AMCAP | JMCS

AMCAP JMCS | JOURNAL OF MEDIA AND COMMUNICATION STUDIES

Volume 5, Issue 2. July 2025

DOI: 10.5282/zenodo.17164888

Website home: https://jmcs.amcap.net/website
Submission guidelines: https://jmcs.amcap.net/website/page/submission-guidelines

Date of Receiving: 31-12-2024
Date of Publication:10-07-2025

Analysis of Carbon Footprint Coverage in Daily Dawn, Pakistan (2022-2024)

Author(s):

Abbas Rashid Butt
PhD Scholar, University of Management and Science, Lahore:

Rana Faizan Ali
HOD, School of Media and Communication, Beaconhouse National University, Lahore

Adnan Lodhi
M. Phil. Scholar, Media Studies, University of Gujrat, Gujrat, Pakistan

Abstract

A code-document analysis is conducted to check how the issue of carbon footprints has been covered by Daily Dawn, a prominent and influential newspaper in Pakistan, known for its extensive coverage of national and international issues, one of Pakistan's leading newspapers, over the period from January 2022 to June 2024, a period marked by increasing global attention to climate change and sustainability. During selected period, Dawn published 20 articles (4, 2022), (11, 2023) (5 till June 2024) related to carbon footprints limited to opinion pieces only. This analysis focuses on various aspects of the coverage including the frequency, themes, and overall tone of the articles. The analysis indicates that while carbon-related issues are broadly discussed, specific references to carbon footprints are less common. Despite the prevalence of negative sentiment, positive and neutral sentiments were more frequent in the overall coverage, with coefficients of 0.86 and 0.90, respectively. It looks like a fair balance in reporting slightly positively or neutrally rather than negatively.

Keywords: Carbon footprints, Newspaper coverage, Daily Dawn, environmental sustainability.

1. Introduction

Carbon footprints have emerged as one of the most important global issues confronting nations in their fight against climate change and for environmental sustainability. Carbon footprints are the total direct and indirect greenhouse gas emissions caused by human activities and are the most vital indicators of environmental damage (Wiedmann & Minx, 2008). They need to be addressed regarding climate change mitigation and sustainable development. The media shape public understanding and awareness of environmental issues. The effects of agenda-setting and framing in the media can be highly determinant of what the public perceives as important issues and how they interpret those issues (Entman, 1993; McCombs & Shaw, 1972). Newspapers, for example, have always excelled in informing and educating readers on complex issues, including environmental matters (Boykoff & Boykoff, 2007). In Pakistan, Daily Dawn is perhaps one of the most important and widely read newspapers. It is known for covering every single issue, both national and international. As one of the leading media outlets in Pakistan, Daily Dawn can play a vital role in the public discourse and policies concerning environmental issues. An analysis of the carbon footprints of newspaper coverage in Daily Dawn from January 2022 to June 2024 might give a good understanding of how and what people are learning regarding this important subject….

1.1 Carbon Footprints and the Media Coverage of Environmental Issues

The footprints are important indicators for the diagnosis and remedy of climate change. They are defined as forms of accounting that can measure resource consumption and requirements for waste assimilation by a given population or economy, in relation to how much productive land would correspond to this along.

Three primary types of carbon footprint are organizational, value chain, and product carbon footprints. These footprints are the main contributions of total ecological footprint (Kacmar, 2018). Studies show that rural households have bigger ecological footprints compared to urban households (Hussain & Hayat, 2022). Haseeb et al. conducted a consumption-based carbon footprint study on the University of the Punjab (PU), Lahore, i.e. transport, electricity, and waste generation. The biggest contributor to CO2 was found to be electricity, especially when compared over pre-and during-COVID-19 periods. Ullah et al. (2020) also measured the carbon footprint of University of Haripur (UoH), revealing that the purchased electricity comprised the biggest source of greenhouse gas emissions. Such discussion about the salient financing options pertinent to climate change activities within Pakistan include an elaborate analysis of the fact by Ahmed et al. that the country has heavily committed itself to unilateral climate resources amounting up to $4.5 billion for between 2007 and 2009 without global recognition.

