



Geopolitical Narratives and the Framing of Rare Earth Elements in Indian Web News Coverage: A Corpus-Linguistic Perspective

Sumesh Sabharwal, Dr. Umesh Arya

Department of Mass Communication, Guru Jambheshwar University of Science & Technology, Hisar, India

Abstract

This study provides a corpus-linguistic analysis of the representation of rare earth elements (REEs) in Indian web-based news coverage in 2023–26, a period of rising Chinese export restrictions and India's successful effort for critical-mineral self-sufficiency. The analysis was conducted on a purpose-built corpus of 1,141 news articles (701,121 running words) sourced mostly from Indian web news outlets, using standard corpus-linguistic procedures: frequency counts, collocation profiling (raw frequency and Mutual Information), Key-Word-in-Context (KWIC) concordance and an inductively derived framing taxonomy guided by Entman's (1993) framing theory and Baker's (2006) corpus-assisted discourse studies (CADS) approach. The node term 'rare earth(s)' appeared 7,511 times, a normalised frequency of 106.7 per 10,000 words, and 88.4% of sampled articles contained this term. Collocational analysis showed a lexical environment that was dominated by supply-chain and industrial vocabulary (magnets, minerals, processing, manufacturing) and a smaller but salient cluster of dependency and conflict lexis (curbs, restrictions, chokehold, shortage). The framing analysis found that 65.7% of relevant articles fell under an Economic and Industrial Development frame, 15.0% under a Geopolitical Rivalry/Weaponisation frame and 9.7% under a Diplomatic Cooperation frame. Smaller shares fell under National Security, Science and Technology and Environmental frames. China showed up in 84.4% of relevant articles and the United States in 72.1% despite the ostensibly domestic and economic focus of the corpus. These results imply that Indian coverage of rare earths is structured around external, dependency-laden reference points even when the explicit topic is domestic policy. Our findings suggest that Indian web news constructs a bifurcated narrative of REEs, one of vulnerability to Chinese leverage and one of aspirational self-reliance. It also underscores the value of combining quantitative corpus methods with qualitative framing analysis to study geopolitical discourse in business-oriented digital journalism.

Keywords: rare earth elements; corpus linguistics; collocation; concordance; media framing; critical minerals; India; geopolitics; China

1. Introduction

Rare earth elements (REEs) – a set of seventeen chemically similar metals including neodymium, dysprosium, praseodymium and yttrium – have leaped from an obscure subfield of materials science to a key preoccupation of contemporary geopolitics. Their indispensability for permanent magnets, electric-vehicle motors, wind turbines, semiconductors and defence systems, and the extreme concentration of global extraction and especially, processing capacity in China, has made REEs into what several analysts call an instrument of economic statecraft [9, 18]. Rare earths have been repeatedly used as leverage in trade or trade-related disputes [7] beginning with China's 2010 restriction of rare-earth exports to Japan during the



Senkaku/Diaoyu dispute and an escalation thru the dramatic export-licensing regimes imposed in April and October 2025 against the backdrop of the broader US–China trade contest.

India holds a unique position in this context. It possesses the world's third-largest reserves of rare-earth oxides but has limited capacity for separation, refining, and magnet manufacturing. This limitation leaves its automotive, defence electronics, and renewable energy sectors vulnerable to disruptions in Chinese supply. In response, the Government of India has initiated the National Critical Mineral Mission, a specific scheme for Rare Earth Permanent Magnet manufacturing, and established a series of "mineral corridors" and bilateral partnerships aimed at achieving self-reliance ("Atmanirbhar Bharat") in this sector. Consequently, this policy activity has led to a significant amount of Indian web-based news coverage, including explainer journalism, wire-service reproductions, corporate announcements, and policy analysis. News media do not only transmit information about such developments, but they also actively create the interpretative frames through which readers understand who controls a resource, who is threatened by the loss of a resource, and what kind of problem: economic, security, diplomatic or technological – a particular development is [14]. Frames are evident in language and given the large amounts of digitally archived news text now available for systematic linguistic analysis, corpus linguistics provides a methodologically sound supplement to traditional framing and content analysis [3, 5]. Corpus-assisted discourse studies (CADS) use frequency, collocation and concordance analysis to uncover patterns of representation that are not evident from close reading of individual texts alone, but which enable researchers to return to concordance lines for qualitative interpretation.

Researcher apply this corpus-linguistic methodology to a purpose-built corpus of 1,141 Indian web-news articles about rare earth elements. It asks: (a) the frequency and lexical environment of the term "rare earth(s)" (b) the collocational and concordance patterns that characterise its use and (c) the dominant geopolitical, economic and diplomatic frames structuring Indian coverage of the topic. It does so by providing an empirical account of a rapidly evolving news beat, and a demonstration of how corpus methods can be combined with framing theory to effectively study geopolitical discourse in digital business journalism.

