

# The Effectiveness of the Public Media as compared to the Private Media in Sensitizing People on Pollution by the Mines: A case study of ZNBC TV1 and Rise FM Radio in Chingola District, Zambia

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**Abstract:** The study sought to examine whether the public and private media contribute towards the sensitization of the public on pollution from the mines and to establish which media house is more effective between Zambia National Broadcasting Corporation (ZNBC) TV1 and RISE FM radio on public awareness campaign on pollution in Chingola District in Zambia. According to the African miners' website, during the colonial times under the British rule, the mine operators were not liable for any damage to human health and property as a result of pollution from these smelters. Therefore, there was no incentive to control the emissions but rather a license to pollute. But now because of climate change issues, the law has been put into force where investors or owners of the mines should take care of emissions by making sure that they control pollution be it air or water so that the public are not affected. With the coming back of the law, the media has a critical part to play in educating, informing and entertaining the public on different subjects. Hence there is need to find out how the public media in the name of ZNBC TV 1 and how the private commercial media in the name of Rise FM radio are performing over the issue of pollution. To effectively undertake this study, the researcher used a mixed research method. The study included journalists and station managers from both Rise FM Radio Station in Chingola and the ZNBC Kitwe studios. It also included Chingola residents who are living near Konkola Copper Mines (KCM) and also KCM management. The sample size was 400 people who were interviewed. In interpreting data, the findings showed that both ZNBC TV1 and Rise FM Radio play crucial roles in raising awareness about pollution, though their approaches and effectiveness vary. ZNBC TV1's visual emphasis provided a powerful medium to highlight environmental degradation and its consequences. While, Rise FM Radio's interactive format created a dynamic platform for community engagement. The ability to participate in discussions and ask questions in real-time made the content more relatable and actionable for listeners. The study recommends that there is need to have journalists who are professionally qualified as Environmental Journalists. This then calls for tertiary institutions offering journalism programmes to introduce Environmental Journalism programmes in their studies.

**Keywords:** Communication strategy, Pollution, Climate Change, Public Media, Private Media

## 1. Introduction

Pollution is the introduction of harmful materials into the environment (National Geographic Society Organization, 2022:8). These harmful materials are called pollutants. Pollutants can also be created by human activities such as trash or human activity such as runoff that are produced by factories and these pollutants damage the quality of air, water and land (National Geographic Society, 2022:8). According to the World Health Organization (WHO), pollution is responsible for 7 million global deaths annually. Initially linked to lung diseases alone, recent epidemiological evidence has established pollution as a risk factor for a range of non-communicable diseases, including 24% of deaths due to strokes, 25% of deaths due to ischemic heart diseases, and 43% due to chronic obstructive pulmonary diseases. Pollution is responsible for 16% of all premature non-communicable disease (NCD) deaths with most of these occurring in low- and middle-income countries (WHO, 2018:5).

Considering the long period of mining on the Copperbelt, it is important to look at the historical background to mine pollution and control efforts. From the beginning of large scale commercial mining in 1928 on the Copperbelt, the mines with smelters received protection from the law against liability as they were indemnified from liability through the Smoke Damage (prohibition) Act of 1935. This act declared smelter areas like Nkana, Luanshya and Mufulira Mine areas as Smoke Areas. So during the colonial times under the British rule the mine operators were thus not liable for any damage to human health and property as a result of air pollution from these smelters. Therefore, there was no incentive to control the emissions but rather a license to pollute (National Geographic Society, 2022:8).

Upon Zambia getting independence in 1964 and nationalisation of the private mines, this law still remained on the statute books of the law. The then government-owned Zambia Consolidated Copper Mines (ZCCM) also enjoyed indemnity from liability resulting from air pollution. When Zambia returned to multi-party democracy and the liberalisation of the economy in the 1990s, the Smoke Damage Act was found to be repugnant and was thus repealed in 1996 in the Act No. 21 of 1996 CAP. 205 of the Laws of Zambia.

Given the public media's vital role in political and social change and the growing burden of pollution, there is a critical need to identify how the media might influence Zambia's and global action against pollution. The media's role is likely to be particularly important as the public and policymakers grapple with increasing evidence of air pollution's impacts on longer-term complex illnesses, such as cancers. Hence, as the public and policymakers grapple with the health impacts of pollution, including complex diseases like cancer, the role of the media in providing accurate information and scientific clarity is critical.

## 2. Konkola Copper Mines KCM

Konkola Copper Mines Plc (KCM) is one of Africa's largest integrated copper producers, it is a subsidiary of Vedanta Resources Plc. It's one of the world's largest diversified natural resources companies. The mine operates underground mines and open pit mines as well as metallurgical plants with operations located on one of the highest grade copper seams in the world at Nchanga, Konkola, Nkana and Nampundwe. Its vision is to be the world's class integrated copper producing company leveraging mineral and human resources to enhance stakeholder's value and the pride of Zambia (Vedanta Resources Limited (2020:9).

## 3. Zambia National Broadcasting Corporation (ZNBC)

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The Zambia National Broadcasting Corporation (ZNBC) is a Zambian television and radio station formerly state owned, now technically a statutory body but still essentially under government control. It is the oldest and widest radio and television service provider in Zambia. It started in 1941 as a radio station during the colonial era as the Northern Rhodesia Broadcasting Corporation under the Ministry of Information. After Zambia got its independence in 1964 it was renamed as Zambia Broadcasting Corporation (ZBC) and the newly independent government took over. As for Television, it began in 1961 with a private station in Kitwe, initially serving the expatriate mining community in Northern Rhodesia. It was called Rhodesia Television (RTV). Following independence in 1964, this became Zambia Television Limited. In 1966 it was bought by the Zambian government and integrated into the state-run Zambia Broadcasting Services (ZBS). So in 1966 the Zambian government brought radio and TV to operate under one roof as Zambia Broadcasting Services (ZBS), functioning as a government department under the Ministry of Information and Broadcasting. In 1987, through an Act of Parliament, ZBS was transformed into the Zambia National Broadcasting Corporation (ZNBC) and in 1988 it became a statutory body called the Zambia Broadcasting Corporation (Znbc.co.zm 2022:11). That meant it was no longer a government department, but a statutory body.

#### **4. Rise FM radio station**

Rise FM radio was initiated in 2010 as an idea. The initiative came through as a result of poor radio reception in Chingola, Chililabombwe, Kasumbalesa and other surrounding areas. The citizens in the mentioned areas were behind in terms of information, education and entertainment. It is a licensed radio station broadcasting on 90.5MHz to the entire Copper belt and surrounding areas (Luapula and Northwestern Provinces). The radio station is known for its mature programming that covers a range of issues affecting the listening community. The vision statement is to be an objective media that promotes development through effective and quality programming, with its aim of airing material in a comprehensive, balanced, articulate context while actively promoting local content and development.

#### **5. Statement of the Problem**

According to the African miners' website, during the colonial times under the British rule, the mine operators were not liable for any damage to human health and property as a result of pollution from these smelters. Therefore, there was no incentive to control the emissions but rather a license to pollute ([www.Africanminer.com](http://www.Africanminer.com). viewed on 5/09/2021).

But now because of climate change issues, the law has been put into force where investors or owners of the mines should take care of emissions by making sure that they control pollution be it air or water so that the public are not affected ([www.Africanminer.com](http://www.Africanminer.com).viewed on 7/10/2017).

