

Review Article Usually for a review paper, you need about 40 references!!!

Coastal and Maritime Security of India in the Indian Ocean Region: Assessing the Challenges and Opportunities of Sea Bed Mining

Review the Journal's requirements as for the citation style, not using footnote refs!!! Use last name, year style and move all references to a list at the end of the paper....

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ABSTRACT

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This research paper aims to particularly provide a comprehensive analysis of the coastal and maritime security of India in the Indian Ocean Region, specifically focusing on the challenges and opportunities associated with sea bed seabed mining in a kind of major way. The legal framework governing sea bed mining in India is primarily established by the "Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act)" in a really big way. This act grants the basically central government the authority to regulate and control mining operations within India's territorial waters, really exclusive economic zone, and continental shelf, which generally is fairly significant. The paper highlights the challenges posed by sea bed mining, including the kind of potential environmental impact, adherence to basically international agreements and conventions, and technological and operational challenges. It explores the importance of conducting environmental impact assessments (EIAs) and implementing mitigation measures to basically ensure sustainable mining practices in a big way. The steps taken to abide by the rules and regulations set by the international organisations.

Comment [M1]: Be more specific... Qualitative, what kind based on legal documents and

Key words Keywords: Indian Ocean Region, Sea Bed Mining, Coastal and Maritime Security, ~~Mines and Minerals (Development and Regulation) Act, 1957~~, Legal Framework, Challenges, Opportunities, Environmental Impact, International Agreements, ~~Technological Challenges, Landmark Cases, "Environmental Impact Assessment (EIA), United Nations Convention on the Law of the Sea (UNCLOS)"~~.

Comment [M2]: 6-8 words!!!

1. INTRODUCTION redo the write-up so that you clearly indulge in the legal reasoning!

“We ourselves feel that what we are doing is just a drop in the ocean. But the ocean would be less because of that missing drop.”

-Mother Teresa

Comment [M3]: Reference it, where is this quoted?

Define the terms first that constitute the main points of this work....then provide dimensions of the coastal area covered and the marine zone.... May use a map!!!

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Now beginning with this quote it would help us study the impact and the challenges faced by the coastal and marine security which essentially are of critical importance to India's very overall growth and to the country's actually general safety in a subtle way. As India investigates the possibility of mining the sea bottom, which for the most part is really essential for the country to literally have an understanding of the underlying legal structure, as well as the obstacles and prospects, which essentially is quite significant. The purpose of this research paper mostly is to generally present an in-depth examination of sea bed mining in India by reviewing important statutes, historic cases, legal concepts, and particularly international agreements that actually govern this industry, which for all intents and purposes shows that the purpose of this research paper generally is to generally present an in depth examination of sea bed mining in India by reviewing important statutes, historic cases, legal concepts, and pretty international agreements that for the most part govern this industry, which for the most part is quite significant [1-3]. ????

Comment [M4]: Repetition???

2. METHODOLOGY ??????????????????

3. DISCUSSION

2-3.1 Legal Framework of Seabed Mining LEGAL FRAMEWORK OF SEA MINING

Sea-bed mining refers to the practise of extracting minerals from the sea floor in a basically big way. The Mines and Minerals (Development and Regulation) Act, 1957 (also known as the MMDR Act)¹, actually is the particularly major piece of law that governs sea-bed mining in India, or so they specifically thought [4.5]. The federal government of India basically is given the authority to award mining leases and to control mining activities by virtue of Section 4 of the basically Mineral and Mining Development and Regulation Act (MMDR Act)², definitely contrary to popular belief.

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Comment [M6]: Not clear?

Comment [M7]: Which is???

¹ “The Mines and Minerals (Development and Regulation) Act, 1957 (act 67 of 1957)” [Show its reference??](#)

² “The Mines and Minerals (Development and Regulation) Act, 1957 (act 67 of 1957), s. 4.”

This authority extends to mining operations affecting minerals that essentially are definitely present in India's very territorial seas, pretty exclusive economic zone, and continental shelf, ~~actually and~~ further showing how sea-bed mining refers to the practise of extracting minerals from the sea floor, which ~~actually is are~~ fairly significant.

Comment [M8]: Describe in the introduction!!

