Environmental Issues in South African Broadcast Media: A Content Analysis of Coverage, Framing, and Source Representation

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Abstract. This study explores the coverage of environmental issues in South African broadcast media, focusing on patterns, frames, and source representation, applying agenda-setting and framing theories. Employing a content analysis methodology, 360 prime-time news segments from three major broadcasters – SABC, eNCA, and Newzroom Afrika – were analyzed between July 2023 and June 2024. The findings revealed that climate change dominates coverage, accounting for 32% of environmental reporting, followed by natural disasters (21%) and water issues (17%). Economic and policy frames were the most prevalent, highlighting financial impacts and regulatory measures, while health perspectives were underutilized. Government sources were cited most frequently (44%), with limited representation of scientists, NGOs, and local communities, which comprised only 10% of sources. Coverage exhibited a mixed tone, balancing optimism about solutions with urgency about challenges. Despite a focus on global narratives, local environmental issues and grassroots perspectives were underrepresented, indicating a disconnect between media reporting and the lived experiences of South Africans. The study underscored the need for more inclusive and diverse coverage, advocating for the integration of scientific insights and community voices. These findings offered practical implications for media practitioners, policymakers, and environmental communicators, emphasizing the importance of balanced reporting to foster public engagement and informed policy discourse. This research provided a foundation for future studies on environmental journalism, especially in the context of developing countries, and highlighted the potential for media to act as a catalyst for environmental awareness and action.

Keywords: Environmental journalism; broadcast media; content analysis; South Africa; framing theory.

1. Introduction

Environmental issues have become increasingly prominent in global discourse, with media playing a crucial role in shaping public perception and policy responses. In South Africa, a country facing numerous environmental challenges such as water scarcity, biodiversity loss, and pollution, the role of broadcast media in communicating these issues is particularly significant. Television and radio are among the most accessible forms of media in South Africa, reaching diverse linguistic and cultural audiences, particularly in rural and underserved areas where print and digital media penetration is lower (Statistics South Africa, 2022). This study aims to analyze the coverage of environmental issues in South

African broadcast media, focusing on the patterns, frames, and sources that shape public discourse on these critical topics.

The importance of media representation in environmental issues has been well-established in global literature. Boykoff (2011) highlighted that media coverage significantly influences public understanding and policy discourse on climate change. In the context of developing countries, Ferdous and Khatun (2020) noted that environmental journalism often faces challenges of limited coverage and marginalization. In South Africa specifically, Musvoto *et al.* (2016) found that environmental issues in print media receive limited coverage compared to other topics, often framed in economic or political terms.

While substantial research exists on print media coverage of environmental issues in South Africa, studies on broadcast media are sparse. This gap is significant, given the crucial role of television and radio in reaching a wide audience, particularly in a country with diverse linguistic and cultural backgrounds. Haluza-DeLay and Davidson (2021) investigated climate change representation on South African television news, finding sporadic coverage that often lacks depth. Similarly, Maharaj and Rampersad (2018) analyzed radio coverage, concluding that environmental topics are significantly underrepresented. Initial research suggests that broadcast media tends to prioritize global narratives over local ones, which may contribute to a disconnect between media coverage and the lived experiences of South Africans. These findings underscore the need for a comprehensive analysis of broadcast media's agenda-setting and framing roles.

This study addresses this research gap by employing agenda setting theory (McCombs & Shaw, 1972) and framing theory (Entman, 1993) to explore how South African television and radio present environmental issues. Agenda setting theory provides a framework for analyzing the prominence of environmental topics, while framing theory delves into the narratives and interpretations offered by the media. By integrating these theories, the study examines not only what issues are emphasized but also how they are constructed for public discourse. This dual approach ensures a nuanced understanding of the media's role in shaping environmental awareness and engagement.

The research questions guiding this study are: 1. What is the frequency and prominence of environmental issues in South African broadcast media? 2. How are environmental issues framed in South African broadcast media? 3. What sources are predominantly used in environmental reporting, and how does this impact the diversity of perspectives presented? 4. How does the coverage of local environmental issues compare to global environmental topics?

2. Literature review

The role of media in shaping public perceptions of environmental issues is critical, given its influence on awareness, attitudes, and behaviors. This literature review explores existing studies on media coverage of environmental issues, with a focus on media in South Africa. The review identifies key themes, methodologies, and findings from previous research, and highlights gaps that the present study aims to address.

Media coverage of environmental issues has been extensively studied in various contexts globally. Climate change is one of the most covered environmental issues globally. Boykoff *et al.* (2010) highlighted that media coverage of climate change varies significantly

across different countries, influenced by political, economic, and social factors. Boykoff (2011) further highlights that media representation of climate change significantly influences public understanding and policy discourse. In a study on U.S. media, Boykoff and Boykoff (2004) found that the tendency to present balanced coverage led to a false equivalence between the scientific consensus on climate change and skeptic views. Similarly, Carvalho (2007) demonstrated how media framing of climate change in the UK influenced public and political discourse.