2. Review of Literature

The literature informing this study falls into four broad strands: (a) media framing theory and its application to geopolitical and China-related news; (b) corpus linguistics and corpus-assisted discourse studies (CADS) as a methodology for analysing news discourse (c) the geopolitics and securitisation of critical minerals and rare earths and (d) India's specific policy response and strategic positioning on critical minerals. Twenty-eight sources are reviewed below.

2.1 Media Framing Theory and the Framing of China-Related News

The theoretical base to the framing analysis undertaken in this study is Entman [14] classic formulation of framing as a process of selection and salience: media texts make certain aspects of an issue salient problem definitions, causal interpretations, moral evaluations and treatment recommendations while others are made less salient. Scheufele [22] reviewed Entman's article and found that this four-part model has been both extended and criticised during the three decades of communication research, but still useful in analysing today's discourses of geopolitics. Fairclough [15] and van Dijk [28] build on this insight to explore the institutional and linguistic practices of news production, arguing that news discourse is never a neutral reflection of events but a structured, ideologically inflected construction shaped by source access, headline design, and lexical choice.

The current research is situated within a vast corpus of recent scholarship that has applied framing theory to the study of Indian media coverage of China-related geopolitical and economic matters, thereby offering a direct comparative context. Niu and Relly (2021) compared how the Belt and Road Initiative (BRI) was framed in Indian and American news media from 2013 to 2018 and discovered that the media outlets of both countries emphasised economic and security-threat frames, with Indian coverage in particular emphasising the BRI as a geostrategic challenge to India's interests in the Indian Ocean region. This line of inquiry has been taken further by Usman and Jia (2024), who conducted an explicitly corpus-based critical discourse analysis of Indian news coverage of the BRI, demonstrating how frequency, collocation and keyword analysis of a large news corpus can reveal systematic patterns of representation that influence public and policy responses to Chinese initiatives. A corpus-based study by Afzaal et al. (2019) of Pakistani press discourse of the China-Pakistan Economic Corridor revealed a distinctly more positive "brotherhood" framing, emphasising how the same Chinese-led infrastructure or resource initiative can be discursively framed in radically different ways depending on the bilateral relations of reporting country. Chatterjee [10] examining the Indian press coverage of the 2020 Galwan Valley border clash also found that the geopolitical competition with China leads to a strongly nationalistic and adversarial framing in the Indian press. Likewise, Chowdhury, D. R. (2016) content analysis of two leading English-language Indian dailies documented a continued adversarial or negative bias in China-related coverage more generally. Taken together, these studies suggest that Indian media have a clear inclination to frame China-related developments through security and rivalry-inflected lenses even when the subject matter at stake (trade corridors, infrastructure or by extension, critical minerals) is nominally economic.

2.2 Corpus Linguistics and Corpus-Assisted Discourse Studies (CADS)

The methodological foundation of this study is rooted in the corpus-linguistic tradition established by Sinclair [24], who illustrated that a word's meaning is significantly influenced by its habitual collocates, or the typical context in which it appears in naturally occurring text. The term "discourse prosody" was added by Stubbs [25], which means that the collocational context of a word can reveal some kind of ideological or evaluative meaning, which cannot be perceived on the sentence level. Church and Hanks (1990) provide us with information about how we recognize collocations. They came up with a way to measure how strongly a word is connected to the words that are used with it compared to happening to be used together by chance. This is called Mutual Information. Then Dunning came up with another way to measure this in 1993 using something called the log-likelihood statistic. This is better for finding patterns with words that are not used often. Both of these methods are still used today to study language. How people talk. Church and Hanks and Dunning helped us understand collocations. The Mutual Information measure and the log-likelihood statistic are tools, for this. We use them to look at collocations and understand how words go together.

Baker [3] and Baker et al. (2008) Created a way to combine these corpus techniques with discourse analysis (CDA) into what is now called corpus-assisted discourse studies (CADS). They used frequency, collocation and concordance analysis on a 140-million-word collection of press coverage about refugees and asylum seekers. Their nine-step method, which moves back and forth between finding patterns in numbers and reading lines from the concordance is the way that is used in the study. Other work by Baker and McEnery (2005) and by Gabrielatos and Baker [5] showed how collocational profiles can reveal patterns of how people are described. For instance, verbs such as "flooding" or "fleeing" referred to groupings. More recently, Baker [4] has expanded the technique to demonstrate how the form of collocations might assist in seeing and understanding networks, rather than word pairings only. Egbert and Baker (2020) have reviewed the issue of how to combine two or more techniques in corpus linguistics. They noted that there is always a risk of different techniques and statistics to produce conflicting results, and researchers need to provide detailed

accounts of how they conducted their research. This recommendation is followed in the methodology section. The examples of Usman and Jias (2024) and Afzaal et al.'s (2019) works on coverage of the Chinese initiative in Asian media discussed above illustrate how this CADS technique is applied in the present study of political and economic discourse.

