Л.Н. Гумилев атындағы Еуразия ұлттық университетінің ХАБАРШЫСЫ.
ISSN (Print) 2616-7174. ISSN (Online) 2663-2500
БАҚ ЖӘНЕ ҚОҒАМ / MEDIA SOCIETY / СМИ И ОБЩЕСТВО

IRSTI 19.41.41 https://doi org/10.32523/2616-7174-2024-148-3-100-108

The role of local media in identifying the causes of Almaty's air pollution

M. Abdikappar[1], A. Alimzhanova*[1], Sh. Kaliazhdarova[2]

[1]*Al-Farabi Kazakh National University, Kazakhstan, Almaty*
[2]*International University of Information Technology, Kazakhstan, Almaty*

**Corresponding author:Aikerim.alimzhan@gmail.com*

Abstract. Climate change poses significant challenges globally, with air pollution emerging as a critical issue, especially in urban areas like Almaty. This study investigates the role of local media, particularly «Almaty Akshamy», in shaping public awareness of air pollution. Through content analysis, the study compares the coverage by «Almaty Akshamy» with other media sources, revealing discrepancies in frequency and depth of reporting. Findings suggest a need for more comprehensive and sustained coverage to address environmental concerns effectively. While «Almaty Akshamy» provides occasional reporting, other sources offer diverse perspectives and insights into air pollution, highlighting the urgency for action. The study emphasizes the importance of collaborative efforts among media, environmental agencies, and government bodies to enhance transparency and promote sustainable practices. By amplifying diverse voices and fostering informed dialogue, media can play a vital role in addressing air pollution and advancing environmental sustainable development of Almaty.

Keywords: climate change, air pollution, media coverage, local media, Kazakhstan, United Nations.

Introduction

Climate change presents a significant challenge with far-reaching effects on the environment, ecosystems, and societies worldwide. Scientific consensus confirms that human activities, particularly the release of greenhouse gases such as carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O), are the primary drivers of significant alterations in Earth's climate [1]. Understanding climate change is crucial due to its profound impact on the Earth's energy balance and climate systems. The Royal Society, the UK's independent scientific academy, explains that the planet warms until it reaches a new equilibrium when the amount of energy leaving is less than the energy entering. Human activities, specifically greenhouse gas emissions, disrupt this equilibrium, leading to global warming. These gases trap heat in the atmosphere,

causing changes in climate patterns and resulting in alterations in weather patterns, sea levels, and biodiversity [2].

The Intergovernmental Panel on Climate Change (IPCC), a leading authority on climate science, has warned about the accelerating pace of climate change and its diverse effects on both natural and human systems. Clear evidence of climate change, from melting polar ice caps and glaciers to increasingly frequent and severe extreme weather events, underscores the urgent need for action.

Scientific research highlights human-driven factors like deforestation, industrial activities, and urbanization exacerbating climate change. Urgent coordinated action is vital to mitigate these effects and safeguard the planet for current and future generations [3].

Climate change poses significant risks to global food security, water resources, and human health. Shifts in precipitation patterns affect crop yields and water availability, leading to food shortages and exacerbating existing socio-economic disparities. Rising temperatures exacerbate heatwaves, vector-borne diseases, and air pollution, posing substantial risks to public health and well-being.

Addressing the challenges of climate change requires a coordinated approach involving multiple levels of governance, from local communities to national governments and international organizations. Localized action offers several distinct benefits in the fight against climate change. Customizing solutions to meet the specific needs and conditions of individual communities enhances their effectiveness and relevance. This localized approach fosters community engagement and support for climate-related initiatives by empowering communities and fostering a sense of ownership.

Local governments and organizations have a direct influence on individuals' daily lives. Implementing climate-resilient infrastructure, promoting sustainable transportation options, and improving energy efficiency in buildings can significantly reduce greenhouse gas emissions and enhance community resilience to the impacts of climate change. These actions not only contribute to global efforts to mitigate climate change but also provide immediate benefits by improving air quality, public health, and the quality of life for residents.

Local action also drives innovation and knowledge sharing. Collaboration among local stakeholders, including government agencies, businesses, academic institutions, and community groups, accelerates the development and dissemination of innovative solutions and best practices. This collaborative approach enables the exchange of knowledge, resources, and experiences, leading to more effective climate adaptation and mitigation strategies.