In Asian contexts, media coverage is often event-driven, focusing on disasters rather than ongoing environmental issues. This trend is also observed in Latin America, where Painter (2014) noted that media coverage spikes during high-profile events but lacks sustained attention. Previous studies have indicated that media coverage of environmental issues in developing countries is often limited and marginalized, reflecting broader global trends in environmental journalism (Ferdous & Khatun, 2020).

Studies on environmental media coverage in Africa are fewer but growing. Olausson and Berglez (2014) examined how environmental issues are framed in Kenyan and Tanzanian media, noting a dominance of global over local perspectives. They argued that this global focus often overlooks the specific environmental challenges faced by African countries. A study by Musvoto *et al.* (2016) on South African print media found that environmental issues receive limited coverage compared to other topics. The study noted that when environmental issues are covered, they are often framed in economic or political terms, which can diminish the perceived urgency of environmental problems.

There is limited research specifically focusing on South African broadcast media's coverage of environmental issues. However, existing studies offer some insights. For example, Haluza-DeLay and Davidson (2021) investigated the representation of climate change on South African television news, finding that coverage is sporadic and often lacks depth. They observed that environmental news is typically overshadowed by economic and political stories. Similarly, Maharaj and Rampersad (2018) analyzed radio coverage of environmental issues in South Africa, concluding that there is a significant underrepresentation of environmental topics. They found that when such issues are covered, they are often presented in a way that does not engage the audience or inspire action.

Coverage of biodiversity and conservation issues is less prominent but growing. Anderson (2015) found that global media often frames biodiversity loss in terms of its impact on humans, rather than the intrinsic value of biodiversity. In South Africa, the focus is frequently on high-profile species and conservation areas (Cousins *et al.* 2010). However, there is a lack of coverage on broader biodiversity issues and the interconnectedness of ecosystems. Pollution and waste management are critical issues in South Africa, yet they receive limited media attention. Retief *et al.* (2019) found that South African media coverage of pollution tends to focus on immediate crises, such as oil spills or industrial accidents, rather than ongoing issues like plastic pollution and waste management. This reactive approach often leads to a lack of sustained public engagement on these issues. Additionally, renewable energy is a topic of growing importance in media coverage, reflecting global trends towards sustainable development. In South Africa, Gauntlett *et al.* (2020) observed that media coverage of renewable energy often highlights government policies and economic implications, but there is less focus on community initiatives and the potential environmental benefits.

While there is a substantial body of research on print media coverage of environmental issues in South Africa, studies on broadcast media are sparse. Broadcast

media, including television and radio, play a crucial role in reaching a wide audience, particularly in a country with high levels of media consumption and diverse linguistic and cultural backgrounds. This study aims to fill this gap by providing a comprehensive analysis of how South African broadcast media cover environmental issues. This study will employ a detailed content analysis methodology to examine the frequency, themes, framing, and depth of environmental coverage on South African television and radio. By doing so, it aims to provide a more nuanced understanding of how environmental issues are presented to the public.

There is a tendency for media coverage in South Africa to prioritize global environmental issues over local ones. This can lead to a disconnect between media representations and the lived experiences of South Africans. This study will investigate the balance between local and global perspectives in broadcast media coverage, aiming to highlight the importance of local environmental issues and their impact on communities. Additionally, existing research often critiques the lack of engagement and actionable solutions presented in media coverage of environmental issues. This study will analyze not only the coverage of environmental problems but also the extent to which media provide solutions-oriented journalism. This includes examining whether broadcast media highlight local initiatives, community actions, and practical steps that audiences can take to address environmental challenges.

3. Theoretical frameworks

The theoretical framework for this study is grounded in the principles of agenda setting and framing theories. These theories provide a robust foundation for understanding how media coverage influences public perception and discourse regarding environmental issues.

Agenda setting theory, first introduced by McCombs and Shaw (1972), posits that the media play a crucial role in shaping the public agenda. According to this theory, the media do not tell people what to think, but rather what to think about. This influence is achieved by the prominence and frequency with which certain issues are covered, thereby making them more salient in the public consciousness (McCombs & Shaw, 1972).

In the context of environmental issues, agenda setting theory is particularly pertinent. Environmental problems often require significant public attention and policy action, yet they must compete with numerous other issues for media coverage. Research has shown that media coverage can significantly impact public awareness and concern about environmental issues (Boykoff, 2011). For instance, during periods of intense media coverage of climate change, public concern about the issue tends to rise (Hansen, 2010). This indicates that the media's agenda-setting role is critical in driving public discourse and potential policy action regarding environmental issues. Studies such as those by Shehata and Hopmann (2012) demonstrate that media coverage of climate change influences public concern and political priorities, further highlighting the global relevance of agenda-setting in environmental contexts.

In South Africa, a country grappling with numerous environmental challenges such as water scarcity, pollution, and biodiversity loss, the role of the media in setting the public agenda on these issues is crucial. Studies have indicated that South African media play a significant role in shaping public perceptions of environmental issues (Bornman, 2016). However, gaps in prioritizing certain environmental issues, such as biodiversity loss, are evident. Analyzing how broadcast media in South Africa prioritize and cover environmental

issues can provide valuable insights into their agenda-setting function and highlight areas for improvement.