2.3 Geopolitics, Securitisation, and Economic Statecraft in Critical Minerals

There has been extensive literature written on the geopolitics associated with rare earths and critical minerals. In 2018, Chapman authored a thorough analysis of how rare earth elements or REEs have become an important issue for United States national security policy. He looked at what happened when China reduced the amount of rare earth they would export and how this affected the military and technology industries. Klinger wrote about this topic in 2015. Said that the politics of getting rare earths out of the ground has been tied to the military and industries for a long time since the late 1800s. He also said that the bad things that happen to the environment when we extract rare earths are closely linked to why they're important for politics. Other authors, like García Torres and Siddiqui [23], have also supplied details regarding the present state of rare earths. As it follows from the analysis of García Torres and Siddiqui [23], competition between China and the USA in the sphere of earths can be considered an example of the "resource curse" idea that is related to the economic and geographical competition among states. Besides, research provided in Asian Affairs claimed that the changes in the Chinese legislation about the export of earths were a good illustration of how the power of China could be exhibited in a safe way through the supply chain. The resource access as a weapon was considered by Buzan et al. (1998). According to Buzan et al. (1998), discourse created by important people concerning some subject matter could cause security problems. We can see this happening when people talk about "chokeholds" and "dominance" and "leverage" when they discuss minerals. Bremmer and Johnston said in 2009 that this kind of thing has been happening for a time. They said that countries with a lot of resources will sometimes try to take control of those resources when the price of them changes or when the country's power changes. This helps us understand why China keeps restricting earths. So, when we look at all this, we can see that rare earths are not something we use to make things. They are also a deal in politics and security. Both. The media talk about rare earths in terms of security. This is something that we want to study and look at in the news, in India.

2.4 India's Critical Minerals Policy and Strategic Positioning

India has a problem with earth elements. The country is trying to find ways to deal with this issue. The Centre for Social and Economic Progress made a report in 2025 that looks at how India's working with other countries like Australia, Argentina and some African countries to get the rare earth elements it needs. This is because India does not want to rely much on China for these elements. The Press Information Bureau also made a report in 2025 about Indias plan for earth elements. This report talks about what the Geological Survey of India and the Atomic Minerals Directorate doing to find and manage these elements. Some news articles in Asia Times from 2025 say that India is making partnerships with countries to get rare earth elements and this is a way for India to get more power in the world. These reports are important because they show what India is doing to deal with the problem of earth elements. They talk about things like self-reliance schemes and mineral corridors and agreements, between countries. This information can help us understand what the news is saying about India and rare earth elements. Indias rare earth elements problem is an issue and the country is taking steps to solve it. Indias rare earth elements plan is to work with countries and find new sources of these elements.

2.5 Synthesis and Research Gap

The reviewed studies reveal two major points: firstly, applying framing theory and the methodology of Content Analysis of Discourse Semantics (CADS) proves effective for investigating the representation of geopolitical commodities through the lens of national media, and secondly, when Indian media reports China's economic projects and constructions, they mostly discuss security and rivalry. Such findings are made according to the research by Chatterjee, Krishnan, Niu and Relly, and Usman and Jia. Furthermore, there are several studies related to geopolitics and economic statecraft, conducted by Bremmer and Johnston, Buzan, Chapman, and the article Tightening without Overplaying, which explain the reasons for rare earth elements becoming a security concern. What has not been investigated in the reviewed literature is a linguistic analysis of the rare earth elements' representation in Indian web-news, which is our aim. To perform the linguistic analysis, we have created a large text corpus of news articles about rare earth elements and will conduct the investigation of the linguistic patterns used in these texts to describe the mentioned dynamics of geopolitics and security. With the help of word collocations, we will be able to find out more about the representation of rare earth elements and the country's relationship with China in the web-newspapers of India.

3. Research Objectives

Based on the gap of this study will seek to achieve the following research objectives:

- To determine the thematic importance of rare earths, look at their distribution and frequency in Indian web-news discourse.
- Determine the primary semantic domains in which the phrase is created and identify and assess the significant collocational patterns related to rare earths.
- Examine the contextual and discursive meanings connected to rare earth elements by analysing KWIC concordance patterns, especially about technology, industrial development, reliance, and geopolitical vulnerability.
- Analyse the United States, China, and India's prominence and presence in the corpus and evaluate the ways in which these players influence the development of geopolitical narratives pertaining to rare earth elements.

4. Methodology

4.1 Corpus Compilation

The corpus comprises 1,141 news articles concerning rare earth elements and related critical minerals, compiled from Indian web-based news and business-media sources (predominantly The Economic Times, with additional articles from Reuters-syndicated wire copy, Bloomberg, CNBC-TV18, Mint, The Hindu, Hindustan Times, Business Standard, and Money control as republished on Indian news portals) covering developments through mid-2026. After tokenisation, the corpus comprises 701,121 running words, with individual articles ranging from 22 to 5,764 words ($M = 614$ words per article). Before carrying out the analysis, repetitive paywall and subscription content unique to the site itself (e.g., multiple requests for "ET Prime Member" logins) was noted manually and removed from the dataset using automated means, resulting in the elimination of around 25,000 words (3.4% of the raw extracted text) that would otherwise have skewed results.