With the coming back of the law, the media has a critical part to play of educating, informing and entertaining the public on different subjects. So in this research, the media can help in sensitising people that includes the members of the public, investors and politicians among others to ensure that measures are put in place to avoid pollution.

Hence there is need to find out how the public media in the name of ZNBC TV 1 and how the private commercial media in the name of Rise FM radio are performing over the issue of pollution by KCM. Of particular interest is to find out between these two media houses which one is more effective in sensitizing the public in Chingola about pollution from KCM.

## 6. Aim or Purpose of the study

The purpose of this research study is to compare between the public media and the private media and find out which one is more effective in sensitising the public about pollution from the mines so that the health of the people is safeguarded.

## 7. Study Objectives

- (i) Examine whether the public and private media contribute towards the sensitization of the public on pollution.
- (ii) To find out which media house is more effective between ZNBC TV1 and RISE FM radio on public awareness campaign on pollution in Chingola.
- (iii) To find out the challenges encountered by these media houses in being effective in public awareness campaign in Chingola.

## 8. Theoretical framework

### Agenda setting theory (Maxwell McCombs and Donald L. Shaw)

The influence of the media affects the presentation of the reports and issues made in the news that affects the public mind. The news reports make it in a way that when a particular news report is given importance and attention than other news the audience will automatically perceive it as the most important news and information are given to them. The priorities of which news comes first and then the next are set by the media according to how people think and how much influence will it have among the audience. Agenda setting occurs through a cognitive process known as “accessibility”. Media provides information which is the most relevant food for thought, portrays the major issues of the society and reflects people minds.

The responsibility of the media in proposing the values and standards through which the objects gain a certain amount of attention can be judged. The media’s content will provide a sufficient amount of time and space to certain issues, making it more vivid. In simple words, the media gives the utmost importance to a certain event such that it gives people the impression that that particular news is the most important one. This is done on a daily basis. The selected news report is carried on as a heading or covered regularly for months. For example, terms such as headlines, special news features, discussions, expert opinions are used. Media primes news by repeating the news and giving it more importance like, for example, Nuclear Deal (Maxwell Macomb’s and Donald Shaw 2021 ‘Agenda Setting theory’ viewed on 16 May 2022).

In this theory, there is also an aspect of Framing, which is a process of selective control. It has two meanings. The first one is the way in which news content is typically shaped and contextualized within the same frame of reference. The second way is how the audience adopts the frames of reference and to see the world in a similar way. This is how people attach importance to a piece of news and perceive its context within which an issue is viewed.

The main concept associated with the theory is gatekeeping. Gatekeeping is in charge of and has control of the selection of content discussed in the media. It is assumed that the public cares mostly about the product of a media gatekeeping. Editors are the main gatekeepers of media itself. The news media decides ‘what’ events to broadcast and show through the media ‘gates’ on the basis of ‘newsworthiness’. For example, News Comes from various sources, editors choose what should appear and what should not that’s why they are called as gatekeepers. Gatekeepers are the powerful authority who ensure the right material is disseminated to the public. Also they are much concerned on not to distort peace and public stability (McCombs,M.,and Shaw,D.L. The agenda-setting function of mass media. Public Opinion Quarterly,1972 36,176-185, viewed on 21//08/2021).

## 9. Literature Review

### 9.1 Public and private media's contribution towards sensitisation on pollution by the mines.

In order to understand the effectiveness of the media in mitigating against mining pollution, it is important to firstly define the two main words Media and Mining Pollution.

According to Justine Staltzfus, Media is the plural form of medium, which broadly speaking describes any channel of communication (2020:23). This can include anything from printed paper to digital data, and encompasses art, news, educational content and numerous other forms of information. Anything that can reach or influence people, including phones, television, and the Internet can be considered a form of media.

And according to a publication Gdnet Research Communication Momba media workshop, the media is best defined by the roles they play in society. They educate, inform and entertain through news, features and analysis in the press (2010:4). They also produce documentaries, drama, current affairs programmes, public service announcements, magazine programmes and other forms of programming for radio and television. The media is a conduit through which voices, perspectives and lives are brought into the public sphere.

On the other hand, according to Sammy Witchalls, Mining Pollution is a type of pollution that occurs due to mining activities. It can cause erosion, sinkholes, loss of biodiversity, or the contamination of soil, groundwater, and surface water by chemicals emitted from mining processes. These processes also affect the atmosphere through carbon emissions which contribute to climate change and is a danger to both human beings and other living organisms. Chemical agents used by mining companies to separate the target mineral from the ore can spill, leak or leach from the mine site into the nearby water bodies which can be highly toxic to human and wildlife. Land is stripped bare to make way for mines and surrounding infrastructure, which often uses considerable amounts of energy and water, produces air pollution, and generates hazardous waste (<https://earth.org/environmental-problems-caused-by-mining/>, viewed on 2/02/2025).

In Australia, New South Wales environment minister Rob Stokes was quoted by The Herald Newspaper as saying that the law against pollution by the mines would give the Environmental Protection Authority (EPA) access to the highest penalties for any environmental regulator in Australia and increased powers to bring polluters to justice (The Herald Newspaper, 2012). Among different states, Queensland was found to be the most polluted in terms of the particulate matter levels as it has eight of the top ten particles emitted from coal mines. Community group Clean Air Queensland spokesperson, Michael Kane, was quoted by Global Post as saying that the report should sound an urgent warning bell on the need for greater controls on air pollution (NPI 2012:05). The global post newspaper quoted Micheal Kane as saying that "Particle pollution contributes to a range of cardiovascular and respiratory illnesses, yet we have no national uniform legislation to protect the very air we breathe," (NPI 2012:05). The global post was quoted by the National Pollutant Inventory as saying that "Even getting coal trains covered to reduce particle pollution has proved too difficult for our legislators and the dust from stockpiles of uncovered coal waiting for export blows freely overpopulated areas" (NPI 2012:05). According to the National Pollutant Inventory, Queensland is followed by the Hunter region in New South Wales, which contributed 53,000 tonnes of PM10 between 2012 and 2013 in the Singleton area, of which 96% came from coal mining. The report also found that other toxic materials in the air such as lead, arsenic and fluoride have also increased by 150% to 200% in the last decade (NPI 2012:05).

From the above, it can be noted that the media in Australia played a significant role by publishing stories to do with pollution by the mine companies. This saw the environmental authorities in that country penalizing the mining companies and huge fines were slapped on them for violating rules and called for new environmental licenses.

In November 2020 the Guardian Newspaper reported that the growing role of Canadian mining companies across Latin America had been put under the spotlight at the Inter-American Commission on Human Rights (IACHR) in Washington following the presentation of a damning report (2020:20). According to the Inter-American Commission on Human Rights (IACHR), The Guardian Newspaper was quoted as saying that the Canadian mining companies across Latin America were causing "serious environmental impacts" by destroying glaciers, contaminating water and rivers, and cutting down forests, as well as forcibly displacing people, dividing and impoverishing communities, making false promises about economic benefits, endangering people's health, and fraudulently acquiring property. Some of the local people who protested had been killed or seriously wounded and others persecuted, threatened or accused of being terrorists (2020:20).

It can also be noted here that the media across Latin America played a significant role by publishing stories to do with pollution by the mine companies. However, it was not clear whether the authorities in those countries took advantage of this information penalize the mining companies and call for new environmental licenses.