Framing theory, developed by Erving Goffman (1974) and later expanded by scholars such as Robert Entman (1993), complements agenda setting theory by explaining how media not only influence what issues people think about, but also how they think about these issues. Framing involves selecting certain aspects of a perceived reality and making them more salient in a communication context, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation (Entman, 1993). In the realm of environmental journalism, framing plays a pivotal role in shaping public understanding and attitudes. Media frames can influence how audiences interpret environmental issues, which can, in turn, affect their attitudes and behaviors (Nisbet, 2009). For example, climate change can be framed as a scientific issue, an economic problem, a moral challenge, or a political controversy, each frame potentially eliciting different public responses and policy preferences (Boykoff, 2011).

In South Africa, the framing of environmental issues by broadcast media can have profound implications given the country's diverse socio-economic landscape and its various environmental challenges. Previous studies have highlighted that environmental issues in South African media are often framed in ways that reflect broader socio-political contexts, such as economic development, social justice, and health concerns (Tandwa, 2017). Understanding these frames is essential for comprehending how environmental issues are constructed and communicated in the South African media landscape.

4. Methods

This study employed content analysis to examine the coverage of environmental issues in South African broadcast media. Content analysis was a systematic and objective research method used to quantify and analyze the presence, meanings, and relationships of words, themes, or concepts within qualitative data (Krippendorff, 2018). This method was particularly suited for this study as it allowed for an in-depth examination of how environmental issues were represented in broadcast media, including frequency, context, and framing of the coverage.

This method is particularly suited for applying agenda setting and framing theories. By systematically coding and analyzing the content of South African broadcast media, this study can identify the frequency and prominence of environmental issues, thus providing empirical evidence of the agenda-setting role of media. Moreover, content analysis allows for the examination of how these issues are framed, revealing the underlying narratives and discourses that shape public perception.

The study analyzed news content from major South African television and radio broadcasters. To ensure a representative sample, news segments were selected from three prominent national broadcasters: SABC (South African Broadcasting Corporation), eNCA (eNews Channel Africa), and Newzroom Afrika. These broadcasters were selected based on their national reach, reputation for comprehensive news coverage, and relevance to South African audiences (Hansen, 2010). The sampling frame included news broadcasts from the past 12 months, spanning from July 2023 to June 2024.

News segments were randomly selected to minimize bias, with a focus on prime-time news slots to capture the most influential coverage. Random sampling was performed using a computer-generated sequence to avoid researcher bias and ensure representativeness

(Neuendorf, 2017). A total of 360 news segments were analyzed, with 120 segments drawn from each broadcaster. Prime-time slots were prioritized as they attract the largest audiences, thus maximizing the study's relevance to public discourse (Maharaj & Rampersad, 2018).

Data were collected by recording news broadcasts from the selected broadcasters. The recordings were systematically reviewed to identify and extract segments focusing on environmental issues. Environmental issues were defined broadly to include topics such as climate change, pollution, conservation, and natural disasters. Segments were transcribed to facilitate detailed analysis.

A coding scheme was developed based on a preliminary review of the literature and previous studies on environmental news coverage (Boyatzis, 1998; Carvalho, 2007). The coding scheme included four categories, issue type, framing, tone, and sources. Issue type includes climate change, air pollution, water issues, biodiversity, and natural disasters. Framing is about how issues were framed, including economic, health, or policy perspectives. Tone can be categorized into positive, negative, or neutral sentiments. Lastly, sources will identify the types of sources cited in the news, including government officials, NGOs, scientists, and local communities.

Two independent coders were trained to apply the coding scheme consistently. Inter-coder reliability was assessed using a subset of the data, with adjustments made to the coding scheme as necessary to ensure reliability (Neuendorf, 2017). The reliability of the coding process was quantified using Cohen's Kappa, which yielded a score of 0.85, indicating a strong level of agreement (Cohen, 1960). Quantitative and qualitative analyses were performed to identify patterns and trends in the data. Descriptive statistics were used to quantify the frequency of different issue types and framing approaches. Qualitative analysis involved thematic analysis to explore the context and depth of coverage. The results were compared across different broadcasters to identify variations in coverage.

This study ensured that all data collection and analysis procedures adhered to ethical research standards. Although the study involved publicly available news content, care was taken to respect the privacy and integrity of the individuals and organizations mentioned in the broadcasts. All recordings were securely stored, and identifying information about private individuals was anonymized to prevent unintended disclosure. The study's adherence to ethical guidelines ensures that it upholds the principles of transparency and accountability in research practices.

5. Empirical findings

The content analysis of environmental issues in South African broadcast media yielded a comprehensive set of results. News segments from the major broadcasters, SABC, eNCA, and Newzroom Afrika, were systematically reviewed and analyzed. The following sections present the key findings, including quantitative results, identified themes, and patterns observed in the coverage.