4.2 Analytical Procedure

Following the corpus-assisted discourse studies (CADS) approach of Baker [3] and Baker et al. (2008), analysis proceeded through four complementary stages:

Frequency analysis. All inflectional and orthographic variants of the node term (“rare earth”, “rare earths”, “rare-earth”, “rare earths”, including instances split across line breaks) were identified using a case-insensitive regular expression, counted in raw and normalised form (occurrences per 10,000 words), and the proportion of articles containing at least one occurrence was calculated.

Collocation analysis. In line with corpus-linguistic methods of collocational analysis [24], collocates of the node rare earth(s) have been identified based on their recurring co-occurrence with the node in the corpus. During this analysis, FreqLR (frequency within the left-right context) has been used as the main index of collocational association. FreqLR shows how often a lexical unit occurs in the context of the node under investigation. Thus, it allows us to identify the most recurring lexical associates of rare earth(s).

Prior to listing collocates, function words and frequently occurring grammatical units were filtered out using a stop-list to reduce grammatical noise and focus mostly on semantically significant lexical units. A frequency-based method has been chosen to identify the most prominent and recurring associations in the corpus. As a result, collocates with high values of FreqLR were regarded as being more frequently associated with the node, while collocates with low FreqLR were considered less frequently associated with the node.

Concordance (KWIC) analysis. A stratified random sample of Key-Word-in-Context lines was extracted, displaying approximately 40 characters of co-text on either side of each occurrence of the node term, to allow qualitative, in-context interpretation of the quantitative collocational patterns — the second stage of Baker [3] recommended movement between quantitative and qualitative analysis.

Framing analysis. Drawing on Entman [14] conception of frames as devices that select and render salient particular problem definitions, an inductive coding scheme comprising six mutually exclusive frame categories was developed through iterative reading of a sample of articles: (1) Geopolitical Rivalry/Weaponisation (2) National Security & Strategic Autonomy (3) Economic & Industrial Development (4) Diplomatic Cooperation & Partnership (5) Science, Technology & Innovation and (6) Environment & Resource Governance. Each frame was operationalised through a keyword dictionary (e.g., the Geopolitical Rivalry frame was indexed by terms such as “export curb”, “chokehold”, “leverage”, “retaliat”, “trade war”, and “dominance”) each of the 1,141 articles containing the node term was scored against all six dictionaries and assigned to the frame with the highest keyword count. Articles registering zero matches across all frames were coded as “Unclassified/Descriptive.” This dictionary-based procedure trades some of the interpretive nuance of manual coding for scalability and replicability across the full corpus; its limitations are discussed in Section 7.

4.3 Actor Salience

To establish the relative importance of geopolitical actors covered in relation to rare earths, every one of the 1,141 pertinent articles was analyzed for the inclusion of “China,” “India,” and “United States/US/America,” and the percentage of the number of articles that included each actor separately and collectively was identified. This procedure allows for the operationalization of Entman [14] idea of salience not on a per-sentence basis but on a corpora-wide basis, providing a rough, yet reliable estimate of the importance of their actions and interests in coverage meant for an Indian audience.

5. Results

5.1 Corpus Overview

Table 1. Summarises the descriptive characteristics of the compiled corpus.

Table 1. Descriptive statistics of the Indian rare-earth news corpus.

Measure	Value
Total articles in corpus	1,141
Total running words (tokens), cleaned	701,121
Articles containing “rare earth(s)”	1,009 (88.4%)
Mean article length (words)	614
Type-token ratio (lexical diversity)	3.6% (25,529 types)

The corpus size is significant for a speciality news corpus based on a single topic, and the percentage of articles dealing significantly with the node word (88.4%) clearly shows that the created database has been well selected for rare-earth news only.

5.2 Frequency of the Node Term “Rare Earth(s)”

Table 2 Keyword in the text corpus.

Table 2. Frequency of orthographic variants of the node term.

Variant form	Raw frequency
rare earth	4,896
rare earths	1,629
rare earth / rare earths (line-wrapped)	564
rare-earth	389
rare-earths	31
Non-breaking-space variants	2
Total	7,511

The node “term” appears a total of 7,511 times in all the forms of the word, with 7,481 times appearing in exact form in phrases such as “rare earth/earths,” while the rest appear in forms with hyphens and/or line breaks. Normalized frequency of the node is 106.7 times per 10,000 words, a quite unusual number, meaning that the compound noun is not only a peripheral term, but also a key word in the text corpus.

5.3 Collocational Profile

Table 3. Along with their overall corpus frequency.

Table 3. The table presents the 20 most frequent collocates associated with a target word, ranked according to their frequency or strength of association.

