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Mapping the Media Agenda on Sumatran Tigers in Indonesia (2020–2025)

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Abstract
The media agenda concerning wildlife can shape which aspects of conservation become visible to the public. This study examines how Sumatran tigers are represented in the Indonesian online news media agenda during 2020–2025 and identifies the issues that receive the greatest attention. A computational content analysis is conducted on 1,236 news articles collected from four Indonesian online media outlets: Antara News, Bisnis, Detik, and Mongabay Indonesia. Articles are collected through web scraping and analyzed using Non-Negative Matrix Factorization-based topic modeling. The optimal model consists of ten topics, which are substantively interpreted and grouped into five issues: human–tiger conflict, wildlife conflict mitigation and handling, conservation and natural habitat, threats and law enforcement, and ex situ conservation and wildlife management. Human–tiger conflict is the most salient issue, while conflict-related coverage and subsequent mitigation account for more than half of the corpus. Media attention fluctuates across the study period and varies across outlets, with Detik emphasizing conflict and Mongabay Indonesia emphasizing conservation and natural habitat. The findings indicate that Sumatran tigers are most visible in news coverage when their presence intersects directly with human activities, safety, and conflict-related responses.

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Introduction

The Sumatran tiger (*Panthera tigris sumatrae*) is the only remaining subspecies of modern tiger found in the wild in Indonesia. As an apex predator, the Sumatran tiger plays an important role in maintaining ecosystem balance by regulating prey populations and can serve as an indicator of the condition of its habitat (Zaharani et al., 2024, p. 104). Therefore, the protection of the Sumatran tiger has been reinforced through various international and national instruments. The species is listed in Appendix I of the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (CITES) and has been classified as *Critically Endangered* by the *International Union for Conservation of Nature* (IUCN) since 1996. At the national level, its protection is supported by Law No. 5 of 1990 on the Conservation of Living Natural Resources and Their Ecosystems, as well as various policies concerning the conservation planning and action for Sumatran tigers (Mainuru et al., 2024; Selni et al., 2021). Despite these protection efforts, the Sumatran tiger population has tended to decline since 1998 (Goodrich et al., 2022; Ratmono & Dita, 2023, p. 98; Yolanda et al., 2017, p. 100).

Human–tiger conflict is one of the factors contributing to the decline of the Sumatran tiger population (Hadadi et al., 2015). This conflict is associated with various pressures on

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tiger habitats, particularly logging and forest conversion, which have resulted in the reduction and fragmentation of forest areas (Paiman et al., 2018, p. 26). These conditions encourage tigers to expand their home ranges in search of prey, thereby increasing the likelihood of encounters with humans and the potential for interactions that may adversely affect both parties (Fadly et al., 2023; Patana et al., 2021).

The emergence of human–wildlife conflict also indicates that the presence of Sumatran tigers has a social dimension, particularly in relation to public knowledge and attitudes toward wildlife. Kubiatko and Balatova (2016) found a relationship between knowledge and attitudes toward wildlife, suggesting that how people understand wildlife may shape their perceptions of animals. Suryanda et al. (2017) similarly found a positive correlation between knowledge and attitudes toward Sumatran tiger conservation.

These relationships are also reflected in studies of communities living near Sumatran tiger habitats. Adu et al. (2019) and Selni et al. (2021) found generally positive attitudes toward the presence of Sumatran tigers and conservation efforts among communities living in areas bordering Sumatran tiger conservation areas. Both studies indicate that mass media serve as one of the information sources contributing to public knowledge about the importance of protecting protected wildlife species (Adu et al., 2019, p. 26; Selni et al., 2021, p. 1816). This role is important because communities do not always directly experience or observe the various issues associated with wildlife. Through mass media, information about the presence, condition, and challenges faced by wildlife can be conveyed to audiences who are outside the immediate context of such events. This informational function is consistent with Law No. 40 of 1999 on the Press, which positions the media as a means of information, education, entertainment, and social control. In wildlife reporting, this function can be realized through the presentation of information concerning habitat conditions, human–wildlife conflict, poaching, policies, and other events related to the presence of a species (Bhatia et al., 2013; Maurer et al., 2024; Rahman et al., 2024).

The role of the media as a source of information does not mean that all events concerning wildlife receive equal attention. Constraints related to space, time, and audience attention require the media to select specific events and information before presenting them as news. The media not only determine which events are newsworthy but also select particular aspects to emphasize, allocating varying levels of attention to the reported issues (Nasionalita, 2014; Nasionalita & Nugroho, 2020). Such selection and emphasis shape patterns of media attention toward specific issues within a given period.

This selection process aligns with the perspective of agenda-setting theory. According to this concept, the media do not merely provide information; they influence which issues and aspects become more available for the public to know and think about (Nasionalita, 2014; Nasionalita & Nugroho, 2020). Agenda-setting research distinguishes two levels of this process. At the first level, the media transmit the salience of objects, such as public issues, where topics receiving more coverage are perceived as more important. At the second level, the media transmit the salience of attributes by emphasizing specific characteristics when describing an issue (McCombs, 2014; McCombs & Ghanem, 2001).

The formation of this agenda stems from gatekeeping, a process where journalists and editors select specific information, events, and aspects for audience presentation. Consequently, issue salience refers to the amount of attention the media allocate to one issue relative to others (McCombs & Shaw, 2016). First-level media agenda analysis, therefore, examines not only which issues appear in the news but also how media attention distributes across issues, time, and outlets. This study focuses exclusively on this first

level, operationalizing issue salience through the volume of published articles rather than structural prominence indicators like headline use or page placement.

The salience of an issue within the news agenda has implications beyond public awareness, as media coverage also contributes to shaping the policy agenda (Ardani et al., 2025). Therefore, mapping which aspects of Sumatran tiger conservation receive greater media attention remains highly relevant for understanding which conservation problems are most likely to gain institutional priority.

Previous studies indicate that media attention to wildlife is unevenly distributed across issues and contexts. In Indonesia, studies of wildlife reporting, including research on Sumatran tigers (Andelin et al., 2021; Ardiantiono et al., 2022; Rahman et al., 2024; Ratmono & Dita, 2023) and crocodiles (Agustin et al., 2022), have highlighted conflict, victims, attacks, and other dramatic events as prominent features of wildlife coverage. Meanwhile, Widyawati (2026) found that Indonesian online media framed elephant conservation through ecological and institutional concerns. Similar patterns have also been identified in wildlife reporting in other countries. Bhatia et al. (2013) demonstrated changes in media coverage of human–leopard conflict in India in response to conflict dynamics, while Delibes-Mateos (2020) found a strong emphasis on conflict in media coverage of wolves in Spain. Hughes et al. (2020) likewise found that reporting on grizzly bears in North America frequently focused on conflictual interactions between humans and wildlife. In a different direction, Chee and Saleh (2023) found that coverage of Malayan tigers in *The New Straits Times* and *The Malay Mail* emphasized conservation issues. These differences indicate that wildlife media agendas do not follow a uniform pattern and need to be understood in relation to the species and contexts of coverage.