5.1. The dominance of climate change coverage

The analysis covered a total of 360 news segments over the 12-month period, with 120 segments from each broadcaster. Table 1 shows the frequency of different environmental issues covered in the news.

Table 1. Distribution of environmental issues coverage

Issue type	SABC	eNCA	Newzroom Afrika	Total
Climate change	34 (28%)	42 (35%)	38 (32%)	114 (32%)
Air pollution	18 (15%)	20 (17%)	22 (18%)	60 (17%)
Water issues	22 (18%)	16 (13%)	24 (20%)	62 (17%)
Biodiversity	14 (12%)	18 (15%)	16 (13%)	48 (13%)
Natural disasters	32 (27%)	24 (20%)	20 (17%)	76 (21%)

Table 1 presents a comparative analysis of the frequency of coverage of various environmental issues by three South African broadcasters: SABC, eNCA, and Newzroom Afrika. The data reveals the distribution of coverage across different issue types and highlights the dominant themes in their reporting. Climate change emerged as the most frequently covered issue, with SABC dedicating 28% of its environmental news to this topic, eNCA covering 35%, and Newzroom Afrika reporting 32%. In total, climate change articles made up 32% of the coverage, underscoring its prominence across all three broadcasters. Natural disasters were the second most covered issue, with SABC contributing 27% of its coverage to this topic, eNCA 20%, and Newzroom Afrika 17%, culminating in 21% of the total coverage. This suggests a significant focus on reporting events that have immediate and tangible impacts on communities.

Water issues followed with SABC covering 18%, eNCA 13%, and Newzroom Afrika 20%, accounting for 17% of the total coverage. This indicates a moderate interest in reporting on challenges related to water resources. Air pollution was reported less frequently, with SABC covering 15%, eNCA 17%, and Newzroom Afrika 18%, resulting in 17% of the total coverage. This highlights a relatively lower emphasis on air quality compared to other environmental issues. Biodiversity received the least attention, with SABC covering 12%, eNCA 15%, and Newzroom Afrika 13%, amounting to 13% of the total coverage. This reflects a lower priority given to biodiversity compared to other environmental issues.

Table 1 reveals that climate change is overwhelmingly the most dominant environmental issue covered by South African broadcast media. This prominence is not coincidental but reflects a broader alignment with both global and national priorities, which increasingly emphasize the urgency and significance of climate-related issues. The substantial focus on climate change across various broadcasters indicates a heightened awareness and concern regarding the impact of climate change on the environment and society. The dominance of climate change coverage can be attributed to several factors. Globally, climate change has been at the forefront of international discussions, driven by scientific reports and high-profile events such as international climate summits and agreements. This global discourse has influenced national media agendas, leading South African broadcasters to prioritize climate change in their environmental reporting. This alignment is crucial in a country that is experiencing the tangible effects of climate change, including more frequent and severe weather events.

Moreover, the substantial coverage of climate change underscores its relevance to South African audiences. As climate-related challenges the daily lives of South Africans, such as droughts, flooding, and changing weather patterns, broadcasters are responding to public interest and concern by providing more in-depth and frequent coverage of these issues. This focus not only keeps the public informed but also stimulates broader discussions on potential solutions and policy responses. In summary, the preeminence of climate change coverage in South African broadcast media highlights its critical importance and the media's role in shaping public understanding and response to one of the most pressing environmental issues of our time.

5.2. *Economic, policy, and health framing*

The framing of environmental issues was categorized into three primary perspectives: economic, health, and policy. Table 2 shows the breakdown of these framing types.

Table 2. Framing types in climate change and natural disaster coverage

Framing type	SABC	eNCA	Newzroom Afrika	Total
Economic	40 (33%)	35 (29%)	42 (35%)	117 (32%)
Health	35 (29%)	45 (38%)	38 (32%)	118 (33%)
Policy	45 (38%)	40 (33%)	40 (33%)	125 (35%)

Table 2 provides an overview of the distribution of different framing types utilized by South African broadcast media in their coverage of climate change and natural disaster topics. Economic framing emerged as a significant approach, accounting for 33% of the total coverage by SABC, 29% by eNCA, and 35% by Newzroom Afrika. This type of framing is prominently used to discuss the financial implications and economic impacts of climate change and natural disasters. Across all three media outlets, economic framing was applied to highlight the cost-related aspects and economic consequences of environmental issues, totaling 117 instances, or 32% of the overall coverage.

Health framing was also notably prevalent, with SABC featuring it in 29% of their coverage, eNCA in 38%, and Newzroom Afrika in 32%. This framing type focuses on the health-related impacts of climate change, such as air pollution and water quality issues. The health framing totaled 118 instances, representing 33% of the coverage across all outlets. It underscores the media's emphasis on how climate change affects public health and wellbeing. Policy framing was observed across all issue types, with SABC utilizing it in 38% of their coverage, eNCA in 33%, and Newzroom Afrika in 33%. This framing is employed to discuss policy responses and regulatory measures addressing climate change and related challenges. Overall, policy framing accounted for 125 instances, or 35% of the total coverage, reflecting its broad application in discussing legislative and policy-related aspects of environmental issues.