In Almaty, we have witnessed the close relationship between air pollution and climate change. Our urban area, surrounded by stunning natural landscapes, faces a significant challenge: worsening air pollution primarily due to human activities, exacerbated by climate change. While the global dimensions of climate change are well-documented, the significance of local actions in mitigating its effects is increasingly recognized.

Against this backdrop, this study seeks to explore the role of local media in shaping public discourse on air pollution in Almaty, Kazakhstan. Despite being one of the highest greenhouse gas emitters globally, Kazakhstan's environmental challenges, particularly air pollution, remain underexplored in the media landscape. Therefore, the research question guiding this study is:

«How does local media coverage, particularly by «Almaty Akshamy», contribute to public awareness and discourse on air pollution in Almaty, Kazakhstan, and how does it compare to coverage by other sources?»

By analyzing the content and frequency of air pollution coverage in «Almaty Akshamy» and other media outlets, this study aims to shed light on the effectiveness of local media in addressing environmental issues, identify potential gaps in coverage, and inform strategies for enhancing public engagement and advocacy for sustainable solutions.

Through this research, we endeavor to provide insights that can inform policy interventions, media practices, and community-driven initiatives aimed at combating air pollution and fostering environmental stewardship in Almaty and beyond.

Literature Review

Minimizing pollutant and greenhouse gas emissions is crucial to slowing down the rapid progression of climate change. In 2019, Kazakhstan was ranked as the 21st highest global emitter of greenhouse gases, underscoring the intricate relationship between climate change and air pollution.

Air pollution, whether in the form of urban haze or indoor smoke, poses a significant health hazard on a global scale. Approximately 99% of the global population lives in areas where air pollution levels exceed the limits recommended by the World Health Organization, significantly increasing their vulnerability to various diseases such as cancer, chronic obstructive pulmonary disease, heart disease, stroke, and pneumonia [4].

Research on media coverage of air pollution often reveals disparities in how the issue is portrayed across different media platforms, such as newspapers, television, and online news. Media coverage plays a crucial role in shaping public perceptions of air pollution and influencing government priorities. Sensationalized or alarmist reporting can evoke public concern and demand stricter regulations and government intervention [5].

Research by Murukutla N. et al. has indicated that media organizations often significantly depend on government sources for information regarding air pollution, which may restrict the range of viewpoints that are reported [6].

Furthermore, scholarly research emphasizes the importance of media advocacy in inspiring political mobilization and raising awareness. Environmental advocacy organizations use media tactics to advocate for policy reforms and increase public awareness of air pollution [7]. Advocacy campaigns can influence public attitudes and pressure policymakers to prioritize clean air initiatives by framing air pollution as a pressing public health issue.

Despite its potential to raise awareness and drive change, media coverage of air pollution faces several challenges and limitations. Mainstream media reporting often prioritizes sensationalism, simplicity, and conflict over context, leading to superficial or misleading coverage of complex environmental issues [8]. Commercial interests, editorial biases, and political agendas can influence media narratives, compromising the accuracy and depth of air pollution coverage [9]. However, opportunities exist to enhance the portrayal of air pollution in the media through interdisciplinary collaborations, data-driven journalism, and audience engagement strategies [10].

Recent Developments in Almaty:

The air quality in Almaty, Kazakhstan's largest city, has emerged as a significant environmental concern, prompting extensive research into its sources, impacts, and potential solutions. Studies on the origins of air pollution in Almaty have identified four main contributors: residential heating, industrial activities, city construction, biomass burning and vehicular emissions [11].

Kerimray A. et al. conducted a study in which they employed air quality monitoring data to evaluate pollution hotspots and spatial fluctuations in pollutant concentrations throughout various Almaty districts [12]. Traffic emissions, specifically those originating from older vehicles and diesel engines, make a substantial contribution to the heightened concentrations of nitrogen dioxide and particulate matter in urban environments, according to the study.

The health consequences of substandard air quality in Almaty are also a subject of concern. Long-term exposure to industrial emissions is associated with respiratory diseases, cardiovascular disorders, and other adverse health effects [13]. Policy interventions and regulatory actions are recommended to decrease industrial emissions and improve air quality in Kazakhstan's cities based on these findings.