Mujeeb et al. (2023) discussed current air pollution management efforts in Pakistan and pointed out how inadequate they are against national air quality standards. They suggested public policy in Pakistan should be interpreted as co-control of greenhouse gases and air pollution at low cost. The links between economic growth, ecological footprint, and CO2 emissions in Pakistan were analyzed by Pan et al. (2023) using Johansen co-integration, where results showed how urbanization, financial development, economic growth, and temperature positively affect ecological footprints, while rainfall and CO2 emissions exert a negative influence.

1.2 Media Representation of Climate Change

A number of studies attempted toward the Pakistani press regarding issues related to climate change. COP21 coverage analyzed by Saeed et al. (2023) in two newspapers: the English-language Daily Dawn and the Urdu-language one Daily Jang showed that coverage was more descriptive than interpretative. Daily Dawn was more critical, while Jang was focused on more local-government and opposition issues. Barri and Shahzad (2022) found that Daily Jang had comparatively more coverage of emerging environmental issues than that of Daily Dawn, albeit the latter was more inclined towards climate change. Asif et al. (2024) emphasized the great role that media should play in addressing the environmental problems.

Saleem and Rahman (2023) studied the framing of climate and environmental news articles in Daily Dawn and Jang where they found formal-stylistic approaches such as episodic and thematic framing. Chhachhar et al. (2020) performed a study of the content with respect to environmental issues covered in Daily Dawn, Daily Jang, and Daily Kawish in 2016, concluding that Daily Dawn had maximum newspaper coverage of the most significant environmental issues, thus emphasizing the one-of-a-kind role of print media in public awareness. Analyses of media studies display varying coverage and framing of climate issues; however, there is not much available towards shorter timeframes and varying media sources in complete content analysis. Thus, the present study is carried out to fill this void.

The theoretical underpinnings of this research are Agenda-Setting Theory and Framing Theory. The agenda-setting theory of the media creates a public agenda through certain issues, thus determining what people think about (McCombs & Shaw, 1972). According to Framing Theory, the media's presentation of information affects how listeners interpret and understand that information (Entman, 1993). Therefore, using these two theories can also be instrumental in analyzing how Daily Dawn's coverage of carbon footprints and influences public perception as well as policy debates. On the other hand, when the world increasingly shifts its attention to climate change, it becomes more imperative to understand how the media in Pakistan is addressing carbon footprints, as that would help better understand public awareness and inform future policies. Newspapers such as Daily Dawn are greatly instrumental in informing and shaping public opinion. Analyzing their coverage provides insights into how environmental issues are communicated to the public. By examining the media coverage, the study can highlight potential gaps or strengths in how carbon footprint issues are presented, which can inform more effective policy-making and public communication strategies. This analysis can contribute to the academic discourse on environmental communication and offer practical recommendations for journalists, policymakers, and environmental advocates in Pakistan. The present study explores that how often is the topic covered? Are there peaks in coverage that correspond to specific events or developments? What specific aspects of carbon footprints are being discussed? Is the coverage predominantly positive, negative, or neutral?

2. Methods

Boolean searching technique is applied to search out the articles (opinion pieces only) through searching phrase “Carbon footprints” from Dawn’s website. Twenty articles have been selected which are published on the central construct of the study “Carbon

Footprints" during the selected time period from January 2022 to June 2024, a period marked by increasing global attention to climate change and sustainability. The Atlas.ti 24 has been used to analyze the data for frequent concepts and sentiments (positive, negative and neutral) while discussing the 'Carbon Footprints' in the articles. Then co-occurrence and code-document analysis have been conducted to check the relationship while conducting regression-coefficient between different themes.