The researchers identified that previous studies of wildlife reporting in Indonesia have generally been conducted on a limited scale and have employed qualitative approaches focusing on media representation, *framing*, or discourse (Agustin et al., 2022; Andelin et al., 2021; Ardiantiono et al., 2022; Rahman et al., 2024; Ratmono & Dita, 2023; Widyawati, 2026). These approaches provide insights into how the media frame particular issues, but they have not specifically mapped the distribution of attention across different issues within a large news corpus and over an extended period. Thus, there remains room to map the media agenda surrounding Sumatran tigers longitudinally using a computational approach.

Building on this gap, this study aims to map the media agenda surrounding Sumatran tigers in Indonesian online news coverage during the 2020–2025 period. This period was selected to provide a sufficiently long timeframe for examining the distribution of media attention as well as changes in news topics over time. It also encompasses a period in which pressures on the environment and wildlife habitats remained an issue in Indonesia. Data from the Ministry of Forestry reported at the end of 2025, for example, indicated that Indonesia's deforestation amounted to 119,092 hectares in 2020, increased to 216,216 hectares in 2024, and reached 166,450 hectares by September 2025. Although the 2025 figure did not cover the entire year and was lower than the figure recorded in 2024, the area of deforestation recorded through September had already exceeded the total recorded in 2020 (CNBC Indonesia, 2025). This condition provides a context in which the 2020–2025 period unfolded amid ecological dynamics that remained relevant to wildlife, without treating changes in deforestation as a variable tested in this study.

This study specifically identifies the topics that received greater salience and examines their dynamics over time using a *topic modeling* approach. The study is exploratory and focuses on mapping the media agenda rather than testing the effects of news coverage on public perceptions or evaluating the role of the media in conservation. Accordingly, this study is expected to provide an empirical account of how media attention is distributed across various issues concerning Sumatran tigers and to serve as an initial basis for further research on media agendas surrounding biodiversity.

Methodology

This study adopted a computational content analysis method using topic modeling to identify patterns of issue salience in online news coverage of Sumatran tigers in Indonesia. Topic modeling was conducted using the Non-Negative Matrix Factorization (NMF) algorithm implemented in Python.

The NMF algorithm works by factorizing a document-term matrix into a number of latent components that represent patterns of word occurrence within the corpus. These components are then interpreted as topics based on the words with the highest weights in each component (Alfajri et al., 2022). The algorithm was implemented using the *Scikit-learn* library in the Python 3.11 programming environment.

This study focuses on the first level of agenda setting, namely issue salience. At this level, the media agenda is defined as the distribution of news coverage across issues, and the salience of an issue is measured by the number and proportion of articles devoted to it. The research data consists of news articles about Sumatran tigers published by four national online news outlets between 2020 and 2025: Antara News, Bisnis, Detik, and Mongabay Indonesia. The media outlets were selected purposively to represent variation in media characteristics and editorial orientations, ranging from a national state-owned media outlet, an economy and business-oriented outlet, a mainstream news outlet, to an outlet focusing on environmental issues. Data were collected using a Python-based web scraper and BeautifulSoup with the keywords “harimau,” “harimau sumatera,” “harimau sumatra,” and “panthera tigris sumatrae.” Articles were initially selected based on titles that explicitly contained at least one of these keywords and were subsequently examined to ensure that Sumatran tigers were discussed substantively rather than merely mentioned as supplementary information. Articles containing fewer than 50 words were also excluded based on a manual examination of 100 randomly selected articles, which was used as the basis for establishing the minimum word-count threshold. Following the entire selection and filtering process, 1,236 articles were retained as the research corpus. The distribution of articles across media outlets is presented in Table 1.

Table 1. Distribution of Sample Articles by Media Outlet (source: Authors’ analysis (2026))

Media Outlet	Description	Number of Articles
Antara News	National state-owned media outlet	531
Bisnis	National media outlet focusing on economic and business issues	45
Detik	Mainstream national media outlet	517
Mongabay Indonesia	National media outlet focusing on environmental issues	143
	Grand Total	1,236

Before conducting *topic modeling*, the data underwent preprocessing commonly adopted in topic modeling-based research, consisting of *case folding*, *stopword removal*, and *tokenization* (Chang et al., 2026; Wu, 2021). The subsequent stage involved *feature extraction* using the *term frequency–inverse document frequency* (TF-IDF) approach. This technique assigns weights to individual words based on their frequency within a document and their level of rarity across the corpus, allowing words that are more representative of document content to receive higher weights (Alfajri et al., 2022). The resulting TF-IDF matrix then serves as the input for the NMF algorithm.

The number of topics was determined through a series of tests comparing coherence scores across different numbers of topics. Coherence score is a measure of topic quality based on the semantic relatedness among the words constituting a topic. Higher coherence scores indicate greater semantic consistency among topic words, suggesting that the resulting topics are more interpretable (Maskat et al., 2023; Zoya et al., 2021). This study used the *c_v* coherence measure implemented through the Gensim library in Python to determine the optimal number of topics.

Unlike traditional manual content analysis that requires inter-coder reliability checks, topic modeling utilizes an unsupervised machine learning approach where the algorithm autonomously groups co-occurring words into topics, minimizing human coding bias (Wu, 2021). In this study, the reliability of the topic structure was quantitatively measured using the c_v coherence score, where a score above 0.50 is considered robust for topical interpretation (Wu, 2021). To ensure the validity of the human interpretation layer, specifically the labeling of topics and their categorization into broader issues (Korenčić et al., 2015), the authors conducted a qualitative validation step. This involved a collaborative review by the researchers, cross-referencing the highest-weighted keywords of each topic with the content of the top 10 representative articles possessing the highest topic membership scores. The final labels and the inductive grouping into five overarching issues represent a consensus reached through this substantive validation process, aligned with thematic categorizations identified in previous wildlife media studies (Chee & Saleh, 2023; Hughes et al., 2020).

Following the thematic categorization, issues were classified based on the main focus of each news article, specifically the primary subject it covered. "Human–tiger conflict" refers to articles reporting direct encounters between tigers and people, including tiger sightings in settlements or plantations, livestock predation, and attacks on humans. "Wildlife conflict mitigation and handling" refers to institutional responses to a tiger, including evacuation, translocation, cage-trap deployment, rescue, medical treatment, and the handling of carcasses by conservation authorities. "Threats and law enforcement" refers to articles in which hunting, illegal trade, or legal proceedings are the main subject. "Conservation and natural habitat" refers to articles on habitat, populations, ecosystems, and conservation programs, while "ex situ conservation and wildlife management" refers to articles on tigers in zoos and other captive institutions. Furthermore, the first two issues are reported separately but are also combined as a “conflict sequence” where stated.

Results and Discussion

Topic Modeling Results

The researchers tested the number of topics incrementally from 2 to 20 topics. In *topic modeling*-based research, determining the number of topics is an important stage

because too few topics may result in information loss, whereas too many topics may produce overlap between topics and reduce model interpretability (Xu et al., 2025). Therefore, the optimal number of topics was determined based on a combination of coherence scores and the substantive interpretability of the resulting topics. This study tested models ranging from 2 to 20 topics to provide sufficient variation for model evaluation. The optimal number of topics was subsequently determined based on the combination of coherence scores and substantive interpretability of the resulting topics (Nikolenko et al., 2017). As shown in Figure 1, the highest coherence score was obtained by the 10-topic model (coherence score = 0.7354), which was therefore selected for further analysis.