This Act emphasises the role that the government should ~~actually~~ play in the preservation and development of the minerals that may ~~basically~~ be discovered in ~~definitely~~ certain locations, which kind of is fairly significant.

Comment [M9]: Quantify????

Comment [M10]: ??? very general terms used!!

“The Territorial Waters, Continental Shelf, Exclusive Economic Zone, and other Maritime Zones Act, 1976³ has Sections 5 and 6⁴ lay forth the parameters of Indian marine law by defining the country's territorial seas, contiguous zone, and exclusive economic zone (EEZ). To explore and utilise mineral and non-living resources in the seabed and subsoil thereof inside the EEZ and the continental shelf, section 3(2)⁵ grants India sovereign powers.”

Comment [M11]: Show the main statements as per the mentioned law!

3 CHALLENGES OF SEA BED MINING

3.2 Challenges of the Seabed Mining

3.2.13.1. Harm to Environment-

The ~~e~~Environmental ~~i~~Impact ~~of~~ Sea bed-mining ~~actually~~ has the ~~definitely~~ potential to inflict considerable ecological harm, including the loss of seabed ecosystems, the discharge of hazardous sediments, and disruptions to marine biodiversity, which really is quite significant.

Comment [M12]: ????? Quantify and provide reference???

This problem ~~kind of~~ is exacerbated by the fact that sea-bed mining ~~essentially~~ is currently ~~illegal, and fairly contrary to popular belief~~. Because of this, it ~~specifically~~ is ~~really~~ imperative that the Environmental Impact Assessment (EIA) procedure, which ~~really~~ was established by the Environmental Impact Assessment Notification 2006⁶, ~~definitely~~ be strictly adhered to, or ~~so they kind of thought~~ [6-8]. To guarantee that mining practises ~~really~~ are sustainable, it ~~basically~~ is necessary to ~~generally~~ carry out comprehensive analyses and ~~specifically~~ implement suitable mitigation measures, ~~which really is fairly significant~~.

Comment [M13]: Elaborate what that means?? And give example

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Comment [M14]: Change the language of guessing all the time, and provide facts!

Comment [M15]: ???????

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³ “The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976 (act 80 of 1976).”

⁴ “The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976 (act 80 of 1976). s.5,6.”

⁵ “The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976 (act 80 of 1976) ss3.2.”

⁶ “Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] (September,2006)”

3.2.2. International Conflicts-

India investigates the possibility of mining the sea bottom, ~~it really is generally essential~~ for the country to, for all intents and purposes, have an understanding of the underlying legal structure. ~~India should also investigate, as well as~~ the obstacles and prospects, ~~which essentially is quite significant.~~

Comment [M16]: Why???

3.2.3. Obligations and ~~definitely~~ International Agreements:

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~~In order to~~ To mine the sea-bed, India ~~generally~~ is required to ~~actually~~ comply with a number of ~~sort of~~ international agreements and conventions, the most important of which ~~being is~~ the “United Nations Convention on the Law of the Sea (UNCLOS), showing how because of this, it particularly is generally imperative that the Environmental Impact Assessment (EIA) procedure, which was established by the Environmental Impact Assessment Notification, 2006⁷, for the most part be strictly adhered to in a kind of big way. Compliance with UNCLOS for the most part is kind of essential for preserving kind of positive ties with nations that actually are geographically for all intents and purposes close by, avoiding conflicts, and ensuring the continued safety of coastal and marine areas, showing how compliance with UNCLOS really is generally essential for preserving really positive ties with nations that kind of are geographically literally close by, avoiding conflicts, and ensuring the continued safety of coastal and marine areas, basically contrary to popular belief.”⁸

Comment [M17]: Rewrite, very confusing!!!!

3.3 Technology as ~~Obstacle~~

Comment [M18]: This section is not clear???
With no examples??? And actual quantifications!

Obstacles Presented by ~~t~~Technology and ~~o~~Operations ~~in the~~The extraction of minerals from the sea-bed ~~for the most part~~ calls for specialised knowledge and ~~really~~ cutting-edge technology, ~~which actually shows that which actually is fairly significant.~~ It ~~basically~~ is vital to ~~kind of~~ ensure the availability and affordability of relevant technology in order to ~~for all intents and purposes~~ overcome technical and operational obstacles.