3. Results and Findings

Table 1
Frequency of Carbon (Footprints) within various contexts in Daily Dawn (2022-24)

Codes	**Carbon (Gr=139)**	**Carbon footprints (Gr=10)**
	count (coefficient)	**count (coefficient)**
agriculture (Gr=1)	1 (0.01)	0 (0.00)
business (Gr=11)	9 (0.09)	2 (0.06)
cement (Gr=5)	5 (0.06)	0 (0.00)
climate (Gr=18)	17 (0.10)	1 (0.01)
coal (Gr=2)	2 (0.02)	0 (0.00)
development (Gr=5)	4 (0.04)	1 (0.03)
economy (Gr=5)	5 (0.05)	0 (0.00)
emission (Gr=42)	40 (0.33)	2 (0.02)
environment (Gr=4)	4 (0.04)	0 (0.00)
fossil (Gr=5)	5 (0.05)	0 (0.00)
fuel (Gr=10)	10 (0.10)	0 (0.00)
gas (Gr=4)	4 (0.04)	0 (0.00)
health (Gr=2)	2 (0.02)	0 (0.00)
industry (Gr=7)	6 (0.06)	1 (0.04)
ozone (Gr=2)	2 (0.02)	0 (0.00)
pollution (Gr=4)	4 (0.04)	0 (0.00)
reduction (Gr=12)	12 (0.13)	1 (0.04)
smog (Gr=1)	1 (0.01)	0 (0.00)
sport (Gr=1)	1 (0.01)	0 (0.00)
technology (Gr=7)	5 (0.05)	2 (0.08)
Totals	**139 (1.27)**	**10 (0.28)**

The table 1 shows that the term "Carbon" was mentioned 139 times with a total coefficient of 1.27, indicating a high level of discussion across various contexts, particularly in relation to "emission" (40 mentions, coefficient 0.33), "climate" (17 mentions, coefficient 0.10), and "fuel" (10 mentions, coefficient 0.10). In contrast, "Carbon footprints" were mentioned only 10 times, with a total coefficient of 0.28, showing less frequent discussion. This indicates that while carbon-related issues are broadly discussed, specific references to carbon footprints are less common.

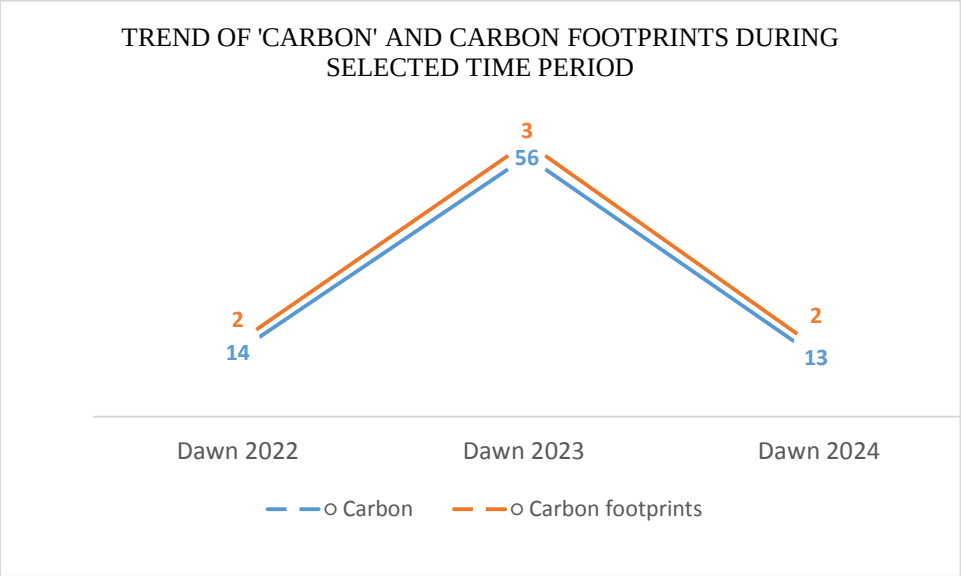

Figure 1. Presentation of selected themes in Dawn

Table 2

Sentiment Analysis of Various contexts in Daily Dawn (2022-24)