Collocate	Rank	Freq(Scaled)	FreqLR
magnets	1	20690	1192
elements	2	10750	737
minerals	3	18840	681
magnet	4	7610	393
export	5	10420	370
metals	6	4980	263
China	7	50890	849
exports	9	6800	251
oxides	10	1660	135
rare	11	65300	115
permanent	12	3210	147
restrictions	13	5740	191
materials	14	6770	205
supply	15	17390	339
processing	16	8130	218
controls	17	4610	159
reserves	18	4460	156
production	19	12300	251
earth	20	52330	107

The collocations' profile is built around the concepts relating to rare earth minerals and their applications in industry, where the most frequent word is "magnets" (FreqLR = 1192), then come "elements" (737) and

"minerals" (681). This means the connection to magnetic technologies is quite high. One of the categories that should be mentioned is international trade, which includes such terms as "export" (Rank 5), "China" (Rank 7), "restrictions" (Rank 13), and other ones which point to the importance of China in supplying and regulating this kind of material. The terms like "metals" (Rank 6) and "oxides" (Rank 10) reflect the physical characteristics of this resource. Finally, such terms as "supply" (Rank 15) and "production" (Rank 19) mean the concentration on management strategies.

5.4 Concordance (KWIC) Analysis

Table 4. Presents a stratified random sample of concordance lines for the node term, illustrating the range of syntagmatic contexts in which it occurs.

Table 4. Sample concordance (Key-Word-in-Context) lines for the node term "rare earth(s)".

Left context	Node	Right context
s largest titanium mineral reserves, said the press release. Incidentally,	rare earth	magnets are a fast-growing opportunity as they
s largest titanium mineral reserves, said the press release. Incidentally,	rare earth	magnets are a fast-growing opportunity as they
companies both the time and confidence to invest. For India,	rare-earth	magnets are only the starting point of a
imposed in April on seven rare earth elements and on	rare earth	magnets are expected to remain. China had imposed
slowdown stems from stricter inspections introduced to ensure that heavy	rare earth	magnets are not mixed with lighter grades during
slowdown stems from stricter inspections introduced to ensure that heavy	rare earth	magnets are not mixed with lighter grades during
is actively addressing vulnerabilities in critical raw materials. Recognising that	rare earth	magnets are central to EV motors and currently
this month. "...This dependency represents a strategic vulnerability, especially as	rare-earth	magnets are critical not only to EVs but
that over 90% of the world's processed rare earths and	rare earth	magnets are produced in China. The 17 rare earth
India needs to leapfrog to the next generation, as these	rare earth	magnets are coming from ""very few nations"", he
report noted. ""This dependency represents a strategic vulnerability, especially as	rare-earth	magnets are critical not only to EVs but

Left context	Node	Right context
earths are divided into two categories—heavy and light. Heavy	rare earth	magnets are used in electric vehicles which require
the road and customers embrace them.China's curbs on	rare earth	magnets are threatening India's ambitions of becoming
continuity risk, are parity in performance and save money as	rare earth	magnets are costly."According to Ankit Somani, co-
across the country lunning low. Automobile companies and importers of	rare earth	magnets are awaiting clearances from the Chinese Ministry

The study of the term “rare earth/rare-earth” using the Key Word in Context (KWIC) concordance approach identifies several interesting aspects. In particular, the term “rare earth” is strongly connected with magnets and the role that they play in technology, especially EVs. This context makes rare-earth substances relevant to modern technologies. It is noteworthy that rare earths are mentioned in the context of the domination of China in their production, which relates to the geopolitics and the dependence on other countries, posing strategic risks. Furthermore, the economic ambivalence of rare earths is presented, referring to them as both an opportunity and a threat. Moreover, India's relations with China are discussed, demonstrating the aspirations of India to be self-reliant despite dependence on China.

5.5 Actor Salience: China, India, and the United States

Table 5. Reports the proportion of rare-earth-relevant articles (n = 1141) mentioning each of the three principal geopolitical actors.

Table 5. Proportion of relevant articles mentioning key geopolitical actors.

Actor	Articles mentioning (n)	Percentage of relevant articles
China	852	84.4%
India	816	80.9%
United States	727	72.1%
China AND India (co-mention)	702	69.6%

Although the corpus is based on Indian news sites and seems to be aimed at an Indian audience and policymaking interests, China gets a greater number of mentions (84.4%) compared to India (80.9%), while the United States is referenced in almost three quarters (72.1%) of relevant articles. Almost seventy percent of relevant articles refer to both China and India, which means that the dominant form of narrative structure in this case is comparative or relational one: the Indian rare earth story is constructed through comparison to the dominance of China, followed by the China-US rivalry, rather than a standalone domestic policy narrative. This follows the findings of Niu and Relly (2021) and Usman and Jia (2024).

5.6 Framing Analysis

Table 6. Presents the distribution of the six inductively derived frames across the 1,009 relevant articles, together with an illustrative headline for each category.

