

James Madison University

JMU Scholarly Commons

School of Communication Studies - Faculty
Scholarship

School of Communication Studies

7-31-2023

Ethical Dimensions of Climate and Environmental Issues in Pakistani Media

Shafiq Ahmad Kamboh
University of the Punjab Lahore Pakistan

Muhammad Ittefaq
James Madison University, ittefamx@jmu.edu

Sadia Jamil
University of Nottingham Ningbo China

Busha Hameedur Rahman
University of the Punjab Lahore Pakistan

Follow this and additional works at: <https://commons.lib.jmu.edu/commstudies>



Part of the [Environmental Studies Commons](#), [Mass Communication Commons](#), and the [Social Justice Commons](#)

Recommended Citation

Kamboh, Shafiq Ahmad; Ittefaq, Muhammad; Jamil, Sadia; and Rahman, Busha Hameedur, "Ethical Dimensions of Climate and Environmental Issues in Pakistani Media" (2023). *School of Communication Studies - Faculty Scholarship*. 8.
<https://commons.lib.jmu.edu/commstudies/8>

This Book Chapter is brought to you for free and open access by the School of Communication Studies at JMU Scholarly Commons. It has been accepted for inclusion in School of Communication Studies - Faculty Scholarship by an authorized administrator of JMU Scholarly Commons. For more information, please contact dc_admin@jmu.edu.

10

ETHICAL DIMENSIONS OF CLIMATE AND ENVIRONMENTAL ISSUES IN PAKISTANI MEDIA

Shafiq Ahmad Kamboh, Muhammad Ittefaq, Sadia Jamil, and Bushra Hameedur Rahman

Climate justice and climate ethics debates are quite interrelated. According to Juliet (2021), the use of the term climate justice has helped frame global warming as an ethical and political issue instead of viewing it as purely environmental or physical in nature. Caney (2021) argues that while facing the disproportionate costs of climate change between Majority and Minority World countries, climate justice debates do seem relevant, but many would argue for the relevance of other kinds of moral consideration, particularly the climate ethics discussions.

Climate change is the biggest threat facing humankind in the twenty-first century. Considering the significance of this emergency, much of the existing scholarship focuses on exploring the multifaceted dimensions of climate change, the consequences of such changes for human beings and infrastructure, and eventually the potential solutions (Graham, 2015). Although such understandings of the crisis are important, many studies highlight the need to incorporate a 'new science' of climate change (O'Brien et al., 2010, p. 19). While explicating this more holistic approach to the problem, Graham (2015) stated that the new science emphasizes equally recognizing climate change as an ethical and a scientific issue, and it further calls for establishing strong collaboration between natural and social scientists to find more concrete solutions.

To meet this need, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has devised and adopted a Declaration of Ethical Principles in Relation to Climate Change (DEPCC) (UNESCO, 2017). This comprehensive document of 18 Articles assigns responsibilities to various stakeholders to address the challenge while setting ethics as the focal point of the climate change discussion. For instance, in a bid to highlight the significance of enhancing public awareness through various communication channels, Article 12 aptly assigns media, among others,

DOI: 10.4324/9781003214021-11

certain responsibilities such as to ‘promote awareness regarding climate change and the best practices for responding to it, through strengthening social dialogue, and communication by the media, scientific communities, and civil society organizations, including religious and cultural communities’ (UNESCO, 2017, p. 132). This study considers DEPC’s articles in the context of climate and environmental ethics issues and assesses whether contemporary Pakistani journalism is complying or violating these principles. However, despite having this clearly defined normative role, there is a dearth of research examining how and to what extent contemporary journalism has been reminding nation-states and other relevant actors of their ethical responsibilities to formulate and implement policies and actions regarding climate change mitigation, adaptation, and environmental degradation.

Recent research suggests that Pakistan is the world’s fifth most affected country by climate change (Eckstein et al., 2018). Therefore, any human activity that becomes a reason for emitting GHGs, increasing pollution or ecological imbalance, and eventually contributing to climate change or environmental degradation was considered a climate or environmental ethics issue by this chapter.

From a media advocacy perspective, we argue that editorial journalism carries a strong potential to publicize cases of poor compliance to climate and environmental ethics to policymakers. To have a meaningful impact on public policy-making processes, such issues – usually underrepresented in mainstream media – need either adequate news coverage or to be highlighted as part of a special journalistic genre (Kamboh & Yousaf, 2020). In this regard, due to its distinctive format, a newspaper editorial has a strong influence on readers, intra- and inter-media news agendas, and on political or policy agendas (Firmstone, 2019, p. 2). However, a survey of print media treatment of climate change issues reveals that newspaper editorials have barely been studied for their role in advocating climate and environmental issues, particularly in the Majority World (Das, 2019, p. 65; Kamboh et al., 2022).

To address these gaps in existing literature, this chapter analysed the editorial coverage of local and regional climate and environmental issues in the mainstream Pakistani Urdu and English language newspapers. We contribute to climate journalism research in two ways: firstly, by measuring the extent of editorial coverage given to climate and environmental ethics issues versus all other types of issues; secondly, by evaluating the editorial coverage priorities of both the local and regional climate and environmental ethics issues. To meet these objectives, two research questions were posed. First, was there a difference between editorial coverage of climate and environmental ethics issues and other issues among Pakistani newspapers? And second, what were the advocacy priorities of selected newspapers in the context of local and regional climate and environmental injustice issues?

1 Media Advocacy via Editorial Journalism

There are a number of journalistic forms that are opinion-based and make no claim of objectivity. Among them are columns, editorials, and editorial cartoons.

While defining editorials as an essential and regular feature of contemporary newspaper journalism and highlighting some of their main objectives, Firmstone (2019) contends that editorial journalism is exclusive to newspapers and includes articles, often called leaders. Unlike columns and articles that include the name of their authors, editorials are anonymously written. Editorials represent the collective opinion or the public voice of a newspaper. Editorials help newspapers support and oppose individuals, speak in the best interest of their readers, speak to their readers, and speak to politicians, policymakers, and other organizations.

For the sake of distinguishing editorials from other forms of opinion-based writings, Pimentel et al. (2021, p. 3) assert that 'editorials have a noble place in the opinion section, which differentiates them from other genres, such as columns'. A few authors consider editorials as the writings by a group of people (namely, the editorial board) as opposed to columns or letter to editors that are written by individual authors. On a given day, the number of published editorials in a newspaper may differ from country to country. While revealing different editorial writing practices across the globe, Firmstone (2019) notes that editorials are usually written by veteran journalists known as editorial writers. In the United Kingdom, newspapers publish three editorial articles daily, usually of varying length, with the first article being the longest and thus considered the most prominent.