Studying the impact of severe weather conditions on air pollution in Almaty helps us understand the relationship between meteorological events and air quality in the city [14]. Targeted interventions during adverse weather conditions may be necessary to mitigate pollution levels and improve air quality management in Almaty.

Kerimray A. et al. discuss on the spatial and temporal variability of air quality changes within Almaty city during the lockdown period, highlighting areas with the most significant improvements in air quality. Based on the findings, the authors suggest policy recommendations for sustainable urban planning and pollution control measures, considering the lessons learned from the lockdown period [12].

Materials and Methods

This study aims to analyze air pollution media coverage by the official local newspaper Almaty Akshamy (Kazakh version), with a circulation of 18,500 distributed throughout Kazakhstan. Established in 1988, it focuses on Almaty's socio-economic life, reflecting administration-controlled media in an authoritarian political system. The analysis covers the period from January 1, 2023, to the present, utilizing data from both Yandex and Google search engines.

The primary objective is to examine the extent and nature of air pollution coverage by Almaty Akshamy, comparing it with other sources in Kazakh Language, including 24kz, Forbes.kz, Massaget.kz, Astana.tv, Azattyq ryhy.kz, UNDP, Nege.kz, JSDP, Adil qala, and Nazar Media, identified through broader search strategies.

Data collection involved searching for relevant articles using specific keywords related to air pollution in Almaty on both Yandex (for Almaty Akshamy) and Google search engines. Initially limited to Almaty Akshamy, the search yielded four articles within the specified timeframe. To ensure comprehensive coverage, it was expanded to include other sources identified through Google search results.

Materials selected for analysis-comprised articles retrieved from Almaty Akshamy and other relevant sources. Inclusion criteria encompassed articles discussing air pollution in Almaty, with irrelevant or duplicate materials excluded. Qualitative content analysis was employed, identifying themes, patterns, and trends in air pollution coverage through discourse and narrative analysis. Comparative analysis between Almaty Akshamy and other sources highlighted differences in coverage and emphasis on specific issues.

Findings emphasize the importance of media coverage in shaping public perceptions and awareness of environmental issues like air pollution. Discrepancies observed between Almaty

Akshamy and other sources warrant further investigation into factors influencing journalistic priorities and agendas. Limitations include the limited number of articles from Almaty Akshamy, potentially not fully representing its coverage of air pollution. Additionally, reliance on search engine results may introduce selection bias, and the analysis excludes Russian articles, the country's second official language. The content analysis provides valuable insights into how air pollution in Almaty is portrayed in the media, aiding policymakers and stakeholders in addressing challenges and promoting sustainable development in the region.

Findings and Discussion

The media plays a pivotal role in shaping public perceptions and awareness regarding environmental issues like air pollution. However, current studies indicate that news coverage often lacks comprehensive information on health hazards and preventive measures [15]. Air pollution, a global concern causing 7 million fatalities annually according to the World Health Organization [16], particularly affects Kazakhstan, with an estimated 8134 adult deaths per year due to PM 2.5 pollution [17]. «Almaty Akshamy's» report of 10,000 annual premature deaths due to air pollution emphasizes the urgency for mitigation strategies. While caution is warranted in interpreting this figure, its publication sparks vital awareness and public discourse on air pollution.

Addressing inadequate information dissemination requires collaborative efforts involving media, environmental agencies, and government bodies to enhance transparency and public awareness. The statement referencing the inadequate dissemination of information to the public during periods of extreme pollution, as cited by Kerimray, highlights a critical aspect of environmental communication and public awareness in regions affected by air pollution, such as Almaty [18]. The frequency of «Almaty Akshamy's» coverage during extreme pollution events contrasts sharply with other sources, raising questions about its effectiveness in informing the populace. Factors contributing to this disparity may include editorial priorities, resource constraints, and access to information. The comparison in table 1 presented between the frequency of information dissemination by «Almaty Akshamy» and other sources during extreme pollution events in 2023 is noteworthy. According to the data provided, «Almaty Akshamy» reported on air pollution issues only twice during these periods, whereas other sources provided information many times.