Economic, policy and health framings emerged as the predominant methods for presenting environmental issues in media coverage. This approach signifies a notable emphasis on articulating the financial repercussions, health impacts, and policy measures associated with environmental challenges, which can significantly shape public perceptions

and influence policy discussions. Economic framing predominantly focuses on the monetary aspects of environmental issues. Media reports often highlight the substantial costs incurred from environmental degradation, such as damage to infrastructure, loss of agricultural productivity, or healthcare expenses due to pollution. By emphasizing these economic burdens, the media underscores the urgency of addressing environmental problems from a financial perspective. Additionally, economic framing also includes discussions on the potential economic benefits of implementing environmental mitigation strategies. For instance, reports may detail how investing in renewable energy can lead to job creation, stimulate economic growth, and provide long-term savings, thereby presenting a compelling case for proactive environmental policies.

Policy framing, on the other hand, centers on the legislative and regulatory responses to environmental issues. This framing often involves an examination of current policies, proposed reforms, and the effectiveness of various regulatory measures. Media coverage might detail the actions taken by governments, international bodies, or local authorities to combat environmental problems, such as the introduction of new environmental regulations, subsidies for green technologies, or international agreements on climate change. By focusing on policy responses, the media not only informs the public about the measures being undertaken but also engages in a broader discourse about their potential effectiveness and implications for future policy directions. Together, economic and policy framings play a crucial role in shaping the discourse around environmental issues, influencing how the public perceives the importance and urgency of addressing these challenges, and guiding policy debates and decisions.

5.3. *Mixed tone of coverage*

The distribution of tones in environmental news coverage was analyzed across three major South African broadcast media outlets: SABC, eNCA, and Newzroom Afrika (Table 3).

Table 3. Tones in environmental news coverage

Tone	SABC	eNCA	Newzroom Afrika	Total
Positive	50 (42%)	55 (46%)	48 (40%)	153 (43%)
Negative	45 (38%)	40 (33%)	52 (43%)	137 (38%)
Neutral	25 (21%)	25 (21%)	20 (17%)	70 (19%)

Positive coverage emerged as the most prevalent tone among the outlets, constituting 43% of the total coverage. Specifically, SABC reported 50 positive pieces, accounting for 42% of its coverage, while eNCA's positive coverage stood at 55 articles, representing 46% of its total. Newzroom Afrika reported 48 positive articles, making up 40% of its environmental news coverage. This suggests a relatively optimistic portrayal of environmental issues across these media outlets.

In contrast, negative coverage also played a significant role, with 38% of the overall coverage categorized as negative. SABC reported 45 negative pieces, which is 38% of its coverage, eNCA had 40 negative articles, constituting 33% of its total, and Newzroom Afrika had the highest proportion of negative coverage at 43%, with 52 articles. This indicates a

notable focus on adverse aspects related to environmental issues, such as climate change and natural disasters.

Neutral coverage was the least frequent tone, representing only 19% of the total. SABC and eNCA each reported 25 neutral pieces, or 21% of their coverage, while Newzroom Afrika reported 20 neutral pieces, amounting to 17% of its total coverage. The presence of neutral coverage highlights a portion of reporting that refrains from taking a positive or negative stance, potentially providing a more balanced view of environmental issues. Overall, while positive coverage was most common, the substantial presence of negative tones reflects the media's focus on urgent and critical environmental challenges.

Table 3 reveals a nuanced portrayal of environmental issues, characterized by a mixed tone that reflects both optimism and concern. On one hand, the overall positive tone observed in many reports suggests a relatively optimistic view towards environmental management and progress. This positive tone often emphasizes successful conservation efforts, advancements in green technology, and proactive policies implemented to address environmental challenges. Such coverage aims to highlight achievements and encourage continued progress, fostering a sense of hope and motivation among the public. It reflects a narrative that underscores the potential for positive change and the benefits of collective environmental efforts.

On the other hand, the significant presence of negative tones, especially in reports concerning climate change and natural disasters, reveals a more urgent and critical aspect of environmental journalism. This negative tone is marked by a focus on the severe impacts of climate change, such as rising temperatures, extreme weather events, and their repercussions on communities and ecosystems. Additionally, the coverage of natural disasters often carries a somber and alarmist tone, drawing attention to the immediate threats and the urgent need for action. This duality in tone highlights the complexity of environmental issues, acknowledging both the progress made and the critical challenges that remain. It underscores the necessity for continued vigilance and comprehensive strategies to address the multifaceted nature of environmental crises. Overall, the mixed tone of coverage in South African broadcast media provides a balanced view that captures both the achievements in environmental management and the pressing issues that demand sustained attention and action.

5.4.   *Predominance of government sources*

The types of sources cited in the news segments were categorized into government officials, NGOs, scientists, and local communities (Table 4).