Pakistan being a former British colony, the country's editorial journalism appears to be strongly influenced by the British editorial writing model, which includes daily three editorials of varying lengths with up to 500–600 words and the first article, usually the longest, indicating prominence (Kamboh et al., 2022). Universally, and in Pakistan, the structure of a typical editorial resembles the one described by Pimentel et al. (2021, para. 27):

In their first part, editorials briefly describe a particular event or issue so that it can be contextualized (and widely known events are more quickly presented than others). In the second part, the newspaper develops its opinion on the subject to evaluate what is good or bad, wrong or right, especially concerning the actions of the institutions or agents involved. In this same section, the principles, positions, and ideologies shaping the journalistic organization's opinion are put into action. The third and last part brings the conclusions, embracing the explanations that form the basis of the editorial opinion and communicating a recommendation or a summon to take action.

Previous research assigns a powerful role to editorial journalism in terms of having multidimensional effects. Firmstone (2019) mentions that newspaper editorials have a strong influence on readers, the internal news agendas and coverage of newspapers, the external news agendas and coverage in other news media, and political or policy agendas. However, despite carrying such a strong impact,

newspaper editorials have historically been ignored by mass media researchers. To this perspective, Elyazale (2014, p. 22) adds:

Editorials seem to be neglected in media discourse research compared to the abundant work conducted on other newspaper texts, especially the news. One of the important reasons for the necessity to consider editorials in research is based on their familiarity. According to Van Dijk (1996), they ‘are probably the widest circulating forms of opinion discourse’.

Ansary and Babaii (2005, p. 271), while further confirming the gap, state that ‘print journalism opinion discourse has been and still is considered by many a neglected genre, especially if it is compared with the abundant existing work on other newspaper text types’. Moreover, studies reported that newspaper editorials have scarcely been examined for advocating environmental and climate change issues across the globe (Das, 2019, p. 65).

Editorial journalism has a close connection with advocacy journalism. In a bid to highlight some commonalities between the two, Firmstone (2019) notes that both editorial and advocacy writeups are subjective in nature and are intended to influence social or political change. Though editorial journalism is considered a specific form of advocacy journalism, it is rarely theorized or empirically researched as such. Though some studies underline a few differences between editorial and advocacy journalism as well, this chapter considers editorial writers as advocate-journalists because the term advocacy journalism is not as clearly defined in the scholarship as other media studies concepts such as gatekeeping or agenda-setting. Moreover, Pakistani editorial writers have historically been known for taking the role of advocate-journalists right from the period of the Indian Independence movement from British rule (Kamboh et al., 2022).

Based on the above discussion, we argue that climate and environmental ethics issues can be best contended through newspaper editorials. These issues are usually underrepresented in the mainstream media of the Majority World (Das, 2019; Kamboh & Yousaf, 2020, Kamboh et al., 2022) and need some special journalistic treatment (e.g. editorials) to have better influence on public policy debates. Taking due account of this significance, it would be worthwhile to explore the extent to which Pakistani advocate-journalists gave editorial coverage to environmental and climate ethics issues versus all other types of issues.

2 Regional and Local Climate and Environmental Ethics Issues in Pakistan

Proponents of climate justice contend that the impacts of climate change are not borne equally or fairly between rich and poor nations. Countries in the richer Minority World are responsible for emitting more greenhouse gases (GHGs), while poorer Majority World nations – particularly in places with low emissions – are the first to suffer and get the worst hit (Almeida, 2019). However, it has been

observed that the affected societies in the Majority World not only are the victims of excessive GHG emissions from the Minority World, but also have to bear the brunt of several types of climate and environmental ethics violations from a number of surrounding countries in their respective regions. While adding to this perspective, Fuhr (2021) contends that, like Minority World countries, the Majority World's emissions are highly concentrated. For instance, contrary to 120 other Majority World countries that emit only 22%, India and China alone account for some 60%, and the top ten countries account for some 78% of all Majority World emissions (Fuhr 2021).

In this chapter, we argue that as citizens of a Majority World country, the people of Pakistan are facing six types of climate and environmental ethics violations from a number of neighbouring countries in the South Asia and wider region:

1. Owing to its commitments at the 2015 United Nations Climate Change Conference (COP21) in Paris to help reduce global GHG emissions, China abandoned coal-based energy projects in the country. However, later on, its companies exported and reinstalled the dirtiest of the dirty energy plants in Pakistan (Watts, 2019).
2. Despite being a signatory of the Paris Agreement, Qatar – the world's largest exporter of liquefied natural gas (LNG) – has signed a multi-billion-dollar LNG deal with Pakistan in 2016 ('Qatar Emerges', 2019).
3. In spite of the scientific revelations that the livestock sector is a major contributor to global GHG emissions (Grossi et al., 2019), China has heavily invested in the agri-livestock sector in Pakistan to meet its domestic meat demands ('Pakistan For', 2021).
4. Owing to the burning of crop stubble by farmers; the burning of coal, petrol, diesel, gas, and biomass by industry; and emissions from coal power plants and vehicles (Basu, 2019), India is reported to be responsible for spreading transboundary smog to the neighbourhood countries, including Pakistan (Abas et al., 2019; David & Ravishankara, 2019). Concerning this case, it is important to note that Article 2C of DEPPC highlights to 'seek and promote transnational cooperation before deploying new technologies that may have negative transnational impacts' (UNESCO, 2017, p. 130). The poor compliance with this particular Article is evident from the fact that the letter sent by the chief minister of Pakistan's Punjab province to his Indian counterpart in November 2017 for the creation of a regional cooperation arrangement to tackle the issue of smog and other forms of environmental pollution did not receive a response from India (Shi, 2018) or a reminder from Pakistan.
5. Being included in the 'red list' of endangered species by International Union for the Conservation of Nature (IUCN), the hunting of Houbara Bustards is prohibited in Pakistan. However, every year the country's foreign office grants special hunting licences to please Royal Gulf hunters from the Middle East region as the cornerstone of its foreign policy (Khan, 2016).

6. Lastly, on account of loopholes in illegal wildlife trade laws and their lax implementation in China, poaching and trafficking of pangolin from Africa and Asia, including Pakistan, have eventually made it the world's most smuggled and critically endangered mammal (Ingram et al., 2019; Mahmood et al., 2019).

It is, therefore, important to expand upon the conventional debates of the nascent concepts of climate justice and climate ethics in terms of assigning greater obligations to the Minority World countries for reducing GHGs and paying heed to said poor compliance with climate ethics by Majority World countries as well. Moreover, we further contend that, like climate ethics scholarship, environmental ethics debates also need to be expanded. First, besides discussing environmental ethics issues between 'privileged' and 'disadvantaged' groups within a country (Hein & Dünckmann, 2020), this scholarship should also include cases of breach of fundamental environmental obligations across different countries and regions. For instance, questions should be raised about the spread of Indian, Chinese, and Indonesian smog to the neighbouring countries (David & Ravishankara, 2019; Huang, 2017; Yeung, 2019) and eventually seizing everybody's equal right to a good environment. Similarly, there is a dire need to voice concerns of Majority World citizens about hunting expeditions and their negative impact on wildlife conservation efforts in poor African and Asian countries ('Eighty Birds', 2017; Malik, 2014). The brutal murder of a Pakistani wildlife activist, Nazim Jokhio, and its widespread media coverage acted as a catalyst to highlight this issue in 2022 (Jaferii, 2022). Second, environmental justice and ethics debates need to be expanded and consolidated beyond environmental pollution and should include all other factors that cause damage to a country's ecological balance, including wildlife conservation and biodiversity loss issues.