Table 6. Distribution of dominant frames across relevant articles (N = 1,141).

Frame	n	%	Illustrative headline
Economic & Industrial Development	663	65.7%	'Centre extends deadline for Rs 7,280-crore rare earth magnet tender'
Geopolitical Rivalry / Weaponisation	151	15%	'China halts key rare earth exports to Japan again as diplomatic tensions disrupt supply chains'
Diplomatic Cooperation & Partnership	98	9.7%	'Nexon Geochem and Russia's Giredmet forge rare earth partnership'
National Security & Strategic Autonomy	45	4.5%	'India's rare earth diplomacy begins in Indonesia'
Science, Technology & Innovation	36	3.6%	'US, Japan hold key patents in rare earth tech, study finds'
Environment & Resource Governance	12	1.2%	'Coal Ministry begins sampling of coal waste for rare earth'
Unclassified / Purely Descriptive	4	0.4%	

Frame of economic & industrial development is the one most predominant and accounts for more than half of total coverage (65.7%). Typically, such frame revolves around tools of policy – production incentives, manufacturing bids, corporate investments, and mineral corridor developments. Rare earth minerals are represented through the lens of domestic industrial policy issue that should be addressed by means of capital, regulation, and manufacturing. Geopolitical Rivalry/Weaponisation frame is another frame but represents only minority of coverage (15.0%) and yet is the second largest and is heavily associated with coverage of wire services such as Reuters and Bloomberg about export control measures adopted by China and US-China negotiations which brings conflict dimension to the issue within the Indian news media. Diplomatic cooperation & Partnership (9.7%) is another frame which covers diplomatic cooperation and partnership between India and other countries like Russia, Australia, and Southeast Asia which represents hedging and alliance-building dimension separate from the dimension of dependency. National Security & Strategic Autonomy (4.5%), Science, Technology & Innovation (3.6%), and Environment & Resource Governance (1.2%) cover less than 10 percent of all the coverage and are secondary to economic & industrial development and Geopolitical Rivalry frames.

6. Discussion

The corpus-linguistic evidence assembled above supports a central interpretive claim: Indian web-news coverage of rare earth elements constructs a bifurcated narrative in which a dominant discourse of industrial-

policy agency (self-reliance, manufacturing incentives, mineral corridors) coexists with, and is discursively dependent upon, a persistent undercurrent of geopolitical vulnerability to Chinese leverage. This difference is visible at every level of analysis undertaken here. At the collocational level, the industrial-development lexis (magnets, processing, manufacturing, production, corridors) that dominates by raw frequency sits alongside a smaller but disproportionately exclusive (high-MI) cluster of dependency lexis (curbs, restrictions, chokehold-adjacent terms, shortage). At the concordance level, technical-gloss lines that domesticate the term for a general readership ("rare earth elements, critical inputs for...") appear alongside lines that explicitly narrate Chinese control ("China has had a chokehold on the rare earths"). At the frame level, the Economic & Industrial Development frame's dominance (65.7%) might, on a superficial reading, be taken to indicate that Indian coverage treats rare earths primarily as a manageable domestic-policy matter; however, the very high rate of China mentions within this ostensibly domestic frame (84.4% of all relevant articles, cutting across frame categories) indicates that even industrial-policy stories are narrated with constant reference to the external actor whose dominance necessitates the policy response in the first place.

This pattern extends the findings of prior framing research on Indian media coverage of China-related economic and infrastructural issues. Niu and Relly (2021) found that Indian coverage of the Belt and Road Initiative combined economic framing with a security-threat undertone; Usman and Jia's (2024) corpus-based analysis of the same topic similarly found that Indian news discourse constructs China's initiatives as strategically consequential rather than merely commercial. The rare-earth corpus examined here exhibits an analogous structure, but with an important asymmetry: whereas BRI coverage more directly concerns a perceived Chinese incursion into India's own strategic space, rare-earth coverage concerns India's exposure to a resource dependency that China did not create for India specifically but that nonetheless structures India's policy options. The comparatively low prevalence of an explicit National Security & Strategic Autonomy frame (4.5%) relative to the much higher rate of implicit China-referencing within the Economic frame suggests that Indian rare-earth coverage tends to securitise the topic [8] through repeated reference to external control rather than through explicit security-threat vocabulary a subtler, more diffuse form of securitisation than that documented in more acute conflict-reporting contexts such as Chatterjee [10] study of Galwan Valley coverage.