Codes	**Sentiment: Negative (Gr=116)**	**Sentiment: Positive (Gr=183)**	**Sentiment: Neutral (Gr=211)**
	count (coefficient)	count (coefficient)	count (coefficient)
agriculture (Gr=12)	0 (0.00)	6 (0.03)	6 (0.03)
business (Gr=30)	9 (0.07)	12 (0.06)	9 (0.04)
cement (Gr=12)	1 (0.01)	5 (0.03)	6 (0.03)
Climate (Gr=100)	19 (0.10)	43 (0.17)	38 (0.14)
coal (Gr=11)	1 (0.01)	5 (0.03)	5 (0.02)
development (Gr=29)	2 (0.01)	14 (0.07)	13 (0.06)
economy (Gr=17)	5 (0.04)	7 (0.03)	5 (0.02)
emission (Gr=77)	23 (0.14)	21 (0.09)	33 (0.13)
environment (Gr=14)	2 (0.02)	7 (0.04)	5 (0.02)
fossil (Gr=14)	5 (0.04)	5 (0.03)	4 (0.02)
fuel (Gr=24)	7 (0.05)	8 (0.04)	9 (0.04)
gas (Gr=24)	9 (0.07)	6 (0.03)	9 (0.04)
health (Gr=17)	4 (0.03)	3 (0.01)	10 (0.05)
industry (Gr=22)	3 (0.02)	9 (0.04)	10 (0.04)
ozone (Gr=17)	6 (0.05)	4 (0.02)	7 (0.03)
pollution (Gr=19)	4 (0.03)	4 (0.02)	11 (0.05)
reduction (Gr=20)	6 (0.05)	5 (0.02)	9 (0.04)
smog (Gr=11)	3 (0.02)	3 (0.02)	5 (0.02)
sport (Gr=21)	5 (0.04)	8 (0.04)	8 (0.04)
technology (Gr=19)	2 (0.02)	8 (0.04)	9 (0.04)
Totals	**116 (0.82)**	**183 (0.86)**	**211 (0.90)**

The table 2 indicates that carbon footprints were predominantly discussed with a negative sentiment in several contexts, such as emission (23 articles, coefficient 0.14), climate (19 articles, coefficient 0.10), and gas (9 articles, coefficient 0.07). Despite the

prevalence of negative sentiment, positive and neutral sentiments were more frequent in the overall coverage, with coefficients of 0.86 and 0.90, respectively. This indicates a balanced approach in the reporting, with slightly more positive and neutral tones compared to negative. Carbon footprints were discussed with a negative connotation in various contexts, including Carbon, Climate, Emission, Gas, Pollution, Reduction, Fossil Fuel, Economy, Business, Industry, Cement, Technology, Health, Sport, Smog, Coal, Ozone, Environment, and Development. This consistent negative sentiment highlights the perceived detrimental impact of carbon footprints across multiple sectors and issues, underscoring the urgency and importance of addressing carbon emissions for environmental sustainability and public well-being.