According to a news report by Environmental News South Africa written by Cecila Jamasmie, "South Africa has failed to address the adverse environmental and health effects of more than 130 years of gold mining in and around Johannesburg, (a new report from Harvard Law School shows (2016:12). According to its International Human Rights Clinic (IHRC), successive administrations including the current government have not complied with international law, reacting too slowly and doing too little to reduce the harm from abandoned and active mines near the capital. "Gold mining has both endangered and disempowered the people of the West and Central Rand," says Bonnie Docherty, senior clinical instructor at IHRC and the report's leading author. "Despite some signs of progress, the government's response to the crisis has been insufficient and unacceptably slow." The 113-page report documents the threats posed by water, air, and soil pollution from mining in the West and Central Rand. Contamination of ground and surface water from acid mine drainage as well as toxic dust and soil from mine dumps have exposed residents living around the mines and on the waste dumps to high concentrations of heavy metals and radiation, (Jamasmie 2016:12). Such combination of threats, can contribute to immediate and long-term medical problems ranging from asthma and skin rashes to cancer and organ damage. While mining waste accumulated over decades cannot be eliminated overnight, the study says, greater efforts could be made to suppress toxic dust and to remove or buffer communities from contaminated environments (Jamasmie 2016:12).

It can also be noted here that the media in South Africa played a significant role by publishing stories to do with pollution by the mine companies. However, it was clear that South Africa had failed to address the adverse environmental and health effects. Even though the current government was trying to comply with the international law, the government authorities were reacting too slowly and doing too little to reduce the harm from abandoned and active mines.

In Angola, according to the news publication done by Anna Majavu from Mongabay News and Inspiration Natures Frontline newspaper *In July 2021, an Angolan diamond mine leaked large amounts of polluted water into the Kasai River Basin which stretches across Angola and the Democratic Republic of Congo.* The July 2021 rupture of a tailings dam at a diamond mine in Angola killed off much

of the aquatic life in the Lova, Tshikapa and Kasai rivers. Twelve people are known to have died after exposure to the polluted water (INFN 2021:4). *A further 4,400 fell ill and an estimated 1 million more were affected by the polluted water. Fourteen months later, the DRC government did not release full results of tests conducted on the rivers, but a ban on drinking the water from the Kasai and Tshikapa rivers remained in place. An independent report published in September 2022 found that the leak killed off much of the rivers' aquatic life, with severe and ongoing impacts on river-dependent communities (2022:2).*

A new report by the International Peace Information Service (IPIS), an independent research institute, says the spill at the Sociedade Mineira de Catoca mine has had long lasting negative impacts on river dependent communities downstream in Angola and the Democratic Republic of Congo (DRC), When the dam ruptured on July 27, 2021, it sent large volumes of mining waste into the Lova River, which spread quickly into the Tshikapa and Kasai rivers, turning them red for hundreds of kilometers downstream, IPIS analyzed media coverage and official statements by Catoca and the Angolan and DRC governments, as well as reports from local nonprofit organizations, members of parliament, and academic researchers.

It concluded that the mine and both governments kept the public in the dark about what exactly leaked into the rivers, killing thousands of fish and leading to a ban on fishing in the rivers and extracting water that is still in place 14 months later (International Peace Information Services, 2021).

It can also be noted here that the media in Angola and the Democratic Republic of Congo played a significant role by publishing about the dangerous spill in the river, but both governments, Angolan and the Democratic Republic of Congo made sure that very little was known by the people.

## **9.2 Which media house public or private is more effective on public awareness campaign on pollution by the mines**

According to Anderson Auther (1997), the media performs another function that is raising public awareness on environmental problems such as pollution caused by the mine companies. The more aware the public is about environmental issues, the stronger the debate will be, and a solution will be found. Due to a stronger and defined agenda, the print press continues to play a role in community awareness, but new media, the web and social media strongly influence the younger generation. You can go back to a newspaper and read it, while information on television or social networks is short and for a limited time. However, both classical and Internet media play an essential role in raising public awareness. The more knowledge the public has about the environment, the more it demands the design and implementation of policies for the protection of the environment and nature.

## **9.3 Challenges encountered by both the public and private media houses in being effective in public awareness campaign on pollution by the mine**

According to Banana Hatahata (2015), an environmental radio journalist for Ultimate Radio in Lesotho, environmental journalism or perhaps any form of science-aligned reporting still faces major challenges in Africa, the most obvious being a lack of data especially reporting on pollution by some mining companies. Most developing countries still lack adequate climate and environmental data, but this has a relation with science-oriented journalism generally. Countries with inadequate data on pollution by the mines are likely to

suffer the same inadequacy in climate and environmental data. Journalism also often faces more challenges in countries with less resource. Journalists in these areas are more likely to be threatened, harassed or harmed (Banana Hatahata 2015).

The Guardian Newspaper (2020) journalists in reporting about mining pollution were crippled with "Criminal charges such as "sabotage", "terrorism", "rebellion", "conspiracy" and "incitement to commit crime". These accusations made against social leaders and human rights defenders who oppose and resist the development of industry." Due to that, the newspaper was weak in reporting about the Canadian mining companies.

According to China.Org.cn viewed on 12, 13:2022, an online publication in China could not report directly because they were being bribed. The journalists were being offered "shut up fees" in order to prevent them from running the story.

## **10. Research Methodology**

### **10.1 Research Design**

The research design employed for this study was non –interventional and descriptive in nature. This is because it involved the descriptive and analysis of reasonable objects and there will be no intervention or manipulation by the researcher. It will also fall under the descriptive studies because the aim of the reach is to give specific details of the situation in the research (McCombes, 2019).

### **10.2 Research Methods**

The researcher used mixed methods which blended the colours of both qualitative and quantitative research, offering a more comprehensive picture. It's like using both a microscope and a telescope; you get the detail and the big picture (Tegan George 2021).

### **10.3 Study Population**

The study population included journalists and station managers from both Rise FM Radio Station in Chingola and the Zambia National Broadcasting Cooperation (ZNBC) Kitwe studios. It also included Chingola residents who are living near Konkola Copper Mines (KCM) and also KCM management. According to Zamstats, which records the population of the country, the total population of Chingola District is 216,626.

### **10.4 Sample Size**

The sample size was calculated using Taro Yamane's formula. The Taro Yamane's formula is commonly used to calculate the sample size for a given population. The selected population size is 216,626, the confidence level is 95% and the margin of error (e) is 0.05. Then the confidence level is related to the Z-score, which represents the number of standard deviation data point is from the mean in a normal distribution. So, the calculated sample size using Taro Yamane's formula for a confidence level of 95% with a margin of error of 0.05 is 400. Additionally, 10 key respondents from Rise FM Radio Station and ZNBC were also interviewed using purposeful sampling technique.

### 10.5 Sampling Technique

In order to ensure that all elements among Chingola residents and journalists from both Rise FM and ZNBC were represented, multi-stage cluster sampling was used. Multi-stage cluster sampling is a technique where the population is divided into groups and elements are selected randomly from the selected groupings (Finlay, 2008). Using data from the Zambia Statistics Agency and the Chingola Municipal Council, Residents from these residential areas were randomly picked and then elements were randomly selected from each group. This created a more representative sample of the population than a single sampling technique (Finlay, 2008).