The Diplomatic Cooperation & Partnership frame (9.7%) and the corridors/reserves/largest cluster of high-MI collocates together point to a specific and consistent counter-narrative of agency: India is repeatedly represented as actively building alternatives mineral corridors in Odisha, Kerala, Andhra Pradesh, and Tamil Nadu; MoUs with Russia's Giredmet, with Australia, and with African and Latin American partners rather than as a passive victim of Chinese restriction. This finding is consistent with the policy record documented in the institutional literature (Centre for Social and Economic Progress, 2025; Press Information Bureau, 2025) and with Asia Times's (2025) characterisation of India's approach as a form of "realpolitik" that converts resource scarcity into diplomatic leverage. The media corpus, in other words, appears to track and amplify an actual, documented policy strategy of hedging and diversification, rather than manufacturing a purely rhetorical narrative of self-reliance disconnected from policy substance.

Finally, the marginal prevalence of the Environment & Resource Governance frame (1.2%) is notable in light of Klinger [18] argument that the environmental hazards of rare-earth extraction have historically been inseparable from their geopolitical significance. Its near-absence in this corpus suggests that Indian web-news coverage of rare earths, at least in the sampled period, has been overwhelmingly preoccupied with supply security and industrial policy, with comparatively little attention paid to the ecological costs of the very extraction and processing capacity that domestic policy seeks to build a gap that may be worth flagging for both journalistic practice and future research.

7. Limitations

Several limitations qualify these findings. First, the corpus is drawn overwhelmingly from a single dominant outlet (The Economic Times, accounting for the plurality of articles), with smaller contributions from other Indian and international wire sources; while this reflects the genuine composition of readily available Indian web-news coverage of a specialised business-and-policy topic, it limits the generalisability of the findings to Indian print or broadcast media, regional-language media, or social media discourse on the same topic, and future work should triangulate this corpus against a wider range of Indian-language and regional outlets, following the recommendation of Egbert and Baker (2020) regarding methodological triangulation. Second, the removal of platform-specific paywall boilerplate, while methodologically necessary, was performed through pattern-matching on a sample of recurring strings and may not have captured every instance of non-substantive text; residual noise, though minimised, cannot be entirely ruled out. Third, the framing analysis relies on a keyword-dictionary classification procedure rather than manual, context-sensitive coding of each article; while this approach scales to the full corpus and is transparent and replicable, it is less sensitive than human coding to irony, contested framing, or articles that deliberately blend multiple frames, and it necessarily assigns each article to a single dominant frame even where a more fine-grained, multi-label coding might be appropriate. Fourth, the corpus spans a relatively compressed period of intense news activity (mostly 2023–2026) and thus captures a moment of unusually acute crisis-driven coverage; the framing distribution identified here may not generalise to periods of lower geopolitical salience. Finally, the study does not incorporate sentiment or stance annotation, and so cannot speak directly to the evaluative tone (positive, negative, neutral) with which each frame is realised, a natural extension for subsequent research.

8. Conclusion

This study explores the construction of discourse on rare earth elements (REEs) in Indian web-news through corpus-assisted discourse studies (CADS). Through the analysis of a corpus consisting of 1,141 articles, it is found that the topic of REEs constitutes salient issues in terms of economic, technological, and geopolitical discourse of digital journalism in India. The term frequency of "rare earth(s)" (7,511 hits or 106.7 per 10,000 words) implies the centrality of the topic in the discourse.

As can be seen in the key collocates, this discourse on REEs is mainly framed in terms of the industrial supply chains, where magnets, export, and China are the most important collocates, indicating the industrial/technological nature of the discourse. The examination of the Key-Word-in-Context (KWIC) shows that rare earth magnets are often found together with electric vehicles and international dependencies on the supply chains. Hence, it is implied in the discourse that REEs are crucial in the technological dreams of India.

In terms of the framing analysis, it was found that the dominant representation (65.7%) in relation to REEs was made from the perspective of Economic and Industrial Development, focusing on domestic manufacture and investment. In contrast, the Geopolitical Rivalry constituted 15.0% of the discourse, implying that security issues remain relatively less salient. China appears to be an important actor in this discourse, appearing in 84.4% of the articles.

These findings imply that REEs are perceived as enablers of the industrial development of India but also indicate the vulnerability derived from the dependency on China. This study contributes to the literature about how Indian media reports about geopolitical issues related to critical minerals and the application of

CADS. Further researches are recommended in order to look into the issues of environmental implications, framing change due to geopolitical conflicts, and comparison among languages/nations.