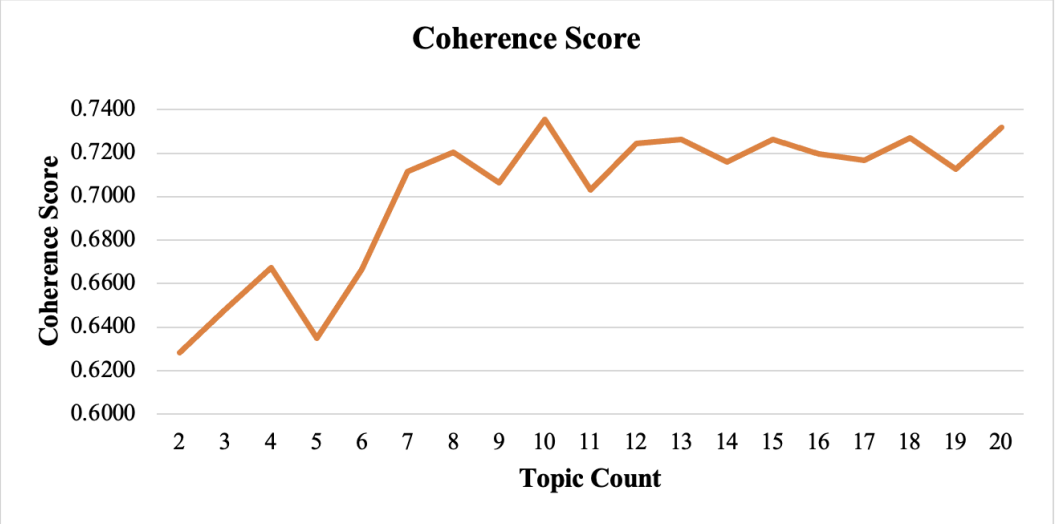


Figure 1. Coherence Scores for Different Numbers of Topics (source: Authors' analysis (2026))

After the optimal number of topics was established at 10, the next step was to conduct a substantive interpretation of each topic generated by the model. In *topic modeling*-based research, a topic essentially consists of a set of words that tend to co-occur within a text corpus. Therefore, the interpretation process still requires researcher involvement to assign substantive meaning to the semantic relationships among the words forming each topic (Nikolenko et al., 2017). To improve the accuracy of interpretation, the researchers not only examined the highest-weighted words associated with each topic but also reviewed representative articles with the highest topic membership scores. This step was undertaken to ensure that the assigned labels reflected the substance of the news coverage represented by each topic.

The interpretation results indicate that the ten topics generated by the model can be grouped into five issues representing the media agenda concerning Sumatran tigers in Indonesia. Table 2 presents a summary of the researchers' interpretation.

Table 2. Topic Interpretation and Issue Grouping (source: Authors' analysis (2026))

Cluster	Keywords	Topic Interpretation	Issue
Topic 1	*aceh, agus, sumatra, harimau sumatra, bksda aceh, agus arianto, arianto, satwa, kabupaten aceh, aceh selatan, jerat, dilindungi, timur, bksda, masyarakat, aceh timur, satwa dilindungi, liar, mati, satwa liar, tim, selatan, ditemukan, aceh agus, kabupaten, menyebabkan, kematian, bangkai, leuser, banda, banda aceh, perkebunan, gunung, perangkap, konservasi, racun, mitra, liar dilindungi, lokasi, terkena, gunung leuser, terkena jerat, tinggi, nasional gunung, alam, alam bksda, memasang jerat, balai konservasi, ilegal, dilaporkan*	Tiger Deaths and Handling in Aceh	Conflict Mitigation and Wildlife Handling
Topic 2	*medan, medan zoo, zoo, mati, kebun binatang, binatang, benggala, bobby, erha, harimau benggala, ekor, kebun, kota medan, ekor harimau, mati medan, bernama, harimau mati, tahun, kota, sumatera, nurhaliza, desember, harimau medan, kurus, pegawai, makan, november, satwa, wesa, pembangunan, binatang medan, sumatera bernama, hewan, sumatera utara, harimau sumatera, bobby nasution, pemkot medan, pemkot, nasution, wali kota, anggi, sakit, kematian, bernama erha, utara, pakan, pengunjung, satwa medan, penyakit, pud*	Tiger Deaths and Management in Zoos	Ex Situ Conservation and Wildlife Management
Topic 3	*warga, jejak, sapi, ternak, lokasi, desa, dimangsa, ekor, jejak harimau, wilayah, bengkulu, masyarakat, dimangsa harimau, tim, kemunculan, bksda, lembu, hewan ternak, sumatera, memangsa, laporan, harimau sumatera, trap, kemunculan harimau, riau, kecamatan,*	Tiger Appearances and Disturbances to Livestock	Human–Tiger Conflict

	perangkap, hewan, kamera, mukomuko, ternak warga, sawit, sapi warga, diduga, bbksda, siak, perkebunan, kambing, berkeliaran, kebun, hutan, bksda bengkulu, bangkai, mengatakan, warga desa, pihaknya, menemukan, muncul, ditemukan, lubuk		
Topic 4	*korban, riau, pekerja, diterkam, pt, diterkam harimau, tewas, lokasi, camp, kejadian, siak, luka, ditemukan, genman, bbksda riau, perusahaan, bbksda, pelalawan, teluk, diserang, korban ditemukan, sungai, rekan, harimau sumatera, kepala, bksda riau, bernama, korban diterkam, mengalami luka, sungai apit, apit, rumah, lanus, teluk lanus, tewas diterkam, lokasi kejadian, sumatera, tim, rinaldi, saksi, meninggal, meter, adi, suharyono, diserang harimau, indragiri, balai besar, korban mengalami, konsesi, akasia*	Tiger Attacks on Humans	Human–Tiger Conflict
Topic 5	*kulit, aceh, pelaku, kulit harimau, tersangka, perdagangan, polda, barang, pasal, bukti, ayat, barang bukti, pasal ayat, polda aceh, tulang, meriah, gakkum, undang, hukum, juta, ditangkap, kasus, hakim, aceh timur, polisi, penjara, tahun, sumatera, timur, subhan, majelis hakim, perburuan, majelis, terdakwa, pidana, negeri, denda, klhk, kejahatan, tiga, pembeli, ahmadi, dilindungi, perdagangan satwa, hayati, tubuh, jo, pengadilan, balai gakkum, huruf*	Tiger Hunting and Illegal Trade	Threats and Law Enforcement
Topic 6	*sumatera, hutan, konflik, habitat, manusia, harimau sumatera, satwa, liar, populasi, kawasan, menjadi, anak, konservasi, masyarakat, indonesia, perburuan, taman, satwa liar, nasional, leuser, populasi harimau, mangsa, taman nasional,*	Conservation, Habitat, and Sumatran Tiger Population	Conservation and Natural Habitat

