor (IMEC) is a key project gaining renewed importance. This initiative, though delayed by regional conflicts (Israel-Hamas war of 2023), proposes a network of rail, road, and sea routes connecting India, the Middle East (East Corridor), and Europe (Northern Corridor). It was launched in September 2023 at the G20 summit in New Delhi with backing from several countries being India, US, EU and other Middle Eastern countries. A functional IMEC could significantly boost trade across these regions. [xxi]
- **Anti-Piracy Efforts:** If keeping the seas safe is the goal, India can learn a lot from past successes. During the piracy issues off the coast of East Africa, near Somalia in 2012, the world came together to tackle the problem. Countries like India, China, Japan, and South Korea even joined forces to patrol the Gulf of Aden. This kind of coordinated effort is exactly what's needed to fight piracy in the Red Sea. [xxii]

By implementing these solutions, India can potentially mitigate the immediate disruptions caused by the Red Sea conflict and build a more resilient supply chain for the future.

9. CONCLUSION

The recent conflict in the Red Sea has caused significant damage to India's supply network, posing major challenges that will impact regional and international trade dynamics. This incident sheds light on the vulnerability of Indian maritime routes, especially those passing through the Red Sea region, crucial for oil trade and commercial connections. Indian businesses now face higher risks of supply disruptions, increased insurance expenses, and shipment delays due to rising tensions and maritime security threats, affecting both export-focused and import-reliant sectors.

Necessity for Diversifying Supply Chain Strategy

India must diversify its supply chain strategy to safeguard its maritime interests by reducing reliance on risky routes and strengthening partnerships with regional and global allies. Investment in infrastructure enhancements such as naval capabilities and port modernization is necessary to sustain trade flows and enhance resilience in the face of geopolitical uncertainties.

The Red Sea conflict prompts a revaluation of risk management plans to enhance adaptability and resilience amid evolving geopolitical conditions. Call for Multilateral Collaboration and Diplomacy Multilateral collaboration, diplomacy, and conflict resolution mechanisms play a pivotal role in preserving global maritime security and the integrity of international trade routes. Active steps are needed to mitigate risks, diversify trade routes, and promote international cooperation to bolster supply chain resilience and

marine security for India. In the foreseeable future, India's economic stability, strategic interests, and global economic integration hinge on its ability to address these challenges effectively.
India needs to implement several strategic measures to mitigate risks and ensure the of its trade and commerce in response to the Red Sea War and its potential impacts on Indian supply chains:

1. Defy Sources of Supply

India should broaden its sources of supplies to reduce dependence on specific regions or countries for essential imports. This could involve expanding trade relations with alternative suppliers from different regions to ensure the availability of crucial goods even in case of disruptions in the Red Sea area.

2. Strengthen Diplomatic Initiatives

To foster peaceful resolutions and secure maritime trade routes, India must uphold diplomatic ties with the parties involved in the Red Sea conflict. By promoting communication and cooperation, India can protect its economic interests and contribute to regional stability.

3. Invest in Alternative Transportation Channels

To bypass the Red Sea region during periods of conflict or instability, India should explore and invest in alternate maritime or land transportation routes. This may include the development of new trade corridors and the enhancement of existing infrastructure to improve connections with other global regions.

4. Boost Maritime Security

India must enhance its maritime security capabilities to safeguard shipping lanes and ensure safe passage of goods through critical waterways. This could involve intensifying naval patrols, surveillance operations, and collaborating with international partners to combat threats such as terrorism, piracy, and other risks to maritime trade.

5. Encourage Local Manufacturing

To reduce reliance on imports, India should prioritize domestic production and self-sufficiency in key industries. By promoting initiatives like 'Make in India' and strengthening manufacturing capacities domestically, India can enhance economic resilience and decrease vulnerability to external disruptions.

6. Embrace Technological Advancements

India can leverage innovation and technology to streamline supply chain management processes and enhance responsiveness and agility. This may entail implementing advanced analytics for risk evaluation, utilizing automation and robotics for increased productivity, and adopting digital platforms for enhanced supply chain visibility.

7. Collaborate with Global Partners

India should collaborate with international allies to address supply chain disruptions and share best practices for enhancing resilience. By fostering partnerships with neighboring countries and international organizations, India can enhance its ability to manage risks effectively and tackle common challenges together.

Through the execution of these strategic measures, India can bolster the resilience of its supply chains and mitigate the adverse impacts of the Red Sea War on its trade and economy. By adopting a proactive and multifaceted approach, India can navigate through uncertain times and emerge stronger in the face of geopolitical threats.

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