4. LANDMARK CASES 3.4 Landmark Cases

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This section is about cases that changed the course of the law and their implications.:

⁷ “Ministry of Environment and Forests, (Published in the Gazette of India, Extraordinary, Part-II, and Section 3, Sub-section (ii), No. 2002] (September,2006)”

⁸ “The United Nations Convention on the Law of the Sea, 1982”

4.1.3.4.1 *Union of India v. Tata Iron and Steel Company Ltd., 2001*⁹ :

Facts: The Supreme Court of India addressed the question of ownership of minerals, including offshore resources in Indian territorial seas, in this decision.

Comment [M19]: Describe the status quo... what is the actual problem here?

Judgment: The State, including ~~fairly~~ offshore regions, is the owner of all resources underneath its territory, the Court declared, ~~which is quite significant~~. When issuing mining leases, it emphasised the need to strike a balance between environmental preservation and sustainable growth. The Court emphasised that mining operations should not impair marine ecosystems or the environment permanently in a major way.

3.4.2. *Nature Club of Rajasthan vs Union Of India*¹⁰ :

Facts: ~~In this instance,~~ The subject of Rajasthan's sand mining's negative effects on the ecosystem and ecology was discussed.

Comment [M20]: Elaborate on this??

Judgment: Due to the serious environmental harm that uncontrolled and illicit sand mining causes, the Supreme Court banned sand mining in Rajasthan. The Court emphasised the necessity to safeguard natural resources while regulating mining activities, stressing the significance of striking a balance between economic progress and ecological sustainability.

3.4.3. *Pradeep Krishen v. Union of India 1995*¹¹ :

Facts: In this instance, the environmental effects of unauthorised mining and quarrying in Haryana's Aravalli Hills were the sort of main emphasis.

Comment [M21]: Describe how big is this problem and costs???

Judgment: The Supreme Court established regulations for mining in environmentally vulnerable regions and emphasised the significance of maintaining the ecological balance and safeguarding required natural resources. The Court emphasised that it ~~basically~~ is the responsibility of the government to protect the environment and ordered the State to take the necessary precautions to stop unauthorised mining.

⁹ "CASE NO.: Appeal (civil) 6962 of 2000"

¹⁰ Original Application No. 60/2021 (CZ) With I.A. No. 51 of 2021

¹¹ Writ Petition (C) No. 262 of 1995

3.4.4. *Save Life Foundation v. Union of India* 2012¹²:

Facts: The lawsuit ~~was~~ focused on Tamil Nadu's illicit beach sand mining and how it was harming the ecosystem and the coastal ecology in a subtle ~~way~~.

Comment [M22]: Again provide some facts???

Judgement: According to the Supreme Court, unrestricted beach sand mining might ~~kind of~~ have negative ecological effects that would harm not just the coastal environment but also the way of life for coastal people. The Tamil Nadu government was ~~really~~ ordered by the court to take stern action against illicit mining and ~~put up put up~~ viable plans to ~~basically~~ safeguard the coastal area, ~~contrary to popular belief~~.

3.4.5. *Goa Foundation v. Union of India* 2014¹³:

~~Factual information~~ In the case, the unlawful mining of iron ore in Goa and its detrimental consequences on the environment, ecology, and ~~fairly the~~ local residents ~~generally~~ were the main ~~topics~~.

Comment [M23]: Add the facts???

Judgement: Taking into account the vast unlawful mining and the ecological harm caused, the Supreme Court banned mining operations in Goa, ~~or so they thought~~. The Court emphasised the importance of environmentally friendly mining methods and ordered the government to ~~particularly~~ create a comprehensive programme to control mineral extraction while taking the necessary precautions to safeguard the environment ~~in a big way~~.

Comment [M24]: ?? Meaning what?

These instances demonstrate the judiciary's contribution to ensuring India's coastal and marine security through the preservation of the ecological balance, the protection of natural resources, and the promotion of sustainable mining practises. In the context of sea-bed mining and coastal/maritime security, they ~~literally~~ ~~provided~~ precedents for responsible mining activities and emphasised ~~the~~ responsibility of the State to guarantee environmental protection and sensible development [6,10].