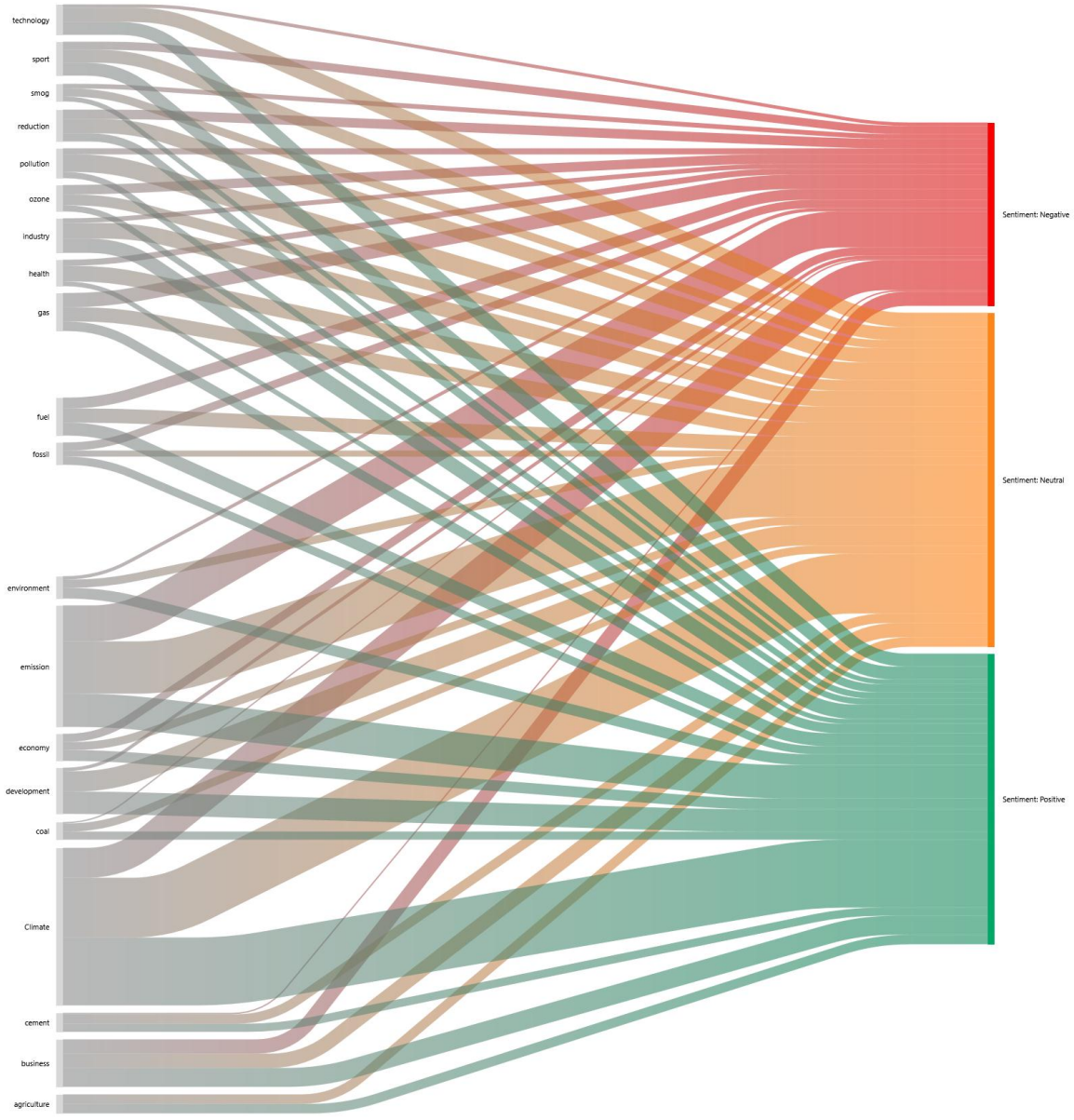

Figure 2. *Code co-occurrence in documents*

4. Discussion

The frequency and context of terms related to carbon and carbon footprints in media

coverage provide valuable insights into public and policy attention towards climate-related issues. The data from Table 1 highlights several key points. The term "Carbon" was mentioned 139 times, with a total coefficient of 1.27, indicating a high level of discussion across various contexts. This shows that carbon-related issues are prominent in public discourse. Significant mentions in relation to "emission" (40 mentions, coefficient 0.33) emphasize the focus on carbon emissions as a primary concern, aligning with past studies that underscore the critical role of carbon emissions in climate change. With the proof of association with "climate" (17 mentions, coefficient 0.10) as well as "fuel" (10 mentions, coefficient 0.10), this further signifies that the discourse is often on the sources and impacts of carbon emissions; consistent with Pan et al. (2023), who found that the influence of urbanization and growth on ecological footprints largely utilizes carbon emissions. "Carbon footprints" only appeared in 10 mentions, with a total coefficient of 0.28- a clear indication that even though carbon-related topics are wide-ranging, the actual mention of carbon footprints tends to be less.