Furthermore, media coverage of air pollution tends to be episodic rather than sustained, potentially exacerbating existing knowledge gaps [15]. “Almaty Akshamy's” articles on air pollution are brief and agenda-setting, lacking depth in analysis and discussion. This reflects a broader reluctance by the city administration to prioritize environmental concerns, raising accountability issues and hindering public discourse and engagement. The lack of comprehensive and discursive articles on air pollution may indicate a broader reluctance or disinterest on the part of the city administration in prioritizing environmental concerns.

It suggests a potential gap in communication between the government and the public regarding environmental stewardship. Without robust and transparent communication from the city administration, residents may be left uninformed or disempowered to address environmental challenges.

Expanding the search to other sources like Forbes Kazakhstan and UNDP reveals diverse perspectives on air pollution, highlighting the complexity of addressing environmental challenges. By providing platforms for expert insights, grassroots perspectives, and policy debates, media can foster informed dialogue and action towards mitigating air pollution and promoting environmental stewardship.

Additionally, the article "The Catastrophe of Almaty" by Forbes Kazakhstan stood out as the most widely read, garnering over 11,000 readers. It underscores the severity of the environmental challenges facing the city. Through interviews with experts and eco-activists, the article offers valuable insights into the consequences of air pollution and the urgent need for action. Discrepancies in perspectives between environmentalists and the city administration highlight the complexities in addressing environmental issues and navigating conflicting interests.

Moreover, media coverage extends to various eco-debates (Nege.kz), events (UNDP), and technological advancements (Nege.kz, Nazar Media), reflecting a diverse range of initiatives and stakeholders engaged in environmental advocacy in Almaty. The contrasting television news stories aired by 24kz and Astana.tv underscore the varied narratives and priorities within mainstream media regarding air pollution. The intersection of environmental issues with political dynamics, as seen in JSDP's questionnaire amid citizens particularly in the context of upcoming elections for the Majilis, underscores the importance of integrating environmental considerations into public policy discourse.

The provision of solutions by Massaget.kz and discussions on transportation policies by Azattyq ryhy.kz highlight proactive approaches to mitigating air pollution and promoting sustainable practices. Similarly, Aqyl Qala's interview with eco-activist Ravkhat Mukhtarov amplifies grassroots perspectives and community-driven initiatives, fostering greater awareness and accountability in environmental stewardship efforts.

Overall, media coverage plays a crucial role in shaping public discourse and driving action towards addressing air pollution in Almaty. By providing diverse perspectives, promoting transparency, and engaging stakeholders at various levels, media can contribute significantly to advancing environmental sustainability and improving the well-being of communities.

Conclusion

In conclusion, the findings of this study underscore the pivotal role of local media in shaping public discourse and awareness regarding air pollution in Almaty, Kazakhstan. While the media landscape offers diverse perspectives and insights into environmental challenges, including air pollution, there are notable discrepancies in coverage and emphasis across different media outlets.

The analysis reveals that «Almaty Akshamy» as the official local newspaper, plays a crucial but limited role in informing the populace about air pollution issues. Despite occasional reporting on air quality concerns, the coverage tends to be episodic, superficial, and agenda-setting, lacking in-depth analysis and discourse. This suggests a potential gap in the newspaper's commitment to addressing environmental concerns and fostering public engagement.

In contrast, at least one article per year, other media sources, such as Forbes Kazakhstan, UNDP, and Nege.kz, Adil qala, Azattyq ryhy.kz offer a broader range of perspectives and insights into air pollution, highlighting the complexity of environmental challenges and the urgency for action. By providing platforms for expert opinions, grassroots perspectives, and policy debates,

these media outlets contribute significantly to raising awareness and driving action towards mitigating air pollution and promoting environmental stewardship.

Furthermore, the study underscores the importance of collaborative efforts among media organizations, environmental agencies, and governmental bodies to enhance transparency, promote sustainable practices, and foster community engagement. By improving communication channels, promoting data-driven journalism, and fostering partnerships between media outlets and environmental stakeholders, we can address knowledge gaps, enhance public awareness, and empower communities to advocate for policy action.