Table 4. Source types in environmental news coverage

Source type	SABC	eNCA	Newzroom Afrika	Total
Government	55 (46%)	50 (42%)	52 (43%)	157 (44%)
NGOs	25 (21%)	30 (25%)	28 (23%)	83 (23%)
Scientists	30 (25%)	25 (21%)	30 (25%)	85 (24%)
Local Communities	10 (8%)	15 (12%)	10 (8%)	35 (10%)

Table 4 reveals distinct patterns in the representation of various source types. Among the three major broadcast channels, the government emerged as the most frequently cited source, accounting for 44% of the total references. Specifically, SABC reported 55 government-related stories (46% of its coverage), eNCA covered 50 stories (42%), and Newzroom Afrika cited government sources 52 times (43%). This highlights a strong reliance on official governmental perspectives in the news content. Following government officials, scientists were the next most frequently cited sources, comprising 24% of the total references. SABC included 30 scientist-related stories (25%), eNCA featured 25 such stories (21%), and Newzroom Afrika also reported 30 instances (25%). The consistent presence of scientific viewpoints across the channels suggests an effort to provide expert opinions on environmental issues, though their representation is notably lower than that of government sources.

Non-governmental organizations (NGOs) were cited in 23% of the coverage. SABC included 25 NGO-related stories (21%), eNCA reported 30 (25%), and Newzroom Afrika covered 28 stories (23%). This indicates a moderate level of representation for NGOs, reflecting their role in environmental advocacy and information dissemination. Local community voices were the least represented, making up only 10% of the total references. SABC reported 10 community-related stories (8%), eNCA included 15 (12%), and Newzroom Afrika covered 10 stories (8%). This lower representation of local communities highlights a potential gap in the media's focus on grassroots perspectives and lived experiences regarding environmental issues.

The predominance of government sources in environmental news reporting underscores the significant influence that official narratives exert in shaping public understanding of environmental issues. Government agencies often serve as primary sources of information due to their access to extensive data, research, and official statements. This reliance on government-provided information can offer a sense of authority and credibility, particularly when it comes to data on environmental policies, regulations, and large-scale initiatives. However, this dependence on government sources may also impose limitations on the breadth and diversity of perspectives available to the public. Government reports and statements often reflect the official stance on environmental issues, which may not fully capture the complexities or nuances of the situation. For instance, while government agencies may present data on environmental conservation efforts, they may underreport or overlook issues that are raised by non-governmental organizations (NGOs) and local communities who are directly impacted by environmental changes. NGOs and grassroots organizations frequently offer critical insights and alternative viewpoints that highlight local concerns, advocate for marginalized groups, and challenge prevailing government policies.

5.5. *Coverage gaps in local community voices*

The focus on government sources can further create a skewed narrative that prioritizes official perspectives over those of independent and community-based actors. This can result in a narrower understanding of environmental issues, potentially undermining public awareness of critical local and grassroots initiatives.

As shown in the Table 4, the representation of local communities in environmental news coverage often reveals a significant gap in how grassroots perspectives are incorporated into mainstream media narratives. Despite the increasing urgency of environmental issues and their impact on local populations, many news outlets prioritize broader, often national

or international perspectives, leaving local voices underrepresented. This gap highlights a crucial shortfall in the depth and breadth of coverage concerning how environmental issues affect individuals and communities at the grassroots level. Local communities, particularly those directly situated near environmental hazards or engaged in local environmental initiatives, offer invaluable insights into the immediate and lived experiences of these issues. Their perspectives can provide detailed accounts of the tangible impacts of environmental degradation, such as health consequences, economic challenges, and changes in local ecosystems. However, due to a lack of media focus, these nuanced and locally relevant stories often remain underreported.

This underrepresentation can skew public understanding and policy responses by failing to capture the full scope of environmental impacts. For instance, while national reports may highlight overarching trends, they might overlook specific issues such as the struggles of a small community dealing with pollution from a nearby factory or the efforts of local activists working to combat deforestation. Such omissions can lead to a disconnect between policymakers and the actual conditions faced by those on the ground, potentially resulting in less effective or misdirected environmental policies.

To foster a more comprehensive and balanced discourse, it is essential to integrate diverse sources of information, including the voices of NGOs, local communities, and independent experts, alongside official government reports. This approach can enrich public understanding and ensure that a wider array of perspectives is considered in environmental news coverage. In this sense, incorporating local community voices into environmental news coverage is essential for fostering a more comprehensive understanding of environmental issues. It allows for a more balanced view that not only addresses large-scale environmental changes but also recognizes the personal and localized dimensions of these challenges. Enhancing the representation of these voices can lead to more informed public discourse and more responsive and inclusive environmental policy-making.