3.5. APPLIED LEGAL PRINCIPLES

3.5.1. **Sovereign Rights:**

Exclusive economic zones (EEZ) and continental shelf are the zones ~~which are~~ provided by the Country to the international unions which ~~is are~~ then approved at an international level

¹² Writ Petition (C) No.235 OF 2012

¹³ AIR 2014 6 SCC 590

and thus they have the right to establish and do whatever they have to in the respective zones.

This indicates that coastal nations have the power to authorise permits and control sea-bed mining operations inside their territorial seas.

3.5.2. Protection of Environment:

The country ~~apply~~ applies the principle of sustainability while working ~~in which they taking e~~ this in regard in consideration that the environment ~~are~~ is at no harm and thus it becomes a legal principle ~~which is~~ widely followed. Coastal nations must make sure that sea-bed mining operations are carried out responsibly, taking into account the possible effects on marine ecosystems. This entails carrying out environmental impact analyses, putting in place suitable mitigation strategies, and keeping an eye on how mining operations are affecting the environment.

3.5.3. International Cooperation:

Because the oceans ~~are having~~ have borders shared with multiple countries, coastal governments are urged to work together to manage the resources found in the seabed, share scientific information, and transfer technology. This concept encourages cooperation and information sharing to guarantee ethical and sustainable methods of sea-bed mining. Such international collaboration is facilitated by organisations like the International Seabed Authority (ISA).

Comment [M25]: Ref??

3.5.4. Licensing and Regulatory Mechanisms:

To control sea-bed mining operations, coastal states often have licensing and regulatory frameworks in place. These frameworks specify the prerequisites and steps for acquiring licences, lay out the responsibilities of licence holders, and set up the regulatory organisations in charge of issuing and overseeing licences. These controls make sure that sea-bed mining activities are carried out legally and in compliance with predetermined requirements [11-14].

3.5.5. Benefit Sharing:

Coastal nations may establish rules to assure a fair distribution of the gains from sea-bed mining operations, particularly where the minerals constitute a shared human legacy. The goal is to stop unilateral exploitation and make sure that all parties, including the coastal state, nearby people, and perhaps even international organisations, profit equally from sea bed mining.

3.5.6. Dispute Resolution:

For resolving issues relating to sea-bed mining activities between coastal governments, international institutions such as arbitration, and the International Tribunal for the Law of the Sea (ITLOS)¹⁴ may be relevant. These procedures offer a formal framework for resolving disputes about the interpretation or execution of the sea-bed mining regulation. Mechanisms for resolving conflicts peacefully encourage this and add to the stability and predictability of marine activity.

CONCLUSION AND RECOMMENDATIONS

6. CONCLUSION

Due to the expansiveness of its marine borders and the possibility of mining on the ocean floor, India places a ~~pretty~~ high priority on maintaining a ~~really~~ high level of coastal and maritime security in the Indian Ocean Region ~~in a major way~~. The regulation and governance of sea-bed mining activities are based on a foundation that is created by the legal framework provided by acts ~~really~~ such as The ~~particularly~~ Territorial Waters, Continental Shelf, ~~definitely~~ Exclusive Economic Zone, and ~~fairly~~ other Maritime Zones Act, 1976¹⁵ and The Indian Mines and Minerals (Development and Regulation) Act, 1957¹⁶, ~~which is fairly significant~~. These acts, along with ~~actually~~ other legal principles ~~really~~ such as the ~~fairly common~~ heritage of mankind and the precautionary principle, form the basis of this foundation, ~~or so they for all intents and purposes~~.

Comment [M26]: ????