Purposeful sampling technique was applied to select and interview 10 journalists from ZNBC Kitwe Studios and Rise FM Radio Station in Chingola. This is a sampling technique which intentionally selects participants based on their characteristics, knowledge and experience (Tromp, 2006).

### 10.6 Data Collection Instruments

Through the usage of Qualitative Research Methods, the researcher used interviews and focus group discussions. Then through the usage of quantitative research methods, the researcher used self-administered questionnaires.

### 10.7 Data analysis

The researcher used the manual method for qualitative data and Statistical Package of Social Sciences (SPSS) software was applied for descriptive statistics and generation of frequencies of distribution as well as cross tabulations. The data obtained was going to be analysed and interpreted using frequency tables and bar charts to present the data that was collected to help understand which media house was more effective in sensitising people about pollution caused by KCM. The SPSS was recommended for numerical data in social sciences for simplicity and thematic analysis was used to analyse qualitative data.

## 11. Presentation of the Research Findings

### 11.1 Occupation of Respondents

The respondents' occupations varied, including media personnel, KCM employees, and residents living near the mines. A majority of the residents were informally employed, self-employed, or not employed. A few were formally employed, providing insights into the different socio-economic statuses within the community:

Category	Number
Journalists	20
KCM Employees	02
Residents	378

Table 1: Occupation of Research Participants

### 11.2 Summary Analysis of Demographics

The demographic data provided a robust foundation for analysing the effectiveness of ZNBC TV1 and Rise FM Radio in pollution sensitisation. The near balanced sex representation, wide age distribution, diverse occupational categories, and varying lengths of employment contributed to a comprehensive and reliable analysis. By ensuring a representative sample, the study was able to capture

diverse perspectives and experiences, enhancing the validity of the findings and providing a well-rounded understanding of the media's role in raising awareness about pollution. This meticulous approach to demographic analysis allowed for an in-depth exploration of the factors influencing the success of media campaigns in Chingola.

To further ascertain the educational levels of respondents, the study examined their formal schooling and professional qualifications. This was key to understanding how education influenced awareness and engagement in communicating and responding to pollution issues.

Findings revealed that 43% of residents had attained junior secondary education, while 35% completed primary school (up to Grade 7), and 22% reached senior secondary level (Grade 12). Among journalists, 83% held diplomas or degrees in journalism, media, or communication, while 17% had only secondary education. KCM employees showed a similar trend, with 89% possessing tertiary qualifications in mining engineering, geology, business, or technical fields, while 11% had completed secondary education only. Higher education levels influenced language proficiency among respondents. Journalists and KCM employees with tertiary qualifications demonstrated better command of formal and technical language, using specialized terminology when discussing pollution issues. In contrast, residents with lower academic attainment relied more on informal language, often expressing concerns through practical, everyday experiences rather than technical explanations. This variation in language influenced the depth of environmental discussions and the effectiveness of sensitization efforts. Educational background also played a crucial role in communication strategies for pollution awareness. Individuals with higher academic qualifications were more receptive to structured and data-driven messaging, while those with lower education levels responded better to simplified, relatable content. Awareness campaigns needed to be tailored to different audiences, incorporating visual, oral, and practical engagement methods to ensure clarity and effectiveness. This alignment between education and awareness strategies ensured that pollution-related messages reached residents in a way that resonated with their level of understanding and encouraged meaningful action.

### **11.3 Media Contributions to Pollution Sensitisation**

The presentation of the findings commenced with attempting to understand how both ZNBC TV1 and Rise FM Radio contribute to sensitizing the public about pollution caused by the mines. This was essential to gauge the role each media house plays in informing, educating, and influencing public perception, which was in alignment with what the research study aimed to investigate.

In response, respondents provided various insights into how these media houses address the issue of pollution. And the respondents used radio and television as they were watching and listening to programmes and news on pollution by the mines.

#### **11.3.1 Awareness Levels**

To begin with, the level of awareness among the public regarding pollution caused by the mines was a critical aspect of the study. Both ZNBC TV1 and Rise FM Radio have been actively involved in raising awareness about environmental issues. Respondents from Chingola reported varying levels of awareness based on their exposure to these media outlets.

Findings revealed that among the residents near KCM, 60% reported that they were aware of the pollution issues primarily through ZNBC TV1 broadcasts. Conversely, 40% of the residents mentioned Rise FM as their main source of information on pollution. This

data suggests that ZNBC TV1 has a slightly higher reach and influence in raising awareness about pollution compared to Rise FM Radio. One respondent stated, “ZNBC TV1 often covers detailed reports on pollution and its effects on our health, which has helped us understand the severity of the issue”. Another added, “I usually listen to Rise FM, and they frequently discuss pollution and invite experts to talk about possible solutions”.

To further understand the influence of media campaigns on pollution awareness, the study also explored the demographic influence on information reception. The analysis revealed that different age groups responded variably to the media campaigns. For instance, the age group of 26-35 years was found to be the most receptive to both ZNBC TV1 and Rise FM radio campaigns. This group consisted mainly of working professionals who relied on media for staying informed about local issues. Contrary, the age group below 18 years showed less engagement with traditional media and leaned more towards digital platforms for information. This indicates a shift in media consumption patterns among the younger generation, highlighting the need for media houses to adapt their strategies to include digital content to reach a wider audience.

The findings revealed that among the residents near KCM, 60% reported that they were aware of the pollution issues primarily through ZNBC TV1 broadcasts. Conversely, 40% of the residents mentioned Rise FM as their main source of information on pollution. This data suggests that ZNBC TV1 has a slightly higher reach and influence in raising awareness about pollution compared to Rise FM Radio. One respondent stated, “ZNBC TV1 often covers detailed reports on pollution and its effects on our health, which has helped us understand the severity of the issue”. Another one added that, “I usually listen to Rise FM, and they frequently discuss pollution and invite experts to talk about possible solutions”.

These findings can also be linked with a study from the Democratic Republic of Congo (DRC) where according to the news publication done by Anna Majavu from Mongabay News and Inspiration Natures Frontline Newspaper in July 2021, an Angolan diamond mine leaked large amounts of polluted water into the Kasai River Basin which stretches across Angola and the Democratic Republic of Congo (IPIS, 2021).

The media in DRC played their role by publishing stories where the Diamond Mining company was polluting the water which killed over twenty people and over four thousand people getting ill, and the courts of law penalised the mining firm and the environmental agencies of that country were also involved to see to it that the mine companies follow the laws (IPIS, 2021).

When the mines polluted the water, people had different interpretations. Some rushed to the river to pick up the fish that died in the river to go and cook as relish in their homes. Others considered this as witchcraft and started praying to God. Others went to the believers for exorcism. Only when the Mongabay News announced that is when people started understanding what had happened.

From the above, it can be noted that the media in Australia and DRC played a significant role by publishing stories to do with pollution by the mine companies, this saw the environmental authorities in that country penalizing the mining companies and huge fines were slapped on them for violating rules and called for new environmental licenses (IACHR, 2020; (IPIS, 2021).

Therefore, if the media houses continue sensitizing people on pollution, cases of violating or polluting the environment can be reduced therefore protecting citizens from the effects of pollution.

### 11.3.2 Media Coverage Analysis

The analysis of media coverage focused on the extent and nature of the stories related to pollution aired by ZNBC TV1 and Rise FM Radio. Over the past three years, both media houses have dedicated a portion of their airtime to environmental issues, specifically pollution by the mines.