	anak harimau, individu, besar, jerat, upaya, wilayah, lahir, tahun, alam, lingkungan, ekosistem, memiliki, konflik manusia, kehutanan, gunung, dilakukan, pelepasliaran, bayi, riau, habitat harimau, menjaga, nama, pemburu, penting, selatan, bbksda, utara		
Topic 7	*lampung, lampung barat, suoh, barat, warga, tnbbs, pekon, kabupaten lampung, video, korban, diserang, tewas, selatan, peristiwa, bukit, pesisir, pesisir barat, rinto, nasional bukit, barisan selatan, bukit barisan, barisan, diserang harimau, detiksumbagsel, ditemukan, kecamatan suoh, kecamatan, sumatera, tim, harimau sumatera, masyarakat, berkebun, karim, suoh kabupaten, hewan, bandar, evakuasi, kabupaten, umi, bandar negeri, negeri suoh, menyerang, gabungan, kandang, satgas, taman nasional, taman, dusun, zainudin, nasional*	Tiger Attacks on Residents in Lampung	Human–Tiger Conflict
Topic 8	*sumbar, nagari, bksda sumbar, agam, bksda, satwa, jebak, kandang, sumatera barat, kandang jebak, barat, sumatera, resor, undang, pagari, konservasi, jorong, warga, resor konservasi, konservasi wilayah, pasaman, bksda sumatera, kabupaten agam, tim, bukittinggi, ade, palembayan, lokasi, maninjau, penanganan, daya alam, kerbau, daya, konservasi sumber, sumber daya, lubuk, sumber, putra, alam, ade putra, aia, ii maninjau, kepala resor, pua, sungai pua, tigo, wali, konflik, koto, anak*	Tiger Conflict Management and Mitigation in West Sumatra	Conflict Mitigation and Wildlife Handling
Topic 9	*jambi, bksda jambi, agung, bksda, merangin, jerat, perangkap, luka, mati, taman rimba, medis, suo, kabupaten merangin, kaki, tim,*	Rescue and Handling of a Tiger Caught in a Snare in Jambi	Conflict Mitigation and Wildlife Handling

	rimba, kakinya, nalo, taman, penyelamatan, dirawat, provinsi jambi, dokter, desa, harimau sumatera, sumatera, teguh, tempat penyelamatan, jari, terjerat, jantan, tebo, rahmad, penyelamatan satwa, jambi agung, parah, saleh, tps, kabupaten tebo, akibat, rahmad saleh, kelamin, kabupaten, tanaman rakyat, nugroho, sling baja, mengalami, tahun, tempat, darah		
Topic 10	*covid, ragunan, tino, terpapar, dki, jakarta, margasatwa ragunan, terpapar covid, anies, taman margasatwa, dki jakarta, gejala, swab, margasatwa, corona, virus, positif, suzi, positif covid, hewan, virus corona, isolasi, tmr, taman, satwa, juli, tes, dinas pertamanan, pertamanan hutan, pertamanan, hutan kota, kebun binatang, sampel, klinis, dinyatakan positif, pulih, gubernur dki, mengalami gejala, berangsur, dinyatakan, menunjukkan gejala, binatang, minggu, kota dki, tino terpapar, anies baswedan, baswedan, dinas, tes swab, gejala klinis*	Conditions of Tigers in Zoos during the COVID-19 Pandemic	Ex Situ Conservation and Wildlife Management

Note: Keywords are presented in their original Indonesian form to preserve the linguistic characteristics of the corpus and the original model output.

It is important to note that in NMF, keywords are grouped based on their statistical co-occurrence within the actual news texts rather than predefined conceptual categories. For instance, keywords such as “jerat” (snare), “racun” (poison), and “ilegal” (illegal) in Topic 1 were algorithmically grouped under “Wildlife Conflict Mitigation and Handling” rather than “Threats and Law Enforcement.” A substantive review of the representative articles for Topic 1 reveals that these words frequently co-occurred in news narratives focusing on rescue operations, medical handling, and the evacuation of tigers trapped in snares or poisoned, referring to efforts typically led by the Natural Resources Conservation Agency (BKSDA). Therefore, the topic model accurately reflects how the media framed these threats primarily within the context of emergency mitigation and rescue responses.

Overall, the *topic modeling* results indicate that news coverage of Sumatran tigers in Indonesia is not limited to conflict and conflict mitigation but also encompasses conservation and law enforcement issues. These five issues were subsequently used as the basis for analyzing issue salience and the media agenda in Sumatran tiger coverage throughout 2020–2025.

Issue Salience and the Media Agenda

Issue salience is one of the main indicators in media agenda research. From an *agenda-setting* perspective, issues that receive higher news frequency tend to occupy a more prominent position on the media agenda than issues receiving less attention (McCombs & Shaw, 2016). Therefore, after identifying five issues through the *topic modeling* process, this study analyzed the distribution of news articles across the issues to determine the priorities of media attention in reporting on Sumatran tigers throughout 2020–2025. Table 3 presents the distribution of articles across the five issues.

Table 3. Distribution of Articles by Issue (source: Authors' analysis (2026))

Issue	Number of Articles
Human–Tiger Conflict	409
Wildlife Conflict Mitigation and Handling	352
Conservation and Natural Habitat	264
Threats and Law Enforcement	114
Ex Situ Conservation and Wildlife Management	97

The study found that "Human–Tiger Conflict" was the most salient issue, followed by "Wildlife Conflict Mitigation and Handling" and "Conservation and Natural Habitat." The first two issues demonstrate the strong media attention given to human–tiger relations, both through coverage of tiger appearances around settlements and plantations, disturbances to livestock, and attacks on humans, as well as coverage of evacuation, rescue, mitigation, and wildlife handling. Keywords such as "warga" (residents), "ternak" (livestock), "sapi" (cattle), "dimangsa" (preyed upon), "diserang" (attacked), "korban" (victim), "tewas" (killed), "BKSDA," "evakuasi" (evacuation), and "penyelamatan" (rescue) indicate that tigers received high visibility when their presence was directly associated with human activities, safety, and responses. When the two issues are viewed as a single sequence of coverage concerning conflict and responses to conflict, they accounted for 761 articles, or more than half of the total corpus. Taken together, these patterns indicate that problematic human–tiger relations constitute a major context in which Sumatran tigers are presented in the media agenda.

"Conservation and Natural Habitat" accounted for 264 articles. Coverage within this group included habitat, population, forest areas, national parks, ecosystems, prey, and various conservation efforts. Several locations, such as Leuser and other areas across Sumatra, also appeared in the coverage, indicating the presence of tigers on the media agenda as part of an ecosystem and as a species requiring protection. "Threats and Law Enforcement," with 114 articles, and "Ex Situ Conservation and Wildlife Management," with 97 articles, received more limited attention regarding hunting, illegal trade, law enforcement, wildlife management in conservation institutions, and tiger conditions outside their natural habitat. When the two conservation categories are combined, they account for 361 articles, which remains below the number of articles concerning "Human–Tiger Conflict." This distribution provides an overview of the hierarchy of media attention toward Sumatran tigers, while changes in the volume of coverage across issues

over time can reveal how this hierarchy formed and changed throughout the study period.