Besides that, on the local front, Majority World countries, including Pakistan, are the victims of climate and environmental ethics violations by a number of actors from within. A few examples are listed below.

1. Due to its increased reliance on fossil fuels to fulfil domestic energy needs, annual GHG emissions in Pakistan have rapidly increased over the past few decades (Tiseo, 2020).
2. Despite having the second highest share of agriculture and livestock sector (44.8%) in the national GHG emissions (Mir et al., 2017), authorities are committed to give top priority to the dairy industry in the country's national development plan ('Government Committed', 2019).
3. As opposed to scientists' warnings that 'humans alter the climate by emitting greenhouse gases' (Cohen, 2010, p. 163), local religious leaders and Islamist militant groups are creating hurdles in population control policy-making efforts in Pakistan ('Pakistan Birth', 2017). It is important to mention here that DEPC's Article 7(d) asks decision-makers to 'build effective mechanisms

- to strengthen the interface between science and policy to ensure a strong knowledge base in decision-making' (United Nations Educational, Scientific and Cultural Organization, 2017, p. 131).
4. Despite experts' advice to mitigate GHG emissions through forestry activities (Law et al., 2018), timber and land mafias have terrifyingly reduced Pakistan's forest cover to below 2% (Faiza et al., 2017).
 5. A recent UN report revealed that air pollution caused the world's highest number of deaths in Pakistan during the year 2015 while identifying transport, industry, and agriculture sectors as main contributors to the deteriorating air quality in the country ('FAO Report', 2019). However, the Government of Pakistan is paying no heed to making policies to effectively control agriculture, transport, and industrial particulate matter (PM) emissions.
 6. Contrary to the guidelines of DEPC's Article 4(c), which stipulates that 'it is important for all to take measures to safeguard and protect Earth's terrestrial and marine ecosystems, for present and future generations' (UNESCO, 2017, p. 130), human activities are changing the ocean's chemistry, destroying habitats, and killing marine life in Pakistan. For instance, mangrove forests are considered as one of the most efficient methods of offsetting GHG emissions (Alongi, 2012). However, coastal pollution by industrial and urban wastewater, overfishing, and overharvesting by local communities are greatly contributing to rapid degradation of coastal ecosystems in the country (Mukhtar & Hannan, 2012).
 7. In the face of the fact that the plastic industry is the second largest source of industrial GHG emissions (Shield, 2019), Pakistan has the highest percentage of ill-managed plastic in South Asia (Mukheed & Alisha, 2020), attributable to community malpractices and poor waste management (Akmal & Jamil 2021). Regarding this, DEPC's Article 6(a) underscores the need to 'promote the implementation of the United Nations 2030 Agenda for Sustainable Development and its SDGs, especially by adopting sustainable patterns of consumption, production and waste management' (UNESCO, 2017, p. 131).
 8. Though wildlife conservation helps in maintaining a balance in ecosystems, a number of scientific studies reveal that largely due to poaching, smuggling, and illicit trade at the hands of local hunters, many endangered wildlife species are going extinct in the country (Mahmood et al., 2019; Ullah et al., 2020). In the name of infrastructural expansion, local authorities are paying no heed to increasing pollution and biodiversity loss in the country ('Lahore Without', 2016).

For these reasons, there is a strong need to go beyond the classic notion of climate justice that assigns rights and responsibilities only to the nation-states to 'either be protected from the effects of climate change, or to take action to reduce emissions or support adaptation' (Bulkeley et al., 2014, p. 31). Hence, we argue that along with sovereign states, the role of certain other social institutions, including local

politics, economics, religion, and various community malpractices, should also be analysed and consequently held accountable if they are found to have been involved in contributing to GHG emissions or negatively impacting people's right to a good environment. For this purpose, the press' watchdog role is vital, and it is worthwhile to examine if advocate-journalists bring the aforementioned cases of poor compliance of climate and environmental ethics to the attention of local authorities. Moreover, it is necessary to analyse the editorial priorities of climate and environmental issues because at times editorial writers give more space to comparatively less important issues, and vice versa.

3 Method

We used the quantitative content analysis method to answer both research questions because it has long been recommended as a useful approach to measure and compare the frequency of media content (Neuman, 2005). To proceed with this method, we followed Wimmer's (2014) defined procedures. In the first place, we selected editorial contents of two Urdu language dailies – *Jang* and *Dunya* – and two English language dailies – *Dawn* and *The Nation* – as sample content. We chose these dailies because they are the most influential and the largest mainstream Urdu and English language newspapers of the country. English dailies carry a much smaller readership than their Urdu counterparts, yet the former possess more influence over the policy agenda (Kamboh & Yousaf, 2020).

We counted 'one entire writeup' from the editorial page of the selected newspapers as a unit of analysis. We made this choice because of the importance of editorials as an advocacy platform to raise voice for marginalised parts of society, their influence on the public policy-making process, and their significance to present the official policy of a newspaper. In Pakistan, editorials are published on a specifically devoted space on the editorial page and are published without the name of the author(s).

We purposively selected two different time periods for published editorials: (1) 1 July 2015 to 30 June 2016, and (2) 19 August 2018 to 18 July 2019. The first was selected because 2015–16 was when climate change effects were evidently noticeable in Pakistan. For instance, the country faced the highest death toll in the world due to air pollution in 2015 ('FAO Report', 2019). The country's largest city Karachi was hit by its worst ever heat wave which killed around 1300 people ('Deadliest', 2015). A new environmental phenomenon, that is, transboundary winter smog across India and Pakistan, started making human life miserable. Pakistan started installing dirty energy plants with support from China and Qatar. The country suffered from a fifth consecutive year of disastrous flooding caused by torrential rainfall and glacial lake outbursts killing dozens of people. In the name of infrastructural development, the big cities started to be turned into concrete jungles by removing trees ('Lahore Without', 2016). The historic COP21 took place in late 2015, and the Paris Agreement was signed the following year. The second time period was selected because on 19 August

2018, chairman of Pakistan Tehreek-e-Insaf (PTI), Imran Khan, took the oath as new prime minister of Pakistan after winning the general elections in July 2018. Throughout Khan's political career and during the election campaign, he reaffirmed his commitment to make a clean and green Pakistan (Khan, 2017). As soon as he formally assumed the office of the country's chief executive, he started launching several climate change adaptation and mitigation programmes in the country, including Ten Billion Tsunami Tree Project, Clean Green Champion Programme, and Clean Energy Initiatives ('60 pc', 2020). Given the fact that all these initiatives and their launching ceremonies received high editorial attention (Weaver & Elliott, 1985), it is important to examine the extent of editorial journalism's support in terms of discussing the merits and demerits of the said initiatives. We then constructed and operationalized the following two major content categories (A and B) and two subcategories (A1 and A2) to place relevant units of analysis into them, which eventually would help us answer both the RQs.