Overall, this study highlights the critical role of local media in advancing environmental sustainability and improving the well-being of communities. By amplifying diverse voices, promoting transparency, and fostering informed dialogue, media can play a vital role in addressing air pollution and other environmental challenges, contributing to a healthier and more sustainable development of Almaty.

References

1. Powell J. Scientists reach 100% consensus on anthropogenic global warming //Bulletin of Science, Technology & Society. – 2017. – T. 37. – № 4. – P. 183-184.

2. Climate change: evidence and causes | Royal Society // royalsociety.org. [Electronic resource] – Available at: https://royalsociety.org/news-resources/projects/climate-change-evidence-causes/basics-of-climate-change/ (Accessed: 04.01.2024)

3. The Effects of Climate Change [Electronic resource]. – Available at: https://climate.nasa.gov/effects (Accessed: 04.01.2024).

4. Air pollution [Electronic resource]. – Available at: https://www.who.int/data/gho/data/themes/theme-details/GHO/air-pollution (Accessed: 04.01.2024).

5. Leiserowitz A. Global warming's six Americas, May 2011 //Yale University and George Mason University. – 2011.

6. Murukutla N., Kumar N., Mullin S. A review of media effects: Implications for media coverage of air pollution and cancer //Annals of Cancer Epidemiology. – 2019. – T. 3.

7. Boykoff M. T. From convergence to contention: United States mass media representations of anthropogenic climate change science // Transactions of the Institute of British Geographers. – 2007. – T. 32. – № 4. – P. 477-489.

8. Carvalho A. Media (ted) discourses and climate change: a focus on political subjectivity and (dis) engagement //Wiley Interdisciplinary Reviews: Climate Change. – 2010. – T. 1. – №. 2. – P. 172-179.

9. Painter J. Climate change in the media: Reporting risk and uncertainty. – Bloomsbury Publishing, – 2013.

10. Russill C., Nyssa Z. The tipping point trend in climate change communication //Global environmental change. – 2009. – T. 19. – №. 3. – P. 336-344.

11. Zhumabayeva A., Ospanova G. The problem of air pollution in Almaty: causes and effects – 2023. – T. 18. – P. 142

12. Kerimray A. et al. Spatiotemporal variations and contributing factors of air pollutants in Almaty, Kazakhstan //Aerosol and Air Quality Research. – 2020. – T. 20. – №. 6. – P. 1340-1352.

13. Assanov D., Zapasnyi V., Kerimray A. Air quality and industrial emissions in the cities of Kazakhstan //Atmosphere. – 2021. – T. 12. – №. 3. – P. 314.

14. Zakarin E. A. et al. Simulation of air pollution in Almaty City under adverse weather conditions // Russian Meteorology and Hydrology. – 2021. – Т. 46. – №. 2. – P. 121-128.

15. Ramondt S., Ramirez A. S. Media reporting on air pollution: health risk and precautionary measures in national and regional newspapers //International Journal of Environmental Research and Public Health. – 2020. – Т. 17. – №. 18. – P. 6516.

16. 9 out of 10 people worldwide breathe polluted air, but more countries are taking action. [Electronic resource]. – Available at: https://www.who.int/news/item/02-05-2018-9-out-of-10-people-worldwide-breathe-polluted-air-but-more-countries-are-taking-action (Accessed: 04.01.2024).

17. Kerimray A. Assessing air quality changes in large cities during COVID-19 lockdowns: The impacts of traffic-free urban conditions in Almaty, Kazakhstan //Science of the Total Environment. – 2020. – Т. 730. – P. 139-179.

18. Kerimray A., Air quality in the cities of Kazakhstan. Health effects of air pollution. //UNECE/UNEP – First regional webinar on «Health-relevant air quality data informing policy and the public» – 2020.