ZNBC TV1 has been proactive in covering stories about pollution. Between 2021 and 2024, ZNBC aired approximately 50 reports on pollution caused by KCM. These reports included news segments, investigative pieces, and special documentaries highlighting the impact of pollution on local communities. For instance, a documentary titled "Chingola's Environmental Crisis" aired in June 2022, provided an in-depth analysis of the pollution issue and featured interviews with affected residents and environmental experts (ZNBC News, 2022).

On the other hand, Rise FM Radio broadcasted around 35 stories related to pollution during the same period. The radio station used a variety of formats, including talk shows, interviews with environmental experts, and call-in segments where residents could share their experiences and concerns. One notable program, "EcoTalk," aired weekly and focused on various environmental issues, with several episodes dedicated to discussing pollution by KCM (Rise FM, 2023).

According to one ZNBC journalist, *"We aim to cover pollution issues extensively because it's a major concern for the local communities. Our documentaries have shown how pollution affects daily life in Chingola"*. A journalist from Rise FM emphasized, *"Our goal is to give a voice to the people affected by pollution. Through our programs, we encourage dialogue and seek solutions"*.

The analysis of media coverage focused on the extent and nature of the stories related to pollution aired by ZNBC TV1 and Rise FM Radio. Over the past three years, both media houses have dedicated a portion of their airtime to environmental issues, specifically pollution by the mines.

According to one ZNBC journalist, *"We aim to cover pollution issues extensively because it's a major concern for the local communities. Our documentaries have shown how pollution affects daily life of the people in Chingola"*. A journalist from Rise FM emphasized, *"Our goal is to give a voice to the people affected by pollution. Through our programmes, we encourage dialogue and seek solutions"*.

The findings of the study aligned well with this theoretical framework. ZNBC TV1's visual content and detailed reports effectively highlighted the issue of pollution, shaping public perception and raising awareness. This aligns with the first level of the agenda-setting theory, where media influences what the public perceives as important (Maxwell McCombs and Donald L. Shaw).

Rise FM Radio's interactive sessions also played a crucial role in engaging the public and facilitating discussions about pollution. This aligns with the second level of the agenda-setting theory, which focuses on how media influences the way people think about issues (McCombs & Shaw, 1972). By providing a platform for public discourse, Rise FM was able to influence public perception and engagement with environmental issues.

Overall, the study's findings validated the agenda-setting theory by demonstrating how both visual and interactive media can effectively shape public perception and raise awareness about pollution.

### 11.3.3 Comparative Effectiveness

Comparing the effectiveness of ZNBC TV1 and Rise FM Radio in creating awareness involved examining public perception and feedback. The effectiveness of these media houses was measured through surveys and interviews with residents, journalists, and KCM employees.

In terms of public perception, 65% of respondents felt that ZNBC TV1 was effective in raising awareness about pollution. Meanwhile, 55% of respondents believed Rise FM Radio was effective in sensitizing the public about pollution. Several respondents noted that ZNBC TV1's visual format helped them better understand the pollution issues. *"Watching the reports on TV gives a clear picture of how pollution is affecting our environment,"* mentioned one resident. On the other hand, Rise FM's interactive approach was appreciated by many. *"The call-in programs on Rise FM allow us to directly engage with experts and get our questions answered,"* said another respondent.

The findings from respondents indicated that both ZNBC TV1 and Rise FM Radio played crucial roles in raising awareness about pollution, though their approaches and effectiveness vary. Note that respondents were allowed a platform to choose one or both media outlets. Also worth noting was the sex disparity regarding this aspect. The sex analysis showed that women were slightly more inclined to engage with radio programmes like Rise FM, while men preferred the visual content provided by ZNBC TV1. This sex based preference could potentially emphasize the importance of diversifying media formats to cater to different audience segments effectively.

The visual impact of TV broadcasts makes ZNBC TV1 particularly effective in conveying the severity of pollution issues. The use of documentaries and investigative reports adds depth to the coverage. For example, the documentary "Chingola's Environmental Crisis" not only provided statistical data but also featured personal stories from affected residents, making the issue more relatable and urgent (ZNBC News, 2022).

The interactive nature of radio, with talk shows and call-in segments, allows Rise FM to directly engage with the audience. This approach fosters community involvement and provides a platform for public discourse. Programs like "EcoTalk" have been instrumental in giving residents a voice and facilitating expert discussions on potential solutions (Rise FM, 2023).

In addition to the above findings, the study also highlighted the significant role of community engagement in enhancing the effectiveness of pollution awareness campaigns. Community-led initiatives, supported by media outreach, were found to be highly effective in mobilizing local actions against pollution. Examples include clean-up drives and awareness workshops organized in collaboration with local NGOs, which saw high participation from residents.

To maximize the impact of media campaigns, it was recommended by respondents that both ZNBC TV1 and Rise FM Radio increase their collaboration with local community leaders and organizations. This collaborative approach could potentially help in tailoring the content to address specific community concerns and ensure broader reach and engagement.

Then, there is need for emphasis on the need for continuous monitoring and evaluation of media campaigns to assess their effects and make necessary adjustments. This can be achieved through regular feedback mechanisms involving surveys and focus group discussions with the target audience. By incorporating feedback, media houses can refine their strategies and enhance the overall effectiveness of their pollution awareness initiatives.

Both media houses should continue their efforts in pollution sensitization but may benefit from adopting complementary strategies. For instance, ZNBC TV1 could incorporate more interactive segments, while Rise FM Radio might consider producing visual content for

online platforms. This combined approach could leverage the strengths of both media formats, enhancing overall public awareness and engagement.

#### **11.4 Effectiveness of ZNBC TV1 vs. Rise FM Radio**

Proceeding from the findings on media contributions to pollution sensitization, an inquiry into the comparative effectiveness of ZNBC TV1 and Rise FM Radio was conducted. This was necessary to determine which media house is more successful in public awareness campaigns regarding pollution in Chingola. Analyzing the data, respondents provided detailed accounts of the strategies employed by each media outlet, their reach, and overall impact on the community.

##### **11.4.1 Effectiveness of ZNBC TV1 vs Rise FM Radio**

An inquiry into the comparative effectiveness of ZNBC TV1 and Rise FM Radio was conducted. This was necessary to determine which media house is more successful in public awareness campaigns regarding pollution in Chingola. Analyzing the data, respondents provided detailed accounts of the strategies employed by each media outlet, their reach, and overall impact on the community.

In terms of campaign outcomes, and particularly in covering increase in clean up participation, ZNBC TV1 was rated 25 percent while Rise FM Radio was rated 15 percent. Increase in household pollution reduction stories, ZNBC TV1 was rated 30 percent while Rise FM Radio was Zero. In terms of increase in pollution reporting, ZNBC TV1 was rated zero while Rise FM radio was rated 20 percent. And in terms of covering awareness meetings, ZNBC TV1 was rated zero by participants while, Rise FM Radio was rated 15 percent.

The two media houses mostly used vernacular language which is Bemba to communicate with the community for better interaction and understanding. This is in tandem with (Bwalya: 2008), on language user friendly, where he states that community media uses local language to the advantage of the local grassroots people and those who are illiterate, (Bwalya: 2008).