The subsequent analysis examined the development of each issue from year to year throughout 2020–2025. The results are presented in Table 4.

Table 4. Distribution of Articles by Issue, 2020–2025 (source: Authors' analysis (2026))

Issue	2020	2021	2022	2023	2024	2025
Human–Tiger Conflict	60	60	70	43	107	69
Wildlife Conflict Mitigation and Handling	41	73	67	39	56	76
Conservation and Natural Habitat	71	28	43	29	37	56
Threats and Law Enforcement	22	24	28	13	15	12
Ex Situ Conservation and Wildlife Management	14	27	1	8	42	5
Total Articles per Year	**208**	**212**	**209**	**132**	**257**	**218**

News coverage of Sumatran tigers shows a generally fluctuating pattern throughout the study period. The number of articles remained relatively stable from 2020 to 2022, with 208, 212, and 209 articles, respectively, before declining to 132 articles in 2023. Media attention to Sumatran tigers increased sharply in 2024, reaching 257 news articles, and subsequently declined to 218 articles in 2025. These changes indicate that the salience of Sumatran tigers on the media agenda was not constant. The increase in 2024 coincided with a sharp rise in coverage of "Human–Tiger Conflict," which reached 107 articles compared with 43 articles in 2023. This was the highest number of articles for this issue during the study period. Coverage of "Wildlife Conflict Mitigation and Handling" subsequently reached its highest level in 2025, with 76 articles. This pattern indicates that changes in the overall intensity of the media agenda were closely associated with fluctuations in coverage of conflict and responses to conflict.

The development of "Conservation and Natural Habitat" shows a more gradual pattern of change. Coverage reached 71 articles in 2020, declined to 28 in 2021, increased to 43 in 2022, and then declined again to 29 in 2023. Media attention to this issue increased in 2024 and 2025, reaching 56 articles in the final year. This development indicates growing attention to habitat and conservation toward the end of the study period. Nevertheless, the intensity of coverage remained below that of the two issues related to conflict and conflict mitigation.

"Threats and Law Enforcement" showed a lower level of coverage with relatively limited variation. The number of articles increased from 22 in 2020 to 28 in 2022, before declining to 12 articles in 2025. This pattern indicates that hunting, illegal trade, and law enforcement remained part of the media agenda concerning Sumatran tigers, but the level of attention did not increase at a rate comparable to that of conflict and conflict mitigation.

"Ex Situ Conservation and Wildlife Management" showed the sharpest fluctuations. The number of articles increased from 14 in 2020 to 27 in 2021, before falling to just one article in 2022. Media attention subsequently increased to eight articles in 2023 and reached 42 articles in 2024, before declining to five articles in 2025. This pattern indicates that the salience of ex situ conservation tended to be episodic, with increases in attention

associated with particular events that attracted media interest.

Overall, the temporal distribution indicates that the hierarchy of issues on the media agenda was not entirely stable throughout the study period. “Human–Tiger Conflict” and “Wildlife Conflict Mitigation and Handling” maintained relatively high levels of attention and were the issues most closely associated with increases in the volume of news coverage during periods of heightened media activity. “Conservation and Natural Habitat” showed increased attention in 2024–2025, while “Threats and Law Enforcement” remained at a lower level and “Ex Situ Conservation and Wildlife Management” displayed a more episodic pattern. These findings indicate that the media agenda concerning Sumatran tigers was shaped by a combination of relatively consistent attention to conflict and changes in the intensity of coverage of other issues.

Variation in the media agenda can also be examined based on the characteristics of the outlets serving as news sources. This analysis is important for determining whether the issue salience observed at the corpus level also appeared consistently across individual media outlets or whether differences in issue emphasis existed between outlets. The distribution of coverage by media outlet is presented in Table 5.

Table 5. Distribution of Articles by Issue and Media Outlet (source: Authors’ analysis (2026))

Issue	Antara News	Bisnis	Detik	Mongabay Indonesia
Human–Tiger Conflict	168	13	221	7
Wildlife Conflict Mitigation and Handling	213	13	108	18
Conservation and Natural Habitat	92	7	85	80
Threats and Law Enforcement	41	6	32	35
Ex Situ Conservation and Wildlife Management	17	6	71	3
Total Articles per Outlet	**531**	**45**	**517**	**143**

The distribution of coverage shows that Antara News and Detik were the two largest contributors of articles in the research sample, with 531 and 517 articles, respectively. However, the two outlets showed different patterns of coverage. Detik published the largest number of articles on “Human–Tiger Conflict,” with 221 articles, followed by “Wildlife Conflict Mitigation and Handling,” with 108 articles. This pattern indicates a strong tendency to place human–tiger conflict events at the center of its coverage. By contrast, Antara News published a larger proportion of articles on “Wildlife Conflict Mitigation and Handling,” with 213 articles, compared with 168 articles on “Human–Tiger Conflict.” Thus, although both outlets gave substantial attention to human–tiger relations, their

emphasis differed. Detik placed greater emphasis on conflict events, whereas Antara News gave greater attention to responses to those conflicts.

Bisnis was the outlet with the smallest number of articles, contributing 45 articles. Nevertheless, the outlet covered all five issues identified in the study. Similar to Antara News and Detik, Bisnis published the largest number of articles on "Human–Tiger Conflict" and "Wildlife Conflict Mitigation and Handling," with 13 articles each, while "Conservation and Natural Habitat" accounted for seven articles. This distribution indicates that, in Bisnis, conflict and conflict mitigation also received greater attention than conservation and natural habitat, although the overall volume of coverage was considerably smaller than that of Antara News and Detik.

Mongabay Indonesia showed a different pattern from the other three outlets. Of its 143 articles, "Conservation and Natural Habitat" was the most frequently covered issue, accounting for 80 articles. This figure was substantially higher than its coverage of "Human–Tiger Conflict," which accounted for only seven articles, and "Ex Situ Conservation and Wildlife Management," with three articles. Mongabay Indonesia also devoted relatively substantial attention to "Threats and Law Enforcement," with 35 articles. This distribution indicates greater attention to conservation, habitat, and threats to tiger survival than to direct conflict events. This tendency suggests that editorial characteristics and orientations may be associated with differences in issue emphasis in news coverage.

Overall, the distribution of coverage across the four outlets in the sample indicates differences in issue emphasis. Detik and Antara News, the two largest contributors of articles, devoted substantial coverage to human–tiger conflict and conflict mitigation, although they differed in their relative emphasis on conflict events and responses to those events. Bisnis showed a more limited distribution but likewise placed the two issues among those receiving the highest levels of coverage. Mongabay Indonesia, meanwhile, showed substantially greater attention to conservation and natural habitat. This pattern indicates that issue salience in Sumatran tiger coverage was not entirely uniform across outlets, although human–tiger conflict and conflict mitigation received relatively substantial attention in most of the media included in the sample.