М. Абдыкаппар[1], А. Алимжанова[1], Ш. Калиаждарова[2]
[1]Әл-Фараби атындағы Қазақ ұлттық университеті
[2]Халықаралық ақпараттық технологиялар университеті

Алматы ауасының ластануы себептерін анықтаудағы жергілікті БАҚ-тың рөлі

Аңдатпа. Бүкіл әлем климаттың өзгеруі сияқты елеулі сын-қатерге бетпе-бет келуде. Бұл ретте ауаның ластануы, әсіресе Алматы сияқты қалаларда аса маңызды мәселе болып тұр. Осы мақалада жергілікті БАҚ-тың, атап айтқанда «Алматы ақшамы» газетінің ауа ластануы туралы халықты хабардар етудегі әсері зерттеледі. Контент-талдау арқылы оның мақала жариялау жиілігі мен ауқымындағы сәйкессіздікті анықтай отырып, «Алматы ақшамы» газетін басқа БАҚ-пен салыстырады. Алынған нәтиже экологиялық мәселелерді тиімді шешу үшін оны жан-жақты және тұрақты түрде жазуға шақырады. «Алматы ақшамы» осы тақырыптағы материалдарды мерзімді түрде жариялағанымен, басқа медиа құралдар ауаның ластануы туралы әртүрлі түсінік пен көзқарас ұсынып, шұғыл шараның қажеттігін меңзейді. Зерттеу ашықтықты және тұрақты тәжірибелерді ілгерілету үшін бұқаралық ақпарат құралдары, экологиялық агенттіктер мен мемлекеттік ұйымдардың бірлескен күш-жігерінің маңыздылығын көрсетеді. Түрлі пікірді көбейтіп, ақпараттандырылған диалогқа ықпал ете отырып, ауаның ластану мәселесін шешуде және Алматының экологиялық тұрақты дамуын ілгерілетуде БАҚ маңызды рөл атқара алады.

Түйін сөздер: климаттың өзгеруі, ауа ластануы, БАҚ жарияланымы, Қазақстан, БҰҰ.

М. Абдыкаппар[1], А. Алимжанова[1], Ш. Калиаждарова[2]
[1]Казахский Национальный Университет имени аль-Фараби
[2]Международный университет информационных технологий

Роль местных СМИ в выявлении причин загрязнения воздуха в Алматы

Аннотация. Изменение климата создает серьезные вызовы в масштабах всего мира, при этом загрязнение воздуха становится критической проблемой, особенно в таких городах, как

Алматы. В данном обзоре исследуется влияние местных СМИ, в частности «Алматы Акшамы», на формирование осведомленности о загрязнении воздуха среди населения. Посредством контент-анализа исследование сравнивает освещение «Алматы Акшамы» с другими СМИ, выявляя расхождения в частоте и глубине освещения событий. Полученные данные свидетельствуют о необходимости более всестороннего и постоянного информирование для эффективного решения экологических проблем. В то время как «Алматы Акшамы» периодически публикует материалы на данную тему, другие источники предлагают разнообразные точки зрения и понимание проблемы загрязнения воздуха, что подчеркивает необходимость срочных мер. В исследовании подчеркивается важность совместных усилий средств массовой информации, экологических агентств и государственных органов для повышения прозрачности, и продвижения устойчивых практик. Усиливая различные голоса и способствуя информированному диалогу, средства массовой информации могут сыграть жизненно важную роль в решении проблемы загрязнения воздуха и продвижении экологически устойчивого развития Алматы.

Ключевые слова: изменение климата, загрязнение воздуха, освещение в СМИ, местные СМИ, Казахстан, ООН.

Авторлар туралы мәлімет

***Әбдіқаппар М.* –** докторант, ЮНЕСКО-ның журналистика және коммуникация кафедрасы, әл-Фараби атындағы Қазақ ұлттық университеті, Алматы, Қазақстан.

***Алимжанова А.* –** PhD, Баспасөз және электронды БАҚ кафедрасы, әл-Фараби атындағы Қазақ ұлттық университеті, Алматы, Қазақстан.

***Калиаждарова Ш.* –** PhD, қауымдастырылған профессор, Медиакоммуникация және Қазақстан тарихы кафедрасы, Халықаралық ақпараттық технологиялар университеті, Алматы, Қазақстан.

***Abdikappar M.* –** PhD student, UNESCO Department of Journalism and Communication, Al-Farabi Kazakh National University, Almaty, Kazakhstan.

***Alimzhanova A.* –** Ph.D., Department of Print and Electronic Media, Al-Farabi Kazakh National University, Almaty, Kazakhstan.

***Kaliazhdarova Sh.* –** Ph.D., associate Professor, Department of Media Communications and History of Kazakhstan, International University of Information Technologies, Almaty, Kazakhstan.