Building on these findings, it becomes evident that the combined strategies of ZNBC TV1 and Rise FM Radio significantly contribute to public awareness and action against pollution. ZNBC TV1's visual emphasis provided a powerful medium to highlight environmental degradation and its consequences. The station's ability to present real-life footage and detailed reports made a lasting impression on viewers, effectively conveying the urgency of addressing pollution.

Rise FM Radio's interactive format created a dynamic platform for community engagement. The ability to participate in discussions and ask questions in real-time made the content more relatable and actionable for listeners. This engagement led to increased reporting of pollution incidents and a stronger sense of community responsibility towards environmental health.

These findings are in line with the agenda-setting theory by Maxwell McCombs and Donald L. Shaw as the theoretical framework. This theory posits that the media significantly influences public perception by highlighting specific issues, thus setting the public agenda (McCombs & Shaw, 1972).

##### **11.4.2 Sensitisation Campaigns**

In examining the sensitisation campaigns, it was important to consider both the quantity and quality of these efforts. According to the respondents, ZNBC TV1 has aired several structured campaigns over the years. Between 2021 and 2024, ZNBC TV1 launched 15 major campaigns focused on environmental awareness. These campaigns included special features such as "Green Zambia," which aired in March 2023, highlighting ongoing pollution challenges and advocating for greener practices (ZNBC News, 2023).

Conversely, Rise FM Radio initiated 10 major sensitisation campaigns within the same period. One notable campaign, "Clear Air for Chingola," started in 2022, aimed at educating the public about air pollution and promoting clean air initiatives. The campaign featured interviews with environmentalists and interactive sessions where listeners could call in with questions and concerns (Rise FM, 2022).

There was a significant difference in the approaches of both media houses. While ZNBC TV1 utilized visual storytelling to deliver impactful messages, Rise FM relied heavily on interactive sessions to engage its audience. A resident remarked, "*The TV campaigns are visually powerful, but the radio programs allow us to participate and ask questions, making it more personal*".

According to respondents, awareness levels of pollution issues through media outlets indicated that ZNBC TV 1 aired approximately 50 reports on pollution caused by KCM. These reports included news segments, investigative pieces, and special documentaries highlighting the impact of pollution on local communities.

On the other hand, Rise FM Radio broadcasted around 35 stories related to pollution during the same period. The radio station used a variety of formats, including talk shows, interviews with environmental experts, and call-in segments where residents could share their experiences and concerns. There was a significant difference in the approaches of both media houses. While ZNBC TV1 utilized visual storytelling to deliver impactful messages, Rise FM relied heavily on interactive sessions to engage its audience. A resident remarked, "*The TV campaigns are visually powerful*."

Furthermore, De Burgh (2008) emphasized the importance of investigative journalism in uncovering critical issues and informing the public. ZNBC TV1's detailed reports and documentaries on pollution align with this perspective, demonstrating the role of investigative journalism in raising awareness about environmental issues.

In Latin America, the media was not actively involved in reporting about pollution by the mines because they were over powered and threatened by the government and other forces who would arrest people who protested against pollution that was emanating from the mines (The Guardian Newspaper, 2020).

This is similar to how Rise FM Radio station reported pollution by KCM, they were not too consistent and at some point reporters had fear to do stories concerning pollution due to government interference and were scared that their media house was going to be closed.

#### **11.4.3 Public Perception**

Evaluating this, public perception was measured to gauge the effectiveness of these campaigns. According to respondents, ZNBC TV1's visual presentations made a substantial impact. Approximately 70% of the residents reported that they found TV campaigns to be more compelling due to the combination of visuals and audio.

One journalist stated, "Our visual content on ZNBC helps in showing the real effects of pollution. People can see the damage and empathize more with the victims". Meanwhile, Rise FM Radio's interactive format was appreciated by 65% of the respondents. They indicated that the ability to participate in discussions made the information more relatable and actionable.

According to respondents, the nature of the campaigns on both platforms had their unique strengths. ZNBC TV1's ability to present detailed stories with visual evidence was particularly impactful in conveying the gravity of the pollution issue. Meanwhile, Rise FM's approach fostered a sense of community engagement and immediate response.

These findings are in line with MISA Zambia (2013) who discussed the state of media freedom in Southern Africa, highlighting the importance of independent journalism in raising awareness about critical issues. The findings of this study support this view, demonstrating how both public and private media have contributed to environmental awareness in Chingola.

In terms of language use, Vernacular was a must for Rise FM Radio station and mostly Bemba dialects especially Lamba. For ZNBC TV1, it was English and the 7 official local languages namely Bemba, Nyanja, Tonga, Lozi, Kaonde, Luvale and Lunda.

Empirical studies further validate the findings of this study. In Australia coal mining is the primary source of air pollution (NPI 2012:05). It can be noted that the media in Australia played a significant role by publishing stories to do with pollution by the mine companies. This saw the environmental authorities in that country penalising the mining companies and huge fines were slapped on them for violating rules and called for new environmental licenses. This is similar to how ZNBC TV1 covered stories to do with KCM emissions where they polluted the air.

Across Africa, the media in DRC played their role by publishing stories where the Diamond Mining company was polluting the water and this saw over twenty people dead and over four thousand people getting ill, and the courts of law penalised the mining firm and the environmental agencies of that country were also involved to see to it that the mine companies followed the laws (IPIS, 2021). And this is equally similar to how ZNBC TV 1 and Rise FM Radio reported on KCM pollution through a number of programmes such as documentaries and news items among others.

The study uncovered several key principles and relationships. The relationship between media type and campaign effectiveness was evident, with public media (ZNBC TV1) being more effective due to its visual impact. This finding aligns with the agenda-setting theory's first level, where media influences what the public perceives as important (McCombs & Shaw, 1972). The interactive nature of Rise FM also proved significant, demonstrating that different media formats cater to different audience needs.

#### **11.4.4 Outcome Measures**

Evaluating the outcome measures of these campaigns involved assessing changes in public behavior and awareness. The effectiveness of these campaigns was evident in the increased public participation in pollution prevention activities and heightened awareness about environmental health.

For ZNBC TV1, the campaigns resulted in a notable increase in community participation in clean-up drives. Data showed that following the "Green Zambia" campaign, there was a 25% rise in volunteer participation for local clean-up events (ZNBC News, 2023). Additionally, surveys indicated a 30% increase in the number of residents who took proactive measures to reduce pollution in their households.

Rise FM Radio's "Clear Air for Chingola" campaign led to a 20% increase in calls to local authorities reporting pollution incidents. The interactive format encouraged residents to take immediate action by contacting environmental bodies to report violations. This initiative also saw a 15% increase in community-organized awareness meetings, demonstrating the campaign's effectiveness in mobilizing local action (Rise FM, 2022).

The comparative outcome measures are summarized in the table below:

<i>Campaign Outcome</i>	<i>ZNBC TV1</i>	<i>Rise FM Radio</i>
<i>Increase in Clean-Up Participation</i>	25%	15%
<i>Increase in Household Pollution Reduction</i>	30%	-
<i>Increase in Pollution Reporting</i>	-	20%
<i>Increase in Awareness Meetings</i>	-	15%

Table 3: Outcome Measures of Media Campaigns

These findings indicate that both media houses succeeded in different aspects of public mobilization and awareness. The campaigns effectively educated the public, resulting in tangible community actions and heightened environmental consciousness.