The Dominance of Conflict in the Media Agenda

Drawing on the first-level agenda-setting framework, which concerns the salience of objects such as public issues in the media (McCombs & Shaw, 2016), this study operationalizes the media agenda as the distribution of news articles across issues derived from the topics identified in the corpus, with salience measured by article counts. The findings indicate that the media agenda concerning Sumatran tigers in Indonesia is dominated by conflict-related coverage, particularly reports involving direct consequences for human communities. The study therefore demonstrates the prominence of conflict-related themes within the news coverage (media salience); it does not test agenda-setting effects on public opinion.

Rather than appearing primarily as a subject of conservation, the tiger frequently becomes newsworthy when its presence is associated with human safety, livelihoods, community activities, or the need for immediate intervention. This pattern extends beyond reports of direct encounters to subsequent coverage of evacuation, rescue, mitigation, and wildlife handling. The prominence of these forms of coverage suggests that the visibility of Sumatran tigers in the news is closely connected to events that can be readily constructed as immediate social problems.

This pattern can be understood within the logic of agenda setting, in which media attention is shaped not only by the existence of an issue but also by the extent to which it is repeatedly presented as newsworthy (Nasionalita, 2014; Nasionalita & Nugroho, 2020). McCombs and Shaw (2016) emphasize the role of the media in directing attention toward particular issues through the intensity and prominence of coverage. In wildlife reporting, attacks, livestock losses, and emergency responses are particularly likely to attract attention because they involve immediate and tangible consequences for human communities (Bhatia et al., 2013). The prominence of human–tiger conflict in this study can therefore be understood in relation to the event-oriented character of wildlife journalism, in which discrete incidents provide recurring opportunities for news coverage.

Beyond immediate newsworthiness, the prominence of conflict may also dictate which causes of human–tiger conflict become visible. Coverage organized around discrete incidents tends to foreground proximate elements, such as the tiger's appearance, the victim, the livestock lost, and the agency's response, while structural conditions such as forest conversion, plantation and concession expansion, and habitat fragmentation remain in the background, even though they are widely identified as systemic drivers of conflict (Fadly et al., 2023; Paiman et al., 2018; Patana et al., 2021). Viewed through the distinction between episodic and thematic framing, conflict in this coverage appears primarily as a sudden event requiring intervention rather than as the outcome of long-term landscape change. The topic structure offers some support for this reading, as incidents in Topics 3 and 4 are located in plantation and concession areas. However, this remains a proposition rather than a tested finding, because this study did not code how causes are attributed in the articles. Framing is invoked here as an interpretive lens to understand causality visibility, rather than as a formally analyzed variable, aligning with the study's first-level scope.

This interpretation is consistent with previous research demonstrating the prominence of conflict in wildlife news coverage. Studies of Sumatran tiger reporting in Indonesia have identified associations between media coverage and conflict, attacks, victims, and deaths (Andelin et al., 2021; Ardiantiono et al., 2022; Rahman et al., 2024; Ratmono & Dita, 2023). Similar tendencies have been observed in reporting on crocodiles in Indonesia (Agustin et al., 2022), leopards in India (Bhatia et al., 2013), wolves in Spain (Delibes-Mateos, 2020), and grizzly bears in North America (Hughes et al., 2020). Taken together, these studies demonstrate that conflict is a recurring context in wildlife news coverage across different species and media settings, while the present study suggests that a similar pattern characterizes the media agenda concerning Sumatran tigers in Indonesia.

However, the findings also indicate that the media agenda concerning Sumatran tigers cannot be reduced to conflict alone. Conservation, habitat, population, ecosystems, and wildlife protection remain important dimensions of coverage. The tiger therefore appears in multiple issue contexts: conflict, intervention and handling, and ecological conservation. The presence of these different contexts suggests that conservation-oriented coverage is not excluded from the media agenda, but rather coexists with a stronger orientation toward situations involving direct human–wildlife interaction.

At the same time, comparisons with previous research indicate that the dominance of conflict observed in the present study should not be assumed to apply uniformly across all wildlife species or media contexts. Widyawati (2026), for example, found that Indonesian online media framed elephant conservation predominantly through ecological and institutional concerns. Similarly, Chee and Saleh (2023) found that coverage of Malayan

tigers in *The New Straits Times* and *The Malay Mail* emphasized conservation issues. The latter comparison is particularly relevant because it shows that even closely related species may be presented through different media contexts. These differences suggest that wildlife media agendas are shaped partly by the characteristics of the species and the specific circumstances through which they become newsworthy. Sumatran tigers may enter the news more frequently through encounters involving human settlements, livestock, or direct physical interactions, whereas other species may become more visible through conservation programs, habitat management, or population protection. Wildlife, therefore, needs to be understood within the specific social, ecological, and journalistic contexts through which it becomes a subject of news coverage.

The temporal and outlet-level patterns further indicate that this agenda is neither constant nor uniform. Fluctuations in coverage across the study period suggest that particular events can intensify media attention, while the recurrence of conflict-related coverage indicates that conflict remains a persistent context through which Sumatran tigers become visible. Differences across outlets reinforce this point. The greater emphasis on conflict in Detik, the stronger attention to conflict mitigation in Antara News, and the greater emphasis on conservation and natural habitat in Mongabay Indonesia suggest that editorial orientations actively shape how the same species becomes newsworthy. The corpus-level dominance of conflict therefore does not imply that all outlets construct an identical media agenda; rather, the broader agenda emerges from the combination of outlets with differing journalistic priorities.

Previous research suggests that mass media can influence how audiences perceive public issues (Khoirunnisa et al., 2025), which makes the contexts most available in coverage worth examining. From the perspective of environmental journalism, the significance of this pattern lies in the particular forms of conservation that become visible through the media agenda. When Sumatran tigers enter the news primarily through encounters with human communities, conservation is more often presented as immediate interventions, such as evacuation, rescue, mitigation, and conflict management. Broader ecological and structural dimensions–including habitat fragmentation, prey availability, landscape transformation, and the long-term management of human–wildlife relations—are less readily associated with individual news events, despite their crucial role in understanding human–tiger conflict (Andelin et al., 2021; Ardiantiono et al., 2022; Rahman et al., 2024; Ratmono & Dita, 2023). The implication is therefore not that conservation is absent from the media agenda, but that its visibility is heavily influenced by the circumstances through which the tiger becomes newsworthy. This distinction is vital because conflict-centered reporting can draw attention to immediate risks and responses, whereas longer-term conservation requires public attention to structural processes that extend far beyond individual incidents (Bhatia et al., 2013; Maurer et al., 2024; Rahman et al., 2024).

Overall, the media agenda concerning Sumatran tigers is characterized by a strong conflict orientation, with human–tiger encounters and the responses they generate serving as key pathways to media visibility. The findings contribute to previous research by showing that attention to a threatened wildlife species coincides with the newsworthiness of conflict, the episodic character of events, and differences in outlet orientation. The media agenda therefore appears to reflect not only the species' conservation status but also the specific socio-ecological circumstances through which the Sumatran tiger becomes journalistically consequential.