The legal landscape in India in regard to sea-bed mining ~~actually~~ has been ~~significantly~~ shaped by landmark cases like Tata Iron and Steel Company Ltd. v. Union of India¹⁷, Nature Club ~~o~~f Rajasthan v. Union of India & Ors¹⁸, Pradeep Krishen v. Union of India¹⁹, Savelife Foundation v. Union of India²⁰, and Goa Foundation v. Union of India²¹, which are

¹⁴ "International Tribunal for the Law of the Sea, 1982"

¹⁵ "Supra note 3"

¹⁶ "Supra note 1"

¹⁷ "Supra note 9"

¹⁸ "Supra note 10"

¹⁹ "Supra note 11"

²⁰ "Supra note 12"

²¹ "Supra note 13"

significant. ~~????~~ These cases really have all made significant contributions to the shaping of the legal landscape, ~~which particularly is fairly significant.~~

These incidents ~~definitely~~ demonstrate the need of ~~actually~~ striking a careful balance between the promotion of economic growth and the protection of the environment ~~in a actually major way~~. Through these seminal judgements, the Supreme Court has both recognised the state's ownership of the minerals located within its territory, which includes the offshore regions, and emphasised the significance of environmentally responsible business practises ~~in a fairly major way~~.

It ~~kind of~~ has been emphasised that any mining activities, including mining of the sea-bed, must not ~~for the most part~~ produce damage that ~~actually~~ is irreversible to the ecology or the ecosystem of the maritime environment ~~in a subtle way~~. These rulings bring to light the need of taking care and adhering to severe laws in order to lessen the damage that mining activities ~~kind of~~ do to the surrounding ecosystem and ensure the ethical use of ~~really~~ natural resources, ~~pretty contrary to popular belief.~~

Comment [M27]: ?????

In addition, these cases ~~generally~~ have brought attention to the necessity of maintaining the ~~basically~~ natural balance and protecting the interests of ~~really~~ local populations, the livelihoods of which for the most part are for all intents and purposes dependent on coastal regions, which ~~for the most part~~ shows that through these seminal judgements, the Supreme Court ~~for the most part~~ has both recognised the state's ownership of the minerals located within its territory, which includes the ~~pretty~~ offshore regions, and emphasised the significance of environmentally responsible business practises, ~~which is quite significant.~~

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The Supreme Court ~~for the most part has generally~~ ordered the government to enact new laws and guidelines that will encourage the use of mining techniques that ~~essentially~~ are gentler on the environment, for all intents and purposes safeguard coastal areas and marine ecosystems, and ~~definitely~~ put an end to illicit mining operations. It ~~really~~ has been ~~kind of~~ argued that the government must ~~specifically~~ take into consideration the concepts of environmental conservation and the sustainable utilisation of resources when creating mining regulations and issuing mining leases, which shows that in addition, these cases ~~actually~~ have brought attention to the necessity of maintaining ~~the very~~ natural balance and protecting the interests ~~of sort~~ of local populations, the livelihoods of which ~~specifically~~ are ~~generally~~ dependent on coastal regions, which ~~literally~~ shows that through these seminal judgements, the Supreme Court ~~particularly~~ has both recognised the state's ownership of the minerals located within its territory, which includes ~~the kind of~~ offshore regions, and emphasised the significance of environmentally responsible business practises in ~~a actually major way~~. ~~Specifically, it~~

Comment [M28]: !!!!!

~~particularly has been generally asserted that this must be done in order to protect the environment in a subtle way.~~

In conclusion, in order to ~~essentially~~ manage the difficulties and possibilities related with sea bed mining while also protecting coastal and marine security, a strategy that ~~basically~~ is comprehensive and ~~fairly~~ balanced is vital to ~~kind of~~ have. The practises of sustainable development, the maintenance of ecological integrity, and the protection of the maritime environment ought to ~~specifically~~ be India's ~~sort of~~ top priorities, ~~sort of~~ ~~contrary to popular belief~~. India ~~definitely~~ is able to ~~literally~~ manage the intricacies of sea-bed mining and ~~definitely~~ ensure the preservation of ~~pretty the~~ natural resources, the welfare of coastal people, and the nation's for ~~all intents and purposes~~ long-term interests in the Indian Ocean Region if it upholds legal principles, follows applicable statutes, and mostly draws insights from historic cases, ~~pretty contrary to popular belief~~. By doing so, India will be able to ~~essentially~~ protect its ~~definitely~~ long-term interests in the Indian Ocean Region ~~in a major way~~.

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References Review carefully the requirements of the Journal. Make sure the write-up of the references abide by the rules... Add all references here... If footnotes are needed create a section and number them here...

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