This finding is in tandem with Callamard (2010) who highlighted the role of media in facilitating public discourse and engagement. The interactive approach of Rise FM aligns with this perspective, demonstrating how media can create platforms for public participation and dialogue.

Glasser and Ettema (2009) emphasised the moral responsibility of journalists to report on critical issues. The findings of this study align with this perspective, demonstrating how ZNBC TV1 and Rise FM have taken on the responsibility of raising awareness about pollution.

Houston (2010) discussed the future of investigative journalism and its role in addressing critical issues. The findings of this study support this view, demonstrating how investigative journalism by ZNBC TV1 has raised awareness about pollution.

#### 11.4.5 Comparative Analysis

Respondents noted that both media houses have distinct advantages that cater to different segments of the community. ZNBC TV1's visual content was particularly effective in driving home the severity of pollution issues through impactful imagery and detailed reporting. A resident shared, *“Seeing the impact of pollution on TV makes it more real. The visuals stay with you longer”*.

Conversely, Rise FM Radio's strength lay in its ability to engage listeners directly. The interactive sessions provided a platform for community voices and expert opinions, fostering a collaborative approach to addressing pollution. One listener noted, *“The radio programs make you feel involved. You can ask questions and get immediate answers, which is very helpful”*.

Therefore, while ZNBC TV1 excelled in visual storytelling and creating awareness through compelling images and narratives, Rise FM Radio thrived in interactive engagement and community mobilization. Both approaches proved effective, but in different ways, enhancing the overall impact of pollution sensitization efforts in Chingola.

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Therefore, while ZNBC TV1 excelled in visual storytelling and creating awareness through compelling images and narratives, Rise FM Radio thrived in interactive engagement and community mobilization. Both approaches proved effective, but in different ways, enhancing the overall impact of pollution sensitization efforts in Chingola.

The results of this study are consistent with existing literature on media effectiveness in raising awareness about environmental issues. For instance, Bunce (2005) emphasised the importance of media in shaping public perception of environmental issues. The finding that ZNBC TV1's visual content had a substantial impact corroborates this view.

### 11.5 Logistic Regression Analysis

This analysis was utilised to predict the probability of a media campaign being effective based on various independent variables.

#### 11.5.1 Introduction to Logistic Regression

Logistic regression is a powerful tool used for modeling outcomes where the dependent variable is binary. In this study, the dependent variable was the effectiveness of media sensitization campaigns, categorized as either effective or not effective. Independent variables included media type (public or private), awareness level, campaign frequency, and community engagement. This analysis helped identify the relative contribution of each factor to the success of the campaigns.

The logistic regression model used in this study was designed to estimate the likelihood of a media campaign's effectiveness based on selected independent variables. The model equation was specified as follows:

$$\text{Logit}(P) = \beta_0 + \beta_1 \{\text{Media Type}\} + \beta_2 \{\text{Awareness Level}\} + \beta_3 \{\text{Campaign Frequency}\} + \beta_4 \{\text{Community Engagement}\}$$

where  $(P)$  represented the probability of the media campaign being effective. The dependent variable was the effectiveness of media campaigns (1 = Effective, 0 = Not Effective). The independent variables were media type (public = 1, private = 0), awareness level (high = 1, low = 0), campaign frequency (frequent = 1, infrequent = 0), and community engagement (engaged = 1, not engaged = 0).

The logistic regression analysis was conducted using data from 400 respondents. The results were as follows:

Variable	Coefficient ( $\beta$ )	Standard Error	Odds Ratio	p-value
<b>Intercept</b>	-0.85	0.45	-	0.06
<b>Media type(Public)</b>	0.65	0.21	1.91	0.02*
<b>Awareness Levels</b>	0.50	0.19	1.65	0.03*
<b>Campaign Frequency</b>	0.70	0.25	2.01	0.01*
<b>Community Engagement</b>	0.40	0.22	1.49	0.04*

(\* indicates significance at the 0.05 level)

Table 4: Logistic Regression Analysis Table

The analysis showed that all the independent variables had a significant positive impact on the effectiveness of media campaigns. The logistic regression analysis revealed that the media type, awareness level, campaign frequency, and community engagement significantly influenced the effectiveness of media campaigns.

The coefficient for public media (0.65) indicated that public media, such as ZNBC TV1, was more likely to be effective in sensitising the public compared to private media like Rise FM. The odds ratio of 1.91 suggested that public media was almost twice as likely to be effective.

The positive coefficient for awareness level (0.50) indicated that higher awareness levels increased the likelihood of the media campaign being effective. An odds ratio of 1.65 implied a 65% increase in the probability of effectiveness with higher awareness.

Campaign frequency had a strong influence, with a coefficient of 0.70 and an odds ratio of 2.01, suggesting that frequent campaigns doubled the chances of being effective.

The positive coefficient for community engagement (0.40) indicated that higher community engagement enhanced campaign effectiveness. The odds ratio of 1.49 meant there was a 49% increase in the probability of effectiveness with greater community engagement.

### **11.5.2 Interpretation of Results**

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The positive coefficient for community engagement (0.40) indicated that higher community engagement enhanced campaign effectiveness. The odds ratio of 1.49 meant there was a 49% increase in the probability of effectiveness with greater community engagement.

### **11.5.3 Implications**

The logistic regression analysis provided critical insights into the factors contributing to the effectiveness of ZNBC TV1 and Rise FM Radio in pollution sensitisation. The significant positive coefficients for all independent variables underscored the importance of media type, awareness level, campaign frequency, and community engagement in driving the success of these campaigns.

The analysis highlighted that public media (ZNBC TV1) had a greater likelihood of being effective compared to private media (Rise FM). This finding aligned with earlier survey results indicating ZNBC TV1's visual impact as a key factor in raising awareness. The importance of frequent campaigns and active community engagement suggested that sustained efforts and interactive formats were crucial for successful public sensitisation.

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### **11.6 Challenges Encountered by Media Houses**

While the study confirmed many anticipated correlations, some exceptions were noted. Despite the overall effectiveness of both media houses, there were instances where government and corporate interference hindered objective reporting. One of the challenges identified was government and corporate interference. Respondents highlighted instances where political pressure or corporate influence hindered objective reporting. For example, one respondent from one media house disclosed, "We sometimes receive calls from influential figures asking us to tone down our reports on pollution to avoid causing panic". This sentiment was echoed by another journalist who noted, "*There have been times when we've been subtly advised to shift our focus away from certain sensitive issues*". " In China they used another system of bribing the journalist so that they are compromised and stop being ethical and a voice for the voiceless and a voice of truth ([China.Org.cn](#) viewed on 12, 13:2022).

This challenge was highlighted by respondents who indicated that external pressures sometimes affected the content and focus of their reports. This lack of correlation between intended media freedom and actual reporting outcomes points to an area needing further exploration and policy intervention.

Additionally, the study found that technical limitations and lack of training for journalists affected the quality and frequency of environmental reporting. These challenges were not anticipated in the initial hypothesis, highlighting the need for further research and practical interventions to address these issues.

This is in line with Freedom House (2017) which reported on the challenges faced by journalists in Zambia, highlighting the need for media freedom and independence. The challenges identified in this study align with this perspective, demonstrating the need for policy interventions to support media freedom.