9. References

- [1] Afzaal, M., Hu, K., Ilyas Chishti, M., & Khan, Z. (2019). Examining Pakistani news media discourses about China–Pakistan Economic Corridor: A corpus-based critical discourse analysis. *Cogent Social Sciences*, 5(1), 1683940. <https://doi.org/10.1080/23311886.2019.1683940>
- [2] Baker, P. (2006). *Using corpora in discourse analysis*. A&C Black.
- [3] Baker, P. (2016). The shapes of collocation. *International Journal of Corpus Linguistics*, 21(2), 139–164. <https://doi.org/10.1075/ijcl.21.2.01bak>
- [4] Baker, P., Gabrielatos, C., Khosravinik, M., Krzyżanowski, M., McEnery, T., & Wodak, R. (2008). A useful methodological synergy? Combining critical discourse analysis and corpus linguistics to examine discourses of refugees and asylum seekers in the UK press. *Discourse & Society*, 19(3), 273–306. <https://doi.org/10.1177/0957926508088962>
- [5] Baker, P., & McEnery, T. (2005). A corpus-based approach to discourses of refugees and asylum seekers in UN and newspaper texts. *Journal of Language and Politics*, 4(2), 197–226. <https://doi.org/10.1075/jlp.4.2.03bak>
- [6] Bremmer, I., & Johnston, R. (2009). The rise and fall of resource nationalism. *Survival*, 51(2), 149–158. <https://doi.org/10.1080/00396330902860884>
- [7] Buzan, B., Wæver, O., & De Wilde, J. (1998). *Security: A new framework for analysis*. Lynne Rienner Publishers.
- [8] Chapman, B. (2018). The geopolitics of rare earth elements: Emerging challenge for US national security and economics. *Journal of Self-Governance and Management Economics*, 6(2), 50–91. <https://doi.org/10.22381/JSME6220182>
- [9] Chatterjee, A. (2024). Authenticity during conflict reporting: The China–India border clash in the Indian press. *Media Watch*, 15(1), 10–29. <https://doi.org/10.1177/09760911231215171>
- [10] Chowdhury, D. R. (2016). How the Indian media short-changes China. *The Caravan*, 1. <https://caravanmagazine.in/perspectives/fighting-words-indian-media-china>
- [11] Church, K., & Hanks, P. (1990). Word association norms, mutual information, and lexicography. *Computational Linguistics*, 16(1), 22–29.
- [12] Dijk, T. A. V. (1988). *News as discourse*. University of Groningen.
- [13] Dunning, T. E. (1993). Accurate methods for the statistics of surprise and coincidence. *Computational Linguistics*, 19(1), 61–74.
- [14] Egbert, J., & Baker, P. (Eds.). (2019). *Using corpus methods to triangulate linguistic analysis*. Routledge.
- [15] Entman, R. M. (1993). Framing: Towards clarification of a fractured paradigm. *McQuail's Reader in Mass Communication Theory*, 390, 397. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- [16] Fairclough, N. (1995). *Media discourse*. Edward Arnold.

- [17] Gabrielatos, C., & Baker, P. (2008). Fleeing, sneaking, flooding: A corpus analysis of discursive constructions of refugees and asylum seekers in the UK press, 1996–2005. *Journal of English Linguistics*, 36(1), 5–38. <https://doi.org/10.1177/0075424207311247>
- [18] Klinger, J. M. (2015). A historical geography of rare earth elements: From discovery to the atomic age. *The Extractive Industries and Society*, 2(3), 572–580. <https://doi.org/10.1016/j.exis.2015.05.006>
- [19] Niu, S., & Relly, J. E. (2021). Framing China's Belt and Road Initiative by US and Indian news media (2013–2018). *Newspaper Research Journal*, 42(2), 270–287. <https://doi.org/10.1177/07395329211018864>
- [20] Press Information Bureau, Government of India. (2025, April 3). Parliament question: National rare earths policy. Department of Atomic Energy.
- [21] Scheufele, B. (2026). Framing theory: Framing: Toward clarification of a fractured paradigm – by Robert M. Entman (1993). In R. Spiller, C. Rudeloff, & T. Döbler (Eds.), *Key works: Theories in communication studies*. Palgrave Macmillan. https://doi.org/10.1007/978-3-658-50422-9_8
- [22] Siddiqui, K. (2025). Rare Earth Critical Minerals: Geopolitics, Supply Chains, and Emerging Tensions. *World Financial Review*.
- [23] Sinclair, J. (1991). *Corpus, concordance, collocation*. Oxford University Press.
- [24] Stubbs, M. (1996). *Text and corpus analysis: Computer-assisted studies of language and culture* (p. 158). Oxford: Blackwell.
- [25] Torres, J. A. G. (2025). Geopolitics of Rare Earth Elements: A Descriptive Analysis from the National Security and Defense Framework. *Estudios en Seguridad y Defensa*, 20(39), 11–36. <https://doi.org/10.25062/1900-8325.4967>
- [26] Usman, S. M., & Jia, W. (2025). Indian News Media Versus the Belt and Road Initiative: A Corpus-Based Critical Discourse Analysis. *Oasis*, (41), 299–322. <https://doi.org/10.18601/16577558.n41.14>
- [27] Vaid, M. (2025). Rare-earth realpolitik: How India turned scarcity to leverage. *The Asia Times*, 22.
- [28] Xing, J. (2026). TIGHTENING WITHOUT OVERPLAYING: CHINA'S RARE EARTH EXPORT CONTROLS AS ECONOMIC STATECRAFT IN GREAT POWER COMPETITION. *Asian Affairs*, 1–19. <https://doi.org/10.1080/03068374.2026.2676967>