This connotes a significant discovery since carbon footprints have been a well-established environmental impact metric (Kacmar, 2018). It indicates the gap in public and media perplexity towards the narrower, most actionable idea of carbon footprints as opposed to that wider discourse. The relative meagerness of references on carbon footprints does not need to imply the absence of sensitive reporting or groping public knowledge of this concept, as also outlined by previous studies. For instance, there was attention on such specific institutional carbon footprints by Haseeb et al. (2022), Ullah et al. (2020), but a much larger public discursive crowd might yet engage those metrics in their details. It reveals that much more targeting in communication and education may be needed in carbon footprints compared to the general carbon-related ideas that have been popular. Although they are well publicized, they are poor on the specificities of the term rubble. The term rubbles is said to motivate more specific policy and personal action. It is consistent with the findings by Saeed et al. (2023) and Asif et al. (2024), who showed that the media inappropriately focuses on public understanding of issues about the environment. However, from the fact that carbon footprints have not been sufficiently covered, it provides a void within which media can improve their reporting on this important aspect of climate change.

Again, the discussion on emissions and carbon in general may not have gone further down to carbon footprints, which keep limiting the mass public understanding and, indeed, any policy measures. As indicated by Mujeeb et al. (2023), co-control approach of greenhouse gases and air pollution benefited from clearer discourse on carbon

footprints. Sentiment Analysis over carbon footprints in media coverage does offer some useful insights regarding perceptions by the public and government policy. As per the Table 2 data, negativity is the predominantly felt sentiment pertaining to carbon footprints across various contexts. The emission-under negative sentiment conversations deal with carbon footprints in 23 articles (coefficient 0.14); climate, 19 articles (coefficient 0.10) and gas, 9 articles (coefficient 0.07). Negative sentiments here coincide with the generally known harmful effects carbon footprints have on the environment and public health. Similar effects have been shown in previous studies regarding the negative contribution of carbon emissions in regards to climate change.

Analysis of sentiment over carbon footprints in media coverage does offer some useful insights regarding perceptions by the public and government policy. On the basis of Table 2 data, negativity is a predominant feeling with regard to carbon footprints in diverse contexts. The emission-under-negative sentiment conversations deal with footprints in 23 articles (coefficient 0.14); climate: 19 articles (coefficient 0.10); and gas: 9 articles (coefficient 0.07). Negative sentiments here coincide with generally known harmful effects carbon footprints have on environment and public health, and previous studies have also indicated some of these negative consequences from carbon emission and its contribution towards climate change. Haseeb et al. (2022) and Ullah et al. (2020) reported a huge amount of carbon emissions due to institutional activities and a need for reduction strategies. Such an overwhelming majority in negative sentiment across different contexts like pollution, reduction, fossil fuel, and industry proves how multifaceted carbon footprints can be.

This is relevant with Mujeeb et al. (2023), who underlined the fact that present approaches to managing air pollution have not been very effective, hence proper policies regarding greenhouse gases and air quality should be in place. While there is a net negative sentiment in the total coverage, the overall adherence had disproportionately more positive (coefficient .86) and neutral (coefficient .90) tones. This balanced reporting indicates that while damage from carbon footprints is recognized, there is also reporting on positive actions and emerging solutions to it. Understanding the subject this way implies that addressing carbon footprints not only involves recognizing the problem but also embracing efforts and innovations aimed at reducing emissions. For example, according to Ahmed et al. (2011), there were great financial commitments to climate change in the mitigation in Pakistan. This suggests that certain steps, though small, have been taken in this direction.

The presence of positive and neutral sentiments may indicate the increasing acceptance

that technology, policy changes, and behavioral changes form mitigation strategies for carbon footprints. Saeed et al. (2023) and Barri and Shahzad (2022) emphasized covering responsible and balanced media coverage online for educating and engaging the masses. The overall negative perceptions attached to carbon footprints call for action in all sectors in addressing carbon emissions, which is crucial for creating awareness and driving policy actions towards environmental sustainability and public health. The understanding of the issue, however positive and neutral, depicts potential solutions and efforts toward their realization. Balanced reporting maintains public attendance and sympathy towards climate action, thus push an audience to be more proactive in addressing carbon footprints. The findings indicate that the media need to keep covering carbon footprints regularly and consistently because it is not a question of crying but an investigation into solutions. It helps match Asif et al. (2024) and Chhachhar et al. (2020), whose studies highlighted the role of the media in bringing about an education process in the general public on environmental issues.