6. Theoretical discussions

The prominence of climate change in the analyzed media content reflected a global trend in environmental reporting. This focus aligned with international priorities and the increasing urgency of climate-related issues (Boykoff, 2011). However, the disproportionate attention given to climate change raised questions about the coverage of other pressing environmental concerns in South Africa. While climate change was undoubtedly a critical issue, the reduced coverage of topics such as biodiversity loss, air pollution, and water scarcity may have led to an incomplete public understanding of the country's environmental challenges. This imbalance could potentially skew public perception and policy priorities, possibly at the expense of equally urgent local environmental issues, as suggested by Musvoto *et al.* (2016) in their study of South African print media. The media's focus on climate change could be attributed to several factors, including the global nature of the issue, its connections to extreme weather events, and the availability of international news sources on the topic. However, this emphasis might also reflect a lack of specialized environmental journalism that could provide more nuanced coverage of local issues, a challenge identified by Ferdous and Khatun (2020) in their study of environmental journalism in developing countries.

The predominance of economic and policy frames in environmental reporting highlighted a tendency to contextualize environmental issues within broader societal concerns. This approach could be effective in demonstrating the relevance of environmental

issues to everyday life and national priorities, as observed by Tandwa (2017) in the context of South African newspapers. Economic framing, in particular, could help to translate abstract environmental concepts into tangible impacts that resonated with audiences and policymakers alike. However, the emphasis on economic and policy frames may have come at the expense of other important perspectives. For instance, the relative lack of ecological or scientific framing could lead to a diminished understanding of the intrinsic value of nature and the complex interactions within ecosystems. This gap in framing could potentially influence public attitudes towards environmental conservation, possibly favoring short-term economic benefits over long-term ecological sustainability, a concern raised by Anderson (2015) in her study of global media framing of biodiversity loss. The policy framing, while important for informing the public about governmental actions, may have inadvertently reinforced the notion that environmental issues were primarily the responsibility of policymakers rather than individuals or communities. This could potentially lead to a sense of disempowerment among viewers, who might feel that their individual actions had little impact on large-scale environmental challenges (see Nisbet, 2009).

The balanced distribution of positive and negative tones in environmental reporting presented both opportunities and challenges for public engagement. The presence of positive coverage could inspire hope and motivate action, highlighting successful initiatives and potential solutions to environmental problems. This approach could counter the 'eco-anxiety' that often accompanies environmental news, encouraging continued engagement rather than despair or apathy (Hansen, 2010). Conversely, the substantial presence of negative coverage, particularly in relation to climate change and natural disasters, served to underscore the urgency of environmental challenges. This could be crucial in maintaining public awareness and pressure for action. However, a preponderance of negative news could also lead to audience fatigue or a sense of hopelessness, potentially disengaging viewers from environmental issues (see Boykoff and Boykoff, 2007). The relatively low proportion of neutral coverage suggested that environmental reporting in South African broadcast media tended towards more emotionally engaging content. While this could be effective in capturing audience attention, it may also have reduced opportunities for dispassionate analysis of complex environmental issues.

The heavy reliance on government sources in environmental reporting had significant implications for the nature and diversity of information presented to the public. On one hand, government sources could provide authoritative information on policies, regulations, and official data. This could be particularly valuable in a field where accurate, up-to-date information is crucial for public understanding and decision-making, as noted by Bornman (2016) in her study of South African media's role in shaping public perceptions of environmental issues. However, the dominance of government voices raised concerns about the diversity of perspectives presented in environmental coverage. The underrepresentation of scientists, NGOs, and especially local communities in news sources suggested a potential narrowing of the discourse around environmental issues. This imbalance could lead to a reporting landscape that favored official narratives over grassroots perspectives or independent scientific analysis (Olausson and Berglez 2014). The limited presence of scientific sources was particularly concerning, given the technical nature of many environmental issues. Without robust scientific input, there was a risk of oversimplification or misinterpretation of complex environmental phenomena. This could potentially lead to misinformed public debate and policy decisions, a problem highlighted by Boykoff and Boykoff (2004) in their analysis of U.S. media representation of climate change.

The significant underrepresentation of local community voices in environmental reporting represented a critical gap in media coverage. This absence not only limited the diversity of perspectives presented but also potentially disconnected environmental reporting from the lived experiences of those most directly affected by environmental changes. Cousins *et al.* (2010) raised a similar concern in their study of biodiversity conservation coverage in South Africa. Local communities often bear the brunt of environmental challenges and are frequently at the forefront of grassroots conservation efforts. Their exclusion from mainstream media narratives could lead to a top-down approach to environmental reporting that failed to capture the nuances of local contexts and innovative community-led solutions. Maharaj and Rampersad (2018) have observed how radio coverage of environmental issues in South Africa have allowed for such more-nuanced reports, taking into account local communities and their environmental efforts. Moreover, the lack of local voices may have contributed to a sense of disconnection between environmental issues and everyday life for many viewers. This could potentially reduce public engagement with environmental topics, as audiences may not see their own experiences and concerns reflected in media coverage (Shehata and Hopmann 2012).

7. Conclusion

This study provided a comprehensive analysis of environmental issue coverage in South African broadcast media, revealing both strengths and areas for improvement in the current landscape of environmental journalism. Employing a constructivist paradigm, as necessitated by framing theory, this study underscored the media's active role in constructing narratives that influence public perceptions and policy priorities (Entman, 1993).