Conclusion

This study shows that the media agenda surrounding Sumatran tigers in Indonesia during 2020–2025 was dominated by themes of human–tiger conflict and responses to such conflicts. Based on *topic modeling* of 1,236 online news articles, these two issues accounted for more than half of the research corpus. From a first-level agenda-setting perspective, the findings indicate that the salience of Sumatran tigers in news coverage was heavily concentrated on conflicts, disturbances, threats, and human-related responses to tiger encounters. The findings identify the dominant contexts in which Sumatran tigers are represented in the sampled news coverage, revealing a greater journalistic emphasis on episodic encounters and conflict-related responses than on broader systemic ecological issues.

This pattern is consistent with trends in wildlife reporting across different countries, where considerable attention is given to conflict and interactions between humans and wildlife, particularly involving predator species. At the same time, findings from previous studies on elephant coverage in Indonesia and Malayan tiger coverage–which show a stronger orientation toward conservation–indicate that this tendency is not universal. Thus, media agendas concerning wildlife may vary significantly according to species characteristics and the unique contexts in which a particular animal becomes newsworthy.

The implications of these findings concern the space of attention that the media construct around wildlife conservation issues. The dominance of conflict-related coverage does not mean that the media neglect conservation entirely; rather, it indicates that conservation issues often appear within an agenda strongly driven by conflict events. For Sumatran tiger conservation efforts in Indonesia, these findings highlight the critical need for broader media attention to structural issues, such as habitat sustainability, population dynamics, ecosystem pressures, and long-term protection strategies.

This study has several limitations. The corpus is limited to four outlets, with Antara News and Detik contributing most of the articles. Articles were selected based on keywords in their titles, which may exclude coverage in which tigers are discussed substantively without being explicitly named in the headline. Methodologically, each article was assigned to a single dominant topic, and the labeling of topics and their grouping into overarching issues relied on researcher interpretation. Furthermore, because the study addresses first-level agenda setting exclusively and measures salience through article frequency, it does not examine structural prominence (e.g., placement or headline size), how issues are framed internally, which actors are given greater emphasis, how Sumatran tigers are represented semiotically in news texts, or how audiences ultimately receive and process this coverage.

Future research could combine computational approaches with qualitative framing analysis, discourse analysis, or actor analysis to examine second-level agenda setting and nuanced wildlife representations. Additionally, audience reception studies could further examine whether the media salience observed here is successfully transferred to public understanding of Sumatran tiger conflict and conservation.

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References

Adu, S. J., Salampessy, M. L., & Iskandar, S. (2019). Persepsi masyarakat terhadap konservasi harimau sumatera (Panthera tigris sumatrae) di Taman Nasional Kerinci Seblat (Studi kasus Desa Pungut Mudik dan Desa Pungut Hilir). *Jurnal Nusal Sylva*, *19*(1), 22–29. https://doi.org/10.31938/jns.v19i1.233

Agustin, H., Hidayat, D. R., Supriadi, D., & Aunillah, R. (2022). The media verification of hoaxes about human-crocodile conflicts. *Jurnal Komunikasi Ikatan Sarjana Komunikasi Indonesia*, *7*(1), 101–111. https://doi.org/10.25008/jkiski.v7i1.666

Alfajri, A., Richasdy, D., & Bijaksana, M. A. (2022). Topic modelling using Non-Negative Matrix Factorization (NMF) for Telkom University entry selection from Instagram comments. *Journal of Computer System and Informatics (JoSYC)*, *3*(4), 485–492. https://doi.org/10.47065/josyc.v3i4.2212

Andelin, L. D. T. N., Agustin, H., & Basith, A. A. (2021). Pola pemberitaan konservasi Harimau Sumatera di media massa online. *Jurnal Kajian Jurnalisme*, *5*(1), 81–97. https://doi.org/10.24198/jkj.v5i1.31699

Ardani, A., Tsuraya, A. G., Utami, D., & Turisma, G. L. A. (2025). The role of mass media in influencing the public policy process. *Cakra Communico: Journal of Communication Science*, *2*(2), 59–66. https://doi.org/10.17977/um087v2i2202559-66

Ardiantiono, A., Alfarisi, A. M., Ishaq, Y., Wijaya, R., Septian, R., & Hadi, A. N. (2022). Analisis konten pemberitaan interaksi manusia-satwa predator di Indonesia. *Jurnal Belantara*, *5*(2), 153–168. https://doi.org/10.29303/jbl.v5i2.874

Bhatia, S., Athreya, V., Grenyer, R., & Macdonald, D. W. (2013). Understanding the role of representations of human–leopard conflict in Mumbai through media‐content analysis. *Conservation Biology*, *27*(3), 588–594. https://doi.org/10.1111/cobi.12037

Chang, S.-H., Ko, Y. J., & Davis, S. (2026). Agenda setting of sports news in mainstream media during a crisis: A two-stage topic modeling analysis. *International Journal of Sport Communication*, *19*(2), 169–182. https://doi.org/10.1123/ijsc.2026-0002

Chee, E. A. E., & Saleh, M. S. M. (2023). Pelaporan isu harimau Malaya dalam New Straits Times dan The Malay Mail. *Jurnal Pengajian Media Malaysia*, *25*(1), 81–94. https://doi.org/10.22452/jpmm.vol25no1.7

CNBC Indonesia. (2025, December 6). *Menhut Raja Juli buka data deforestasi hutan RI, faktanya: Makin parah*. CNBC Indonesia. https://www.cnbcindonesia.com/research/20251206032341-128-691644/menhut-raja-juli-buka-data-deforestasi-hutan-ri-faktanya-makin-parah

Delibes-Mateos, M. (2020). Wolf media coverage in the region of Castilla y León (Spain): Variations over time and in two contrasting socio-ecological settings. *Animals*, *10*(4), 736. https://doi.org/10.3390/ani10040736

Fadly, M., Yoza, D., & Darlis, V. V. (2023). Pola perilaku harimau Sumatera (Panthera tigris sumatrae) di pusat rehabilitasi harimau Sumatera Dharmasraya (PR-HSD) Arsari dalam

kawasan PT. Tidar Kerinci Agung, Sumatera Barat. *Hutan Tropika*, *18*(1), 90–98. https://doi.org/10.36873/jht.v18i1.8137

Goodrich, J., Wibisono, H., Miquelle, D., Lynam, A. J., Sanderson, E., Chapman, S., Gray, T. N. E., Chanchani, P., & Harihar, A. (2022). *Panthera tigris. The IUCN Red List of Threatened Species 2022*. https://doi.org/10.2305/IUCN.UK.2022-1.RLTS.T15955A214862019.en

Hadadi, O. H., Hartono, H., & Haryono, E. (2015). Analisis potensi habitat dan koridor harimau Sumatera di kawasan Hutan Lindung Bukit Batabuh, Kabupaten Kuantan Singingi, Provinsi Riau. *Majalah Geografi Indonesia*, *29*(1), 40–50. https://doi.org/10.22146/mgi.13097

Hughes, C., Foote, L., Yarmey, N. T., Hwang, C., Thorlakson, J., & Nielsen, S. (2020). From human invaders to problem bears: A media content analysis of grizzly bear conservation. *Conservation Science and Practice*, *2*(4), 1–11. https://doi.org/10.1111/csp2.176