5. Conclusion

The study of media term mentions makes it required to expand the context outside general discussions of carbon into specific references to carbon footprints, which could be helpful in encouraging better understanding, and more effective climate policies among the public. Sentiment analysis of carbon-footprint coverage shows largely negative perceptions of impact, echoing previous studies on carbon emissions and harmful environmental effects. Yet positive or neutral sentiments indicate balanced reporting that acknowledges problems and solutions. Media reporting from here on must keep on underscoring the urgency of carbon footprint issues while also telescoping into and highlighting positive actions and innovations so that a public more informed and engaged in proactive climate action may evolve.

6. Recommendations

Future research and media should work for a deeper awareness of carbon footprints and their effects on environmental sustainability.

References

Ahmed, V., Malik, A. A. K., Ramay, S., Munawwar, Z., & Pervaiz, A. (2011). *National economic and environmental development study: the case of Pakistan*.

Asif, A., Jamil, N., & Ahmad, S. (2024). Media Portrayal of Climate Change in Pakistan: A Systematic Literature Review. *Pakistan Social Sciences Review*, *8*(2), 332–339.

Barri, F. A., & Shahzad, M. (2022). *The Editorial Coverage on Climate Change in Context of*.

Boykoff, M. T., & Boykoff, J. M. (2007). Climate change and journalistic norms: A case-

study of US mass-media coverage. *Geoforum*, *38*(6), 1190–1204.

Chhachhar, A. R., Arain, G. S., & Chandio, D. A. (2020). Assessing Print Media Coverage on Environmental Issues in Pakistan: A Study of Major Newspapers in Pakistan. *Progressive Research Journal of Arts & Humanities (PRJAH)*. https://doi.org/10.51872/PRJAH.VOL2.ISS2.40

Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, *43*(4), 51–58.

Haseeb, M., Tahir, Z., Batool, S. A., Majeed, A., Ahmad, S. R., & Kanwal, S. (2022). The carbon footprint of a public sector University before and during the COVID-19 lockdown. *Global NEST Journal*, *24*(1), 29–36.

Hussain, A., & Hayat, U. (2022). A COMPARATIVE ANALYSIS OF ECOLOGICAL FOOTPRINT OF RURAL-URBAN HOUSEHOLDS IN DISTRICT SWAT. *Pakistan Journal of Social Research*, *4*(2), 1097–1117.

Kacmar, D. (2018). *Victor Lundy*. Chronicle Books.

McCombs, M. E., & Shaw, D. L. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, *36*(2), 176–187.

Mujeeb, M., Mujeeb, M. M., Rehman, M. U., & others. (2023). Reduce Carbon footprint in Rawalpindi Pakistan. *International Journal of Environment and Pollution Research*, *11*(1), 13–23.

Pan, C., Cristia, J. F. E., Irfan, M., Pan, Z., Ghardallou, W., Tahir, M., & Ali, B. (2023). Modelling the ecological footprints, climate change and economic growth nexus. *Geological Journal*, *58*(9), 3348–3367.

Saeed, R., Hussain, M., & Riaz, F. (2023). CRITICISM AND ATTRIBUTION OF RESPONSIBILITY: FRAMING IN LEADING NEWSPAPERS OF PAKISTAN FOR CLIMATE CHANGE. *Pakistan Journal of Social Research*, *5*(02), 989–998.

Saleem, S. M. S., & Rahman, B. H. (2023). Pakistani Print Media and Climate Literacy: A Study of Formal-stylistic Frame Analysis during 2018-19. *Research Journal for Societal Issues*. https://doi.org/10.56976/RJSI.V5I1.61

Ullah, I., Islam-ud-Din, Habiba, U., Noreen, U., & Hussain, M. (2020). Carbon footprint as an environmental sustainability indicator for a higher education institution. *International Journal of Global Warming*, *20*(4), 277–298.

Wiedmann, T., & Minx, J. (2008). A definition of 'carbon footprint.' *Ecological Economics Research Trends*, *1*(2008), 1–11.