4 Category A: Climate and Environmental Ethics Issues

The present study is based on the DEPCC, which 'sets out a shortlist of the globally agreed ethical principles that should guide decision-making and policy-making at all levels and help mobilize people to address climate change' (UNESCO, 2017, para. 3). All such editorials highlighting any violation of already defined climate and environmental ethics were placed in this category. To further operationalize this abstract and multidisciplinary concept, we divided this category into two subcategories: local (A1) and regional (A2) climate and environmental issues. We defined these subcategories as follows:

4.1 A1: Local Climate and Environmental Ethics

The editorials that criticized any local eco-destructive human activity or threat and eventually assigned rights and responsibilities in relation to climate change and environmental degradation to various stakeholders in Pakistan were placed here. For instance:

1. An editorial reporting the contribution of fossil fuels to national GHG emissions was tagged as a *fossil fuel consumption threat*.
2. The editorials that highlighted the role of increased size of livestock or extravagant use of synthetic fertilizers and pesticides in domestic GHG emissions were identified as an *agri-livestock threat*.
3. The editorials that highlighted the population-climate change nexus in Pakistan were marked as a *population-climate change threat* (Yousaf et al., 2022).
4. The editorials that emphasized the importance of reforestation or afforestation in the country for absorbing CO₂ and other gases from the atmosphere were considered as *deforestation and land use change and forestry (LUCF) threat*.

5. The editorials advocating mitigation of solid waste and crops residue burning by local communities, ill-maintained public/private transport, and industrial emissions, for example, brick kilns without zigzag technology (Abubakar, 2020) which hinder the availability of fresh air to all, were tagged as an *air pollution threat*.
6. The editorials advocating human-triggered abuses to mangrove ecosystems were labelled as *mangrove forests threat*.
7. The editorials highlighting the menace of plastic bags and plastic waste mismanagement in the country were tagged as *plastic pollution threat*.
9. The editorials advocating to rescue rapidly dwindling wildlife species at the hands of local hunters or owing to the loss of habitat were marked as *conservation threats*.
10. The editorials that reported the failure of government authorities to implement eco-friendly policies (regarding the ban on plastic bags, sustainable transportation, deforestation, clean energy sources, to name a few) were tagged as *official inability threats*.

4.2 A2: Regional Climate and Environmental Ethics

This subcategory includes editorials that mention various environmental and climate change threats or ethical violations to Pakistan by neighbouring or nearby countries in the South Asia and Middle East regions. This subcategory was further expanded to include:

1. Any editorial that criticized the installation of coal and nuclear power plants under the China Pakistan Economic Corridor (CPEC) agreement was labelled as *CPEC dirty energy plants threat*.
2. Editorials warning about the environmental risks of LNG-based power production were marked as *Pak-Qatar LNG deal threat*.
3. An editorial highlighting the livestock-related GHG emission risks stemming from joint ventures (JVs) between Pakistan and China was labelled as a *Pak-China livestock JVs threat*.
4. Air pollution from fossil fuels and the burning of crop residue are two major reasons of smog between India and Pakistan (Basu, 2021; FAO Report, 2019). The editorials that suggested minimizing winter smog between India and Pakistan by establishing regional cooperation were tagged as *transboundary smog threat*.
5. An editorial opposing the issuance of any endangered wildlife species hunting permit to a Middle Eastern dignitary was labelled as *Gulf hunting threat*.
6. The editorials highlighting how hunting, trading, and transport of all terrestrial wild animals used for human consumption in China are posing an extinction threat to pangolins and other endangered species in Pakistan were labelled as *Chinese wet markets threat*.

5 Category B: Other Issues

In this main content category, we included all editorials that did not fit any of the above-mentioned categories or subcategories. This operationalization helped us to create a codebook, especially with two subcategories, A1 and A2 – with 15 relevant priority areas (issues) needed to be highlighted by selected newspapers' editorialists to influence public policy-making process around environmental issues in Pakistan. This purposeful instrument then eventually operated as a coding sheet for two trained coders, who later on undertook manifest coding, which involves putting the observable and countable surface data of the sample content into a relevant category (Lawrence, 2005). Following this guideline, each unit of analysis was placed into a relevant category or subcategory by the coders. We trained them to place a unit of analysis that had at least one relevant sentence conforming to the operationalized definition of that category or subcategory. In the end, we counted the coded content from all categories or subcategories. By applying descriptive statistics, the resultant numerical value helped us answer the set RQs.

6 Findings and Discussion

This study was primarily aimed at measuring the extent of editorial coverage given to climate and environmental ethics issues vis-à-vis other issues (RQ1). For this purpose, this study analysed a total of 7973 editorials. To consider the coverage of climate-related issues as a yardstick, we selected two different time periods.

The data in Table 10.1 indicate that only 59 (1.5%) editorials were published to advocate cases of local and regional climate and environmental ethics during the first time period, while 3844 (98.5%) were written on all other types of issues (e.g. politics, foreign affairs, show business, sports, crime, and international issues). Interestingly, during the second time period (Table 10.2), when an

TABLE 10.1 Comparison between category A and B issues for first time period (2015–16) (percentage coverage of both category issues and the average number of editorials per newspaper issue)

Newspaper issues	A: Climate and environmental ethics issues				B: Other issues	Total
	Local	Regional	Percentage	AVG*		
Jang (360)	09	00	9 (0.23)	0.02	1021 (26.2)	1030 (26.4)
Dunya (360)	08	00	8 (0.20)	0.02	711 (18.2)	719 (18.4)
Nation (360)	11	09	20 (0.51)	0.05	1057 (27.1)	1077 (27.6)
Dawn (360)	17	05	22 (0.56)	0.06	1055 (27.0)	1077 (27.6)
Total (1440)	45	14	59 (1.5)	0.04	3844 (98.5)	3903 (100)

* Average no. of editorials per newspaper issue.