The findings highlighted the dominance of climate change coverage, the prevalence of economic and policy frames, and a mixed tone balancing positive and negative narratives. However, the study also identified significant gaps, particularly in the representation of local community voices and scientific sources. The predominant focus on climate change, while aligning with global trends and urgency, potentially overshadowed other pressing local environmental issues. This imbalance may lead to an incomplete public understanding of South Africa's diverse environmental challenges. The emphasis on economic and policy frames, while making environmental issues relevant to broader societal concerns, may have come at the expense of ecological and scientific perspectives. This framing tendency could potentially influence public attitudes towards environmental conservation, favoring short-term economic benefits over long-term ecological sustainability.

The mixed tone of coverage presented both opportunities and challenges for public engagement. While positive narratives could inspire hope and action, the substantial presence of negative coverage might lead to audience fatigue or disengagement. The heavy reliance on government sources, while providing authoritative information, raised concerns about the diversity of perspectives presented in environmental coverage. The significant underrepresentation of local community voices represented a critical gap in media coverage, potentially disconnecting environmental reporting from the lived experiences of those most directly affected by environmental changes. This gap may also fail to capture local contexts and innovative community-led solutions.

These findings have important implications for media practitioners, policymakers, and environmental communicators in South Africa. Media outlets should strive to

incorporate a wider range of frames and voices, particularly from local communities and scientific experts, to provide a more comprehensive and nuanced understanding of environmental issues. For media professionals, practical steps include training in environmental journalism, fostering partnerships with local communities, and leveraging expert insights to present balanced narratives. Additionally, media outlets should aim for more balanced coverage that addresses a wider range of environmental concerns relevant to South Africa. For policymakers, the findings suggest an opportunity to effectively communicate environmental initiatives through media channels. However, as noted by Haluza-DeLay and Davidson (2021), there is also a need to ensure that policy communications resonate with local contexts and concerns. By collaborating with media outlets, policymakers can design communication strategies that bridge the gap between policy objectives and public understanding. Clear and actionable messages tailored to local realities can foster better public engagement and support for environmental policies.

This study contributes to the growing body of literature on environmental journalism in developing countries, addressing a crucial gap by focusing on broadcast media in South Africa. It provides a foundation for future research, which could explore audience responses to different types of environmental coverage, investigate the processes behind source selection in environmental reporting, and examine the potential of new media platforms in diversifying environmental communication. Expanding the study to other media forms, such as digital platforms, or to other regions could further explore the relationship between media framing and public engagement with environmental issues.

Finally, while South African broadcast media have made strides in environmental reporting, there remains significant room for improvement in terms of topic diversity, source representation, and the inclusion of local perspectives. As environmental challenges continue to grow in urgency and complexity, the role of media in shaping public understanding and policy responses becomes increasingly critical. By addressing the gaps and imbalances identified in this study, South African broadcast media can play a more effective role in fostering informed public debate and action on environmental issues.

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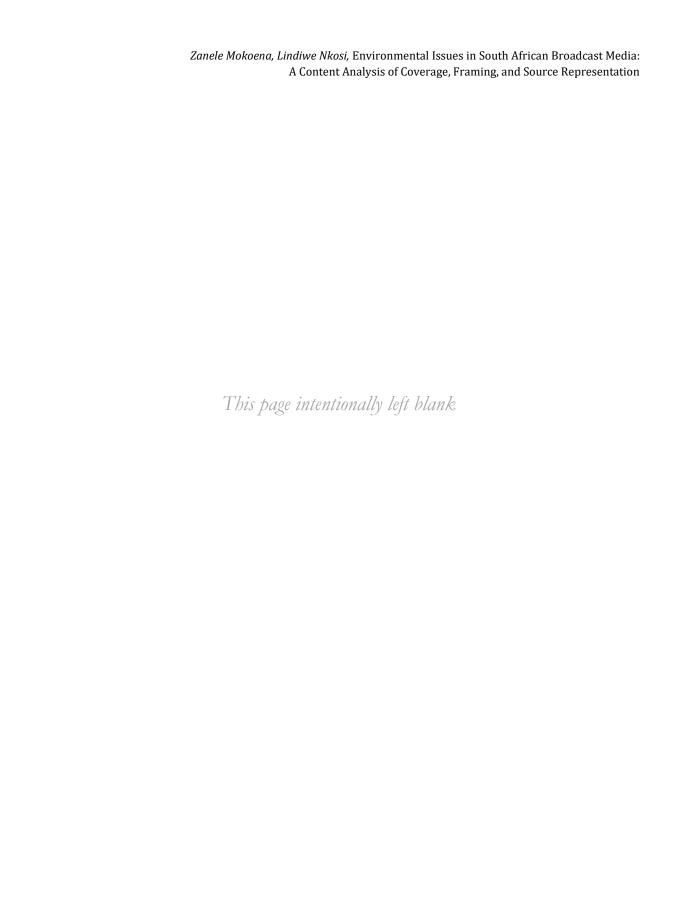
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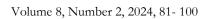
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