These findings are also in tandem with the Inter-American Commission on Human Rights (IACHR), The Guardian Newspaper which was quoted as saying that the Canadian mining companies across Latin America were causing "serious environmental impacts" by destroying glaciers, contaminating water and rivers, and cutting down forests, as well as forcibly displacing people, dividing and impoverishing communities, making false promises about economic benefits, endangering people's health, and fraudulently acquiring

property. Some of the local people who protested have been killed or seriously wounded and others persecuted, threatened or accused of being terrorists (2020:20).

The report, titled *The Impact of Canadian Mining in Latin America and Canada's responsibility*, states that Canadian firms are exploiting weak legal systems in Latin American countries and Canada itself, as well as failing to respect indigenous peoples' rights, international human rights and social responsibility principles, and supposedly "protected" areas (2020:20).

As can be observed, in Latin America, the media was not actively involved in reporting about pollution by the mines because they were over powered and threatened by the government and other forces who would arrest people who protested against pollution that was emanating from the mine (The Guardian Newspaper, 2020).

According to respondents, another significant challenge faced by ZNBC TV1 and Rise FM Radio is limited funding. Budget constraints often restrict the scope and frequency of their environmental programmes. A journalist from one of the media houses mentioned, "Our budget for environmental coverage is quite limited, which affects our ability to produce in-depth reports regularly". Similarly, a reporter from the other media house added, "*Lack of adequate funding means we can't afford to air as many programmes as we'd like*".

Not only was this but there was a consensus on the lack of training for journalists in environmental reporting. Respondents emphasized the need for specialized training to adequately cover complex pollution issues. One journalist shared, "*Many of us lack formal training in environmental journalism, which limits our ability to effectively report on these topics*".

To further substantiate the challenges faced by media houses, data was collected from KCM employees. According to a survey conducted among KCM employees, both respondents reported experiencing health issues related to pollution, attributing these issues to air and water pollution from mining activities. A KCM employee shared, "*The pollution from the mines has severely affected our health, and we often face respiratory problems and skin diseases*".

KCM has also published information on their efforts to address pollution. In a statement on their website, KCM highlighted their commitment to minimizing environmental pollution and mentioned the implementation of a comprehensive environmental management program. They stated, "*We have in place a comprehensive and well-funded programme designed to address legacy environmental issues*" (KCM Website, 2023).

Additionally, a Facebook post by KCM emphasised their ongoing efforts to reduce pollution, stating, "*Noise pollution has adverse effects on the health and well-being of civilizations and wildlife. Vedanta is working towards reducing this pollution by completing the first work stream of the project*" (Vedanta Facebook Post, 2023).

## **12. Conclusion and Recommendations**

The study aimed to evaluate the comparative effectiveness of public and private media in raising awareness about pollution. The primary objective was subdivided into three specific research goals: assessing the contributions of media, evaluating their effectiveness, and identifying challenges encountered. The findings from the study revealed that both ZNBC TV1 and Rise FM Radio played significant roles in pollution awareness. ZNBC TV1's visual presentations and detailed reports were particularly influential, while Rise FM's interactive sessions encouraged active public participation. The logistic regression analysis further validated these findings, showing

that media type, awareness level, campaign frequency, and community engagement significantly influenced the effectiveness of the campaigns.

The study substantiated the hypothesis that public media (ZNBC TV1) is more effective in sensitizing the public compared to private media (Rise FM Radio). This effectiveness was attributed to ZNBC TV1's ability to present comprehensive visual content, which had a substantial impact on public perception, aligning with the agenda-setting theory by McCombs and Shaw (1972).

However, several challenges were identified: limited funding, government and corporate interference, technical limitations, and lack of specialized training for journalists. Both public and private media outlets face budget constraints that hinder their ability to conduct extensive awareness campaigns. Media outlets often encounter external pressures that can affect their independence and credibility. The lack of advanced technical resources can limit the quality and reach of media content, and the need for specialized training in environmental reporting is crucial for enhancing the quality of awareness campaigns. Addressing these challenges is essential for improving the effectiveness of media in raising awareness about pollution.

The findings are consistent with existing literature, including works by Bunce (2005), Blake (1997), Callamard (2010), Kovach and Rosenstiel (2014), and others, which emphasize the critical role of media in shaping public perception and engagement with environmental issues. The study also highlighted the need for policy interventions to support media freedom and independence. Organizations such as Freedom House (2017) and MISA Zambia (2013) have underscored the importance of these interventions in enabling media to effectively fulfill their role in society.

Moreover, the study's conclusions indicate that enhancing the technical capacity and training of journalists could significantly improve the quality of media campaigns focused on pollution awareness. This would enable journalists to produce more compelling and informative content that resonates with the public. Furthermore, fostering collaborations between media outlets and environmental organizations can provide the necessary support and resources to sustain long-term awareness campaigns. By addressing the identified challenges and implementing these recommendations, media outlets can become more effective in sensitizing the public about environmental issues, ultimately contributing to better pollution management and environmental protection.

All in all, the study reaffirmed the essential role of media in environmental awareness and underscores the need for concerted efforts to address the challenges faced by media outlets. These efforts will enable media to better serve the public and promote a healthier environment.

### **13. Recommendations**

The study identified several challenges, including limited funding, government and corporate interference, technical limitations, and lack of training for journalists. These findings were derived from both survey data and interviews with media personnel and KCM employees. Recommendations were made to address these challenges, emphasising the need for increased funding, modern equipment, specialised training, and safeguarding journalistic independence.

First and foremost, there is need to increase funding for environmental programmes. This will help different media houses to ensure that they cover all topics to do with environmental pollution. This recommendation is in line with the respondent's proposals where they emphasised the need for dedicated budgets to ensure the production of high-quality, regular content. *"Allocating more funds specifically for environmental reporting would enable us to cover stories more comprehensively,"* said one journalist.

To address government and corporate interference, respondents recommended implementing stricter policies to safeguard journalistic independence. They proposed establishing clear guidelines that protect journalists from external pressures and ensure unbiased reporting. Another journalist stated, “*We need policies that reinforce our autonomy and allow us to report on pollution issues without fear of repercussions*”.

Regarding technical limitations, respondents suggested investing in modern equipment and technology. Upgrading cameras, microphones, and editing software would significantly enhance the quality of environmental reports. “*With better equipment, we can produce more compelling and professional content,*” noted another journalist.

Additionally, respondents highlighted the importance of providing specialized training for journalists in environmental reporting. They recommended organizing workshops and courses to equip journalists with the necessary skills and knowledge. “*Training sessions on environmental journalism would greatly improve our ability to cover pollution issues effectively,*” mentioned a respondent.

Residents also provided valuable suggestions. One resident expressed that there should be community outreach programs where media houses collaborate with local schools to educate children about pollution, ensuring that the younger generation is aware and involved from an early age. Another resident recommended that media houses should host more town hall meetings where residents can voice their concerns and ask questions directly, fostering a sense of community and ensuring that the public feels heard. Media houses could also collaborate with churches where congregants could voice out their concerns.

To add on, some residents suggested that media houses should increase their coverage of success stories and positive outcomes from pollution control measures. This could motivate the community to engage more actively in environmental protection efforts. One resident remarked that hearing about successful clean-up drives and improvement initiatives could inspire others to participate and contribute to the cause.

Further, residents also proposed that media houses should highlight employment opportunities in pollution control initiatives. They suggested that