Khoirunnisa, A., Udiana, A. D., & Zahra, N. Z. (2025). The role of mass media in shaping public opinion after the 2024 election. *Cakra Communico: Journal of Communication Science*, *2*(1), 1–10. https://doi.org/10.17977/um087v2i120251-10

Korenčić, D., Ristov, S., & Šnajder, J. (2015). Getting the agenda right. *Proceedings of the 2015 Workshop on Topic Models: Post-Processing and Applications*, 61–66. https://doi.org/10.1145/2809936.2809942

Kubiatko, M., & Balatova, K. (2016). The lower secondary school pupils' attitudes toward and knowledge about water birds. *EURASIA Journal of Mathematics, Science and Technology Education*, *13*(5), 1161–1176. https://doi.org/10.12973/eurasia.2017.00665a

Mainuru, M. Z. L., Rehatta, V. J. B., & Daties, D. R. A. (2024). Perlindungan harimau Sumatera menurut Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) 1963. *Tatohi: Jurnal Ilmu Hukum*, *3*(11), 1082–1093. https://doi.org/10.47268/tatohi.v3i11.2100

Maskat, R., Shaharudin, S. M., Witarsyah, D., & Mahdin, H. (2023). A survey on forms of visualization and tools used in topic modelling. *JOIV: International Journal on Informatics Visualization*, *7*(2), 517. https://doi.org/10.30630/joiv.7.2.1313

Maurer, G., Chandelier, M., Mulot, B., & Gimenez, O. (2024). Polarized media coverage of conflicting, yet emblematic species: The ambivalent portrayal of the Asian elephant. *Biological Conservation*, *289*, 110391. https://doi.org/10.1016/j.biocon.2023.110391

McCombs, M. (2014). *Setting the Agenda: The mass media and public opinion* (2nd ed.). Polity Press.

McCombs, M., & Ghanem, S. I. (2001). The convergence of agenda setting and framing. In S. D. Reese, Jr. Gandy, & A. E. Grant (Eds.), *Framing public life: Perspectives on media and our understanding of the social world* (pp. 67–82). Routledge. https://doi.org/10.4324/9781410605689

McCombs, M., & Shaw, D. (2016). The Agenda-Setting function of mass media. In D. Protess & M. E. McCombs (Eds.), *Agenda Setting: Readings on media, public opinion, and policymaking*. Routledge. https://doi.org/10.4324/9781315538389

Nasionalita, K. (2014). Relevansi Teori Agenda Setting dalam dunia tanpa batas. *Jurnal Ilmiah Komunikasi Makna*, *5*(2), 156–164. https://doi.org/10.30659/jikm.5.2.156-164

Nasionalita, K., & Nugroho, C. (2020). Media agenda on Yogyakarta Sultanate succession. *Jurnal Kajian Jurnalisme*, *4*(1), 61–74. https://doi.org/10.24198/jkj.v4i1.24071

Nikolenko, S. I., Koltcov, S., & Koltsova, O. (2017). Topic modelling for qualitative studies. *Journal of Information Science*, *43*(1), 88–102. https://doi.org/10.1177/0165551515617393

Paiman, A., Anggraini, R., & Maijunita, M. (2018). Faktor kerusakan habitat dan sumber air terhadap populasi harimau Sumatera (Panthera tigris sumatrae Pocock, 1929) di Seksi Pengelolaan Taman Nasional (SPTN) Wilayah III Taman Nasional Sembilang. *Jurnal Silva Tropika*, *2*(2), 22–28. https://doi.org/10.22437/jsilvtrop.v2i2.5231

Patana, P., Saputri, M. W., & Marpatasino, K. (2021). The occurrence of Sumatran tiger (Panthera tigris sumatrae) in an industrial plantation forest area, North Sumatra, Indonesia. *Indonesian Journal of Applied Environmental Studies*, *2*(1), 47–51. https://doi.org/10.33751/injast.v2i1.3079

Rahman, A., Agustin, H., & Mulyani, H. S. (2024). Critical discourse analysis of news reporting on human-tiger conflict in Riau Province. *Jurnal Kajian Jurnalisme*, *7*(2), 158–174. https://doi.org/10.24198/jkj.v7i2.50292

Ratmono, D., & Dita, R. (2023). Jurnalisme lingkungan pada foto berita di media online. *Jurnal ISIP: Jurnal Ilmu Sosial Dan Ilmu Politik*, *18*(2), 90–100. https://doi.org/10.36451/jisip.v18i2.57

Selni, M., Mangunjaya, F. M., Praharawati, G., Tjamin, Y. R., & Bahagia, B. (2021). Pengetahuan, persepsi dan sikap masyarakat terhadap keinginan untuk melakukan konservasi hewan liar yang terancam punah. *Edukatif: Jurnal Ilmu Pendidikan*, *3*(4), 1808–1820. https://doi.org/10.31004/edukatif.v3i4.579

Suryanda, A., Komala, R., & Rahmawati, S. (2017). Sikap masyarakat di Desa Batu Busuk, Sumatera Barat terhadap konservasi harimau Sumatera (Panthera tigris sumatrae) berdasarkan pengetahuannya. *Biosfer: Jurnal Pendidikan Biologi*, *10*(2), 73–81. https://doi.org/10.21009/biosferjpb.10-2.9

Widyawati, A. (2026). Konstruksi realitas media online terhadap isu konservasi gajah sumatra: Analisis framing model Entman pada Tempo.co dan Kompas.com. *SENTRI: Jurnal Riset Ilmiah*, *5*(2), 2141–2150. https://doi.org/10.55681/sentri.v5i2.5692

Wu, K. (2021). Agenda-setting in cross-national coverage of COVID-19: An analysis of elite newspapers in US and China with topic modeling. *Online Journal of Communication and Media Technologies*, *11*(4), e202116. https://doi.org/10.30935/ojcmt/11083

Xu, Y., Zhang, Y., Sun, Y., & Zhou, H. (2025). An adaptive method for determining the optimal number of topics in topic modeling. *PeerJ Computer Science*, *11*, e2723. https://doi.org/10.7717/peerj-cs.2723

Yolanda, Y., Rusdi, R., & Supiyani, A. (2017). Kajian kesejahteraan harimau Sumatera pada konservasi ex situ di Taman Margasatwa Ragunan dan Taman Margasatwa Bandung. *Bioma*, *13*(2), 100–107. https://doi.org/10.21009/Bioma13(2).6

Zaharani, A., Latifah, M., Zaryanti, R., Fajrina, S., & Razak, A. (2024). Kajian perilaku harimau Sumatera (Panthera tigris sumatrae). *Journal Bionatural*, *11*(2), 103–109. https://ejournal.uncm.ac.id/index.php/bio/article/view/1190

Zoya, Latif, S., Shafait, F., & Latif, R. (2021). Analyzing LDA and NMF topic models for Urdu tweets via automatic labeling. *IEEE Access*, *9*, 127531–127547. https://doi.org/10.1109/ACCESS.2021.3112620