TABLE 10.2 Comparison between category A and B issues for second time period (2018–19) (percentage coverage of both category issues and the average number of editorials per newspaper issue)

Newspaper issues	A: Climate and environmental ethics issues				B: Other issues	Total
	Local	Regional	Percentage	AVG*		
<i>Jang</i>	19	01	20 (0.49)	0.06	1033 (25.4)	1053 (17.0)
<i>Dunya</i>	25	01	26 (0.64)	0.07	852 (21.0)	878 (17.2)
<i>Nation</i>	29	05	34 (0.84)	0.10	1034 (25.4)	1068 (17.9)
<i>Dawn</i>	35	06	41 (1.01)	0.11	1030 (25.3)	1071 (17.9)
Total	108	13	121 (2.9)	0.08	3949 (97.1)	4070 (100)

* Average no. of editorials per newspaper issue.

environment-friendly prime minister came into power with a strong green agenda (Khan, 2017), the editorial coverage of climate and environment-related issues nearly doubled – to 121 (2.9%). This increase is attributable to the media agenda-building factor, which is referred to as who sets the agenda for the media (Weaver & Elliott, 1985). Though there are many factors that eventually shape the media agenda such as journalistic routines, news values, organizational culture, media ownership, financial constraints, and ideological values in media, public relations (PR) activities (e.g. Facebook pages, tweets, YouTube videos, press releases, press conferences, and political ads) are considered the most influential ones (Curtin, 1999). Kiouis et al. (2006, p. 267) found that ‘public relations impact anywhere from 25% to 80% of news content’. Based on the findings revealed in Table 10.2, it can be safely remarked that PR tactics and the status of a news source are the most influential factors determining a media organization’s news and editorial agenda. In other words, the higher a news source’ political status or access to PR facilities, the stronger its agenda-building impact.

However, despite having this sharp increase during the second time period, the overall results still reveal that the selected newspapers gave insufficient editorial coverage to climate change and environmental issues. As evidence to support this claim, we present the findings of a recent worldwide study that compares mainstream newspaper coverage of climate change issues. In their enquiry, Barkemeyer et al. (2017) reported that selected Chinese, Nepali, Filipino, Thai, and Pakistani newspapers scarcely published an average number of 1.01, 0.31, 0.20, 0.54, and 0.16 articles per newspaper issue on climate-related issues, respectively. In the case of Pakistan, the findings of our study – with an average number of 0.04 and 0.08 editorials per newspaper issue on climate change issues (Tables 10.1 and 10.2) – reveal that the situation has not changed much despite the global concern on climate-related issues has grown significantly between 2008 and 2019.

While answering the first part of the second research question on local climate ethics issues, the data in Tables 10.3 and 10.4 show that a total of 72 and 179 editorials were published to expose local threats to climate change during the first and second time periods, respectively. The results further reveal that the editorialists' advocacy priorities were highly skewed. To substantiate this claim, we compared the sectoral contribution of national GHG emissions with editorial priorities of local climate and environmental ethics issues. For instance, according to the latest national GHG inventory of Pakistan (Mir et al., 2017), the highest national GHG contributor is the fossil fuel-based energy sector with a 45.9% share that conversely received the sixth (11.1%) and fifth (18.5%) least editorial attention during the first and second time periods, respectively (see Tables 10.3 and 10.4). It was followed by the agriculture and livestock sector that accounted for 44.8% GHG share (Mir et al., 2017), which received the least editorial priority during both of the time periods. In contrast, deforestation and LUCF issues that have just a 2.6% share (Mir et al., 2017) received the highest number of supportive mentions during both of the time periods. Moreover, despite strong scientific evidence regarding the role of rapid population growth in environmental degradation and GHG emissions in the country (Yousaf et al., 2022; Zaman et al., 2011), the population–climate change threat received almost negligible editorialist support. Interestingly, the editorial coverage of air pollution and plastic threats tangibly increased during the second time period from 15.5% to 37% and from 6.6% to 19.4%, respectively, owing to the fact that the PTI government had taken strong initiatives to counter both of these environmental issues (Constable, 2019).

Similarly, with respect to the other part of the second research question, the results reveal that the editorial priorities of regional climate ethics issues were also jumbled and flawed (see Tables 10.5 and 10.6). For instance, during the first time period, an arguably lesser ethical violation, that is, the hunting of houbara bustard, received the highest editorial criticism (64.3%). Contrary to this, an arguably more pressing ethical issue, that is, the establishment of CPEC coal power projects (being the dirtiest of the dirty energy plants) comparatively received the least editorial criticism (28.6%). Moreover, despite the agri-livestock sector being the second highest contributor to national GHG emissions (Mir et al., 2017), climate change risks associated with Pak-China livestock joint ventures were entirely ignored by the selected newspapers' editorial writers during both of the time periods. Similarly, despite having an extinction threat to many endangered wildlife species in the country, the threat from Chinese wet markets was not discussed at all by any of the selected newspaper editorialists. Last but not least, despite experts' warning that natural gas-based energy solutions are as harmful to the environment as coal (Morton, 2019), Qatar LNG projects received almost negligible criticism by the editorialists during both time periods.

TABLE 10.3 Percentage of supportive mentions of local climate ethics issues by selected dailies (2015–16)

<i>Newspaper</i>	<i>Editorials</i>	1	2	3	4	5	6	7	8	9	<i>Total SM*</i>
<i>Jang</i>	09	01 (11.1) **	02 (22.2)	03 (33.3)	08 (88.9)	02 (22.2)	03 (33.3)	01 (11.1)	01 (11.1)	00 (00)	21 (29.2)
<i>Dunya</i>	08	02 (25.0)	01 (12.5)	00 (00)	06 (75.0)	02 (25.0)	02 (25.0)	00 (00)	01 (12.5)	02 (25.0)	16 (22.2)
<i>Nation</i>	11	01 (09.1)	00 (00)	00 (00)	04 (36.4)	01 (09.1)	01 (09.1)	02 (18.2)	03 (27.3)	03 (27.3)	15 (20.8)
<i>Daun</i>	17	01 (05.9)	00 (00)	00 (00)	07 (41.2)	02 (11.8)	05 (29.4)	00 (00)	01 (05.9)	04 (23.5)	20 (27.8)
Total	45	05 (11.1)	03 (6.6)	03 (6.6)	25 (55.5)	07 (15.5)	11 (24.4)	03 (6.6)	06 (13.3)	09 (20.0)	72 (100)

1, fossil fuel; 2, agri-livestock; 3, population; 4, deforestation; 5, air pollution; 6, mangrove forests; 7, plastic; 8, conservation; 9, official

* Supportive mentions.

** No. of supportive mentions (percentage).

TABLE 10.4 Percentage of supportive mentions of local ethics issues by selected dailies (2018–19)

<i>Newspaper</i>	<i>Editorials</i>	1	2	3	4	5	6	7	8	9	<i>Total SM*</i>
<i>Jang</i>	19	02 (10.5) **	00 (00)	00 (00)	13 (68.4)	05 (26.3)	03 (15.8)	2 (10.5)	04 (21.0)	02 (10.5)	31 (17.3)
<i>Dunya</i>	25	04 (16.0)	00 (00)	00 (00)	14 (56.0)	12 (48.0)	02 (08.0)	6 (24.0)	03 (12.0)	02 (08.0)	43 (24.0)
<i>Nation</i>	29	06 (20.7)	00 (00)	03 (10.3)	12 (41.4)	15 (51.7)	02 (06.9)	04 (13.8)	07 (24.1)	03 (10.3)	52 (29.1)
<i>Daun</i>	35	08 (22.8)	02 (05.7)	04 (11.4)	04 (11.4)	08 (22.8)	07 (20.0)	09 (25.7)	07 (20.0)	04 (11.4)	53 (29.6)
Total	108	20 (18.5)	02 (1.8)	07 (6.5)	43 (39.8)	40 (37.0)	14 (13.0)	21 (19.4)	21 (19.4)	11 (10.2)	179 (100)

1, fossil fuel; 2, agri-livestock; 3, population; 4, deforestation; 5, air pollution; 6, mangrove forests; 7, plastic; 8, conservation; 9, official

* Supportive mentions.

** No. of supportive mentions (percentage).

TABLE 10.5 Percentage of supportive mentions to regional ethics issues by selected dailies (2015–16)

Daily	Editorials	CPEC dirty energy	Qatar LNG	Pak-China livestock JVs	Transboundary winter smog	Gulf hunters	Chinese wet markets	Total
Jang	00	00 (00)*	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)
Dunya	00	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)	00 (00)
Nation	09	03 (33.3)	01 (11.1)	00 (00)	00 (00)	05 (55.5)	00 (00)	09 (64.3)
Dawn	05	01 (20.0)	00 (00)	00 (00)	00 (00)	04 (80.0)	00 (00)	05 (35.7)
Total	14	04 (28.6)	01 (07.1)	00 (00)	00 (00)	09 (64.3)	00 (00)	14 (100)

* No. of supportive mentions (percentage).

TABLE 10.6 Percentage of supportive mentions to regional ethics issues by selected dailies (2018–19)

Daily	Editorials	CPEC dirty energy	Qatar LNG	Pak-China livestock JVs	Transboundary winter smog	Gulf hunters	Chinese wet markets	Total
Jang	01	00 (00)*	00 (00)	00 (00)	01 (100)	00 (00)	00 (00)	01 (07.7)
Dunya	01	00 (00)	00 (00)	00 (00)	01 (100)	00 (00)	00 (00)	01 (07.7)
Nation	05	00 (00)	00 (00)	00 (00)	04 (80)	01 (20)	00 (00)	05 (38.5)
Dawn	06	04 (66.6)	00 (00)	00 (00)	02 (33.3)	00 (00)	00 (00)	06 (46.1)
Total	13	04 (30.8)	00 (00)	00 (00)	08 (61.5)	01 (07.7)	00 (00)	13 (100)

* No. of supportive mentions (percentage).

10.7 Policy Implications: The Roadmap to Adequate and Effective Climate Ethics Issues Coverage

The evidence from Pakistani editorial writing practices points towards a number of factors, including editorial inattention and incapability, that have contributed to the inadequate coverage and muddled editorial priorities regarding climate and environmental ethics issues. Behind these editorial flaws, both state and mass media are non-adherent to different articles of DEPCC. First, contrary to Article 12, which binds both the state of Pakistan and local mass media to ‘promote awareness regarding climate change and the best practices for responding to it, through strengthening social dialogue, and communication by the media’ (UNESCO, 2017, p. 132), local advocate-journalists are insufficiently highlighting poor compliance to climate and environmental ethics issues. Similarly, Article 4(4) asks for similar support from media and states while revealing that ‘states and other pertinent actors should facilitate and encourage public awareness, and participation in decision-making and actions by making access to information and knowledge on climate change’ (UNESCO, 2017, p. 130).

Second, in contrast to Article 7(4C), which prompts both stakeholders to ‘promote accurate communication on climate change based on peer-reviewed scientific research, including the broadest promulgation of science in the media and other forms of communication’ (UNESCO, 2017, p. 131), there has been no proper communication of the scientific knowledge on how to tackle climate and environmental changes to the media practitioners and eventually to the audience. Due to this gap, editorialists and the journalist community reflect muddled priorities to climate and environmental ethics issues. The above-revealed poor compliance to different DEPCC guidelines suggests that Pakistani advocate-journalists are equally responsible for the present climate change woes of the country and hence – instead of being part of the solution – have become part of the problem.

As a way out, we suggest that newspaper editors and civic advocacy groups (1) explore scientific studies on environmental issues conducted by the local scientific community, (2) organize reporting and editorial staff training workshops on how to use the findings of such studies to effectively influence environmental policy-making process, (3) ensure necessary amendments in relevant journalism course contents for future journalists (Kamboh, 2019), and, above all, (4) persuade editorial writers to provide enough space to climate change and environmental degradation issues.

References

- ‘60 pc of Pakistan’s energy will be “clean” by 2030: PM Imran’. *Dawn*, 12 December 2020. www.dawn.com/news/1595373.
- Abas, Naem, Muhammad Shoaib Saleem, Esmat Kalair, and Nasrullah Khan. 2019. ‘Cooperative control of regional transboundary air pollutants’. *Environmental Systems Research* 8 (1): 1–14. <https://doi.org/10.1186/s40068-019-0138-0>.

- Abubakar, Muhammad, S. 2020. 'Pakistan embraces zig-zag technology-led brick kilns to fight air pollution'. *Dawn*, 7 May. www.dawn.com/news/1552655.
- Akmal, Tanzila, and Faisal Jamil. 2021. 'Testing the role of waste management and environmental quality on health indicators using structural equation modeling in Pakistan'. *International Journal of Environmental Research and Public Health* 18 (8): 4193. <https://doi.org/10.3390/ijerph18084193>.
- Almeida, Paul. 2019. 'Climate justice and sustained transnational mobilization'. *Globalizations* 16 (7): 973–979. <https://doi.org/10.1080/14747731.2019.1651518>.
- Alongi, Daniel M. 2012. 'Carbon sequestration in mangrove forests'. *Carbon Management* 3 (3): 313–322. <https://doi.org/10.4155/cmt.12.20>.
- Ansary, Hasan, and Esmat Babaii. 2005. 'The generic integrity of newspaper editorials: A systemic functional perspective'. *RELC Journal* 36 (3): 271–295. <https://doi.org/10.1177/0033688205060051>.
- Barkemeyer, Ralf, Frank Figge, Andreas Hoepner, Diane Holt, Johannes Marcelus Kraak, and Pei-Shan Yu. 2017. 'Media coverage of climate change: An international comparison'. *Environment and Planning. C, Politics and Space* 35 (6): 1029–1054. <https://doi.org/10.1177/0263774X16680818>.
- Basu, Mausumi. 2019. 'The great smog of Delhi'. *Lung India* 36 (3): 239. https://doi.org/10.4103/lungindia.lungindia_363_18.
- Bulkeley, Harriet, Gareth A. S. Edwards, and Sara Fuller. 2014. 'Contesting climate justice in the city: Examining politics and practice in urban climate change experiments'. *Global Environmental Change* 25 (1): 31–40. <https://doi.org/10.1016/j.gloenvcha.2014.01.009>.
- Caney, Simon. 2021. 'Climate justice'. In *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta. Stanford University Press. <https://plato.stanford.edu/archives/win2021/entries/justice-climate>.
- Cohen, Joel E. 2010. 'Population and climate change'. *Proceedings of the American Philosophical Society* 154 (2): 158–182. www.jstor.org/stable/41000096.
- Constable, P. 2019. 'Pakistan moves to ban single-use plastic bags: The health of 200 million people is at stake'. *Washington Post*, 13 August. www.washingtonpost.com/world/asia-pacific/pakistan-moves-to-ban-single-use-plastic-bags-the-health-of-200-million-people-is-at-stake/2019/08/12/6c7641ca-bc23-11e9-b873-63ace636af08_story.html.
- Curtin, Patricia A. 1999. 'Reevaluating public relations information subsidies: Market-driven journalism and agenda-building theory and practice'. *Journal of Public Relations Research* 11 (1): 53–90. https://doi.org/10.1207/s1532754xjpr1101_03.
- Das, Jahnnabi. 2019. *Reporting Climate Change in the Global North and South: Journalism in Australia and Bangladesh*. Routledge.
- David, Liji M., and A. R. Ravishankara. 2019. 'Boundary layer ozone across the Indian subcontinent: Who influences whom?' *Geophysical Research Letters* 46 (16): 10008–10014. <https://doi.org/10.1029/2019GL082416>.
- 'Deadliest, week-long Pakistan heatwave kills 1,233 in Karachi'. *DW*, 28 June 2015. www.dw.com/en/deadliest-week-long-pakistan-heatwave-kills-1233-in-karachi/a-18545483.
- Eckstein, D., M. L. Hutfils, and M. Wings. 2018. 'Global climate risk index 2019: Who suffers most from extreme weather events? Weather-related loss events in 2017 and 1998 to 2017'. <https://germanwatch.org/en/16046>.
- 'Eighty birds of prey take flight – On jet to Jeddah'. *BBC*, 31 January 2017. www.bbc.com/news/world-middle-east-38809355.
- Elyazale, Nabila. 2014. 'Characteristics of newspaper editorials: "Chouftchouf" in "Almassae" Moroccan newspaper as a case study'. *New Media and Mass Communication* 32 (1): 21–43.

- Faiza, N., J. Weiguo, Y. Aijun, and S. Wenxing. 2017. 'Giant deforestation leads to drastic eco-environmental devastating effects since 2000: A case study of Pakistan'. *Journal of Animal and Plant Sciences* 27 (4): 1366–1376.
- 'FAO report analyses the causes of smog in Punjab focusing on agriculture'. *FAO*, 5 February 2019. www.fao.org/pakistan/news/detail-events/en/c/1179183.
- Firmstone, J. 2019. 'Editorial journalism and newspapers' editorial opinions'. In *Oxford Research Encyclopedia of Communication*, ed. J. F. Nussbaum. (pp. 1–24). Oxford University Press. <https://doi.org/10.1093/acrefore/9780190228613.013.803>.
- Fuhr, Harald. 2021. 'The rise of the Global South and the rise in carbon emissions'. *Third World Quarterly* 42 (11): 2724–2746. <https://doi.org/10.1080/01436597.2021.1954901>.
- 'Government committed to developing livestock sector on modern lines'. *Business Recorder*, 7 February 2019. <https://fp.brecorder.com/2019/02/20190207445241>.
- Graham, Sonia. 2015. 'Climate change, ethics and human security'. *Ethics, Policy & Environment* 18 (1): 112–115. <https://doi.org/10.1080/21550085.2015.1016966>.
- Grossi, Giampiero, Pietro Goglio, Andrea Vitali, and Adrian G. Williams. 2019. 'Livestock and climate change: Impact of livestock on climate and mitigation strategies'. *Animal Frontiers: The Review Magazine of Animal Agriculture* 9 (1): 69–76. <https://doi.org/10.1093/af/vfy034>.
- Hein, Jonas, and Florian Dünckmann. 2020. 'Narratives and practices of environmental justice'. *Journal of the Geographical Society of Berlin* 151 (2–3): 59–66. <https://doi.org/10.12854/erde-2020-524>.
- Huang, E. 2017. 'China's neighbors are getting a whiff of its terrible pollution'. *Quartz*, 8 January. <https://qz.com/879718/chinas-neighbors-are-getting-a-whiff-of-its-terrible-pollution>.
- Ingram, Daniel J., Drew T. Cronin, Daniel W. S. Challender, Dana M. Venditti, and Mary K. Gonder. 2019. 'Characterising trafficking and trade of pangolins in the Gulf of Guinea'. *Global Ecology and Conservation* 17: e00576. <https://doi.org/10.1016/j.gecco.2019.e00576>.
- Jaferii, A. M. 2022. 'Nazim Jokhio murder case: With great power, comes the ability to bend the criminal justice system to your will'. *Dawn*, 18 April. www.dawn.com/news/1685132.
- Jorgic, Drazen. 2019. 'Qatar emerges as front-runner for long-term LNG deal for Pakistan'. *Reuters*, 26 April. www.reuters.com/article/pakistan-gas-lng/qatar-emerges-as-front-runner-for-long-term-lng-deal-for-pakistan-idUSL5N2264ZN
- Juliet, Ifechukwu. 2021. Climate justice and reproductive related issues/challenges: Why you should care as a feminist. *Global Environment Commons*, 7 July. <https://gdc.unicef.org/resource/climate-justice-and-reproductive-related-issueschallenges-why-you-should-care-feminist?fbclid=IwAR151ePNR3KvCEFGmRiok7TXKxW-1QAbWZLPiDZDfMQpBdeEfv6JbXPczag>.
- Kamboh, Shafiq A. 2019. 'Missing links in practical journalism in developing Pakistan'. In *Journalism and Journalism Education in Developing Countries*, ed. B. Dernbach and B. Illg (pp. 157–168). Manipal Universal Press.
- Kamboh, Shafiq A., Muhammad Ittefaq, and Muhammad Yousaf. 2022. 'Editorial journalism and environmental issues in the Majority World'. *International Journal of Communication* 16 (23): 2646–2668.
- Kamboh, Shafiq A., and Muhammad Yousaf. 2020. 'Human development and advocacy journalism: Analysis of low editorial coverage in Pakistan'. *Development Policy Review* 38 (5): 646–663. <https://doi.org/10.1111/dpr.12443>.

- Khan, Ilyas M. 2016. 'Houbara bustards: Pakistan hunting ban sparks political row'. *BBC News*, 14 December. www.bbc.com/news/world-asia-38301815.
- Khan, Rania S. 2017. 'Pakistan cricket hero aims to turn green tide to political tsunami'. *Reuters*, 2 September. www.reuters.com/article/pakistan-politics-environment-idUKL5N1LT3UZ.
- Kiousis, S., M. Mitrook, X. Wu, and T. Seltzer. 2006. First- and second-level agenda-building and agenda-setting effects: Exploring the linkages among candidate news releases, media coverage, and public opinion during the 2002 Florida gubernatorial election. *Journal of Public Relations Research* 18 (3): 265–285. https://doi.org/10.1207/s1532754xjpr1803_4.
- 'Lahore without trees'. *Dawn*, 4 May 2016. www.dawn.com/news/1256107.
- Law, Beverly E., Tara W. Hudiburg, Logan T. Berner, Jeffrey J. Kent, Polly C. Buotte, Mark E. Harmon, and Oregon State University. 2018. 'Land use strategies to mitigate climate change in carbon dense temperate forests'. *Proceedings of the National Academy of Sciences* 115 (14): 3663–3668. <https://doi.org/10.1073/pnas.1720064115>.
- Lawrence, Neuman W. 2005. *Social Research Methods: Quantitative and Qualitative Approaches*. Allyn and Bacon.
- Mahmood, Tariq, Faraz Akrim, Nausheen Irshad, Riaz Hussain, Hira Fatima, Shaista Andleeb, and Ayesha Aihetasham. 2019. 'Distribution and illegal killing of the endangered Indian pangolin *Manis Crassicaudata* on the Potohar Plateau, Pakistan'. *Oryx* 53 (1): 159–164. <https://doi.org/10.1017/S0030605317000023>.
- Malik, N. 2014. 'Rich Gulf Arabs using Tanzania as a playground? Someone opened the gate'. *The Guardian*, 17 November. www.theguardian.com/commentisfree/2014/nov/17/rich-gulf-arabs-tanzania-hunters-masai-rights.
- Mir, Kaleem Anwar, Pallav Purohit, and Shahbaz Mehmood. 2017. 'Sectoral assessment of greenhouse gas emissions in Pakistan'. *Environmental Science and Pollution Research International* 24 (35): 27345–27355. <https://doi.org/10.1007/s11356-017-0354-y>.
- Morton, A. 2019. 'Booming LNG industry could be as bad for climate as coal, experts warn'. *The Guardian*, 2 July. www.theguardian.com/environment/2019/jul/03/booming-lng-industry-could-be-as-bad-for-climate-as-coal-experts-warn.
- Mukheed, Muhammad, and Alisha Khan. 2020. 'Plastic pollution in Pakistan: Environmental and health implications'. *Journal of Pollution Effects & Control* 8 (4): 251–258. <https://doi.org/10.35248/2375-4397.20.8.251>.
- Mukhtar, Irum, and Abdul Hannan. 2012. 'Constraints on mangrove forests and conservation projects in Pakistan'. *Journal of Coastal Conservation* 16 (1): 51–62. <https://doi.org/10.1007/s11852-011-0168-x>.
- O'Brien, K., A. L. S. Clair, and B. Kristoffersen, eds. 2010. 'The framing of climate change: Why it matters'. In *Climate Change, Ethics and Human Security*. (pp. 3–22). Cambridge University Press.
- 'Pakistan birth rate a "disaster in the making" as population passes 207 million'. *Independent*, 10 September 2017. www.independent.co.uk/news/world/asia/pakistan-population-muslim-birth-rate-census-disaster-poverty-million-a7938816.html.
- 'Pakistan for JVs with China in livestock sector, SEZs'. *News International*, 16 May 2021. www.thenews.com.pk/print/835034.
- Pimentel, Pablo Silva, Francisco Paulo Jamil Marques, and Deivison Henrique Freitas Santos. 2021. 'The structure, production routines, and political functions of editorials in contemporary journalism'. *Atlantic Journal of Communication*. <https://doi.org/10.1080/15456870.2021.1931218>.

- Shi, Kevin. 2018. 'Pollution knows no borders – So India, Pakistan would do well to fight it together'. *Scroll*, 22 November. <https://scroll.in/article/901421/pollution-knows-no-borders-and-india-pakistan-would-do-well-to-fight-it-together>.
- Shield, Charli. 2019. 'The plastic crisis isn't just ugly – It's fueling global warming'. *DW*, 15 May. www.dw.com/en/a-48730321.
- Tiseo, Ian. 2020. 'Carbon dioxide emissions from fossil fuel and industrial purposes in Pakistan from 1970 to 2019'. *Statista*, 12 November. www.statista.com/statistics/486054.
- Ullah, Zaib, Inayat Ullah, Ikram Ullah, Sajid Mahmood, and Zafar Iqbal. 2020. 'Poaching of Asiatic black bear: Evidence from Siran and Kaghan valleys, Pakistan'. *Global Ecology and Conservation* 24: e01351. <https://doi.org/10.1016/j.gecco.2020.e01351>.
- UNESCO. n.d. 'Declaration of ethical principles in relation to climate change'. <https://en.unesco.org/themes/ethics-science-and-technology/ethical-Principles>.
- UNESCO. 2017. 'Annex III declaration of ethical principles in relation to climate change'. <https://unesdoc.unesco.org/ark:/48223/pf0000260889.page=127>.
- Watts, J. 2019. 'Belt and Road summit puts spotlight on Chinese coal funding'. *The Guardian*, 25 May. www.theguardian.com/world/2019/apr/25/belt-and-road-summit-puts-spotlight-on-chinese-coal-funding.
- Weaver, David, and Swanzy Nimley Elliott. 1985. 'Who sets the agenda for the media? A study of local agenda-building'. *Journalism Quarterly* 62 (1): 87. <https://doi.org/10.1177/107769908506200113>.
- Wimmer, Roger D., and Joseph R. Dominick. 2013. *Mass Media Research: An Introduction*. Cengage Learning.
- Yeung, Jessie. 2019. 'Indonesian forests are burning, and Malaysia and Singapore are choking on the fumes'. *CNN*, 11 September. <https://edition.cnn.com/2019/09/11/asia/malaysia-singapore-pollution-intl-hnk/index.html>.
- Yousaf, Usman Saleem, Farhan Ali, Babar Aziz, and Saima Sarwar. 2022. 'What causes environmental degradation in Pakistan? Embossing the role of fossil fuel energy consumption in the view of ecological footprint'. *Environmental Science and Pollution Research International* 29 (22): 33106–33116. <https://doi.org/10.1007/s11356-021-17895-4>.
- Zaman, K., I. Ali Shah, and M. Mushtaq Khan. 2011. 'Exploring the link between poverty-pollution-population (3Ps)'. *Journal of Economics and Sustainable Development* 2 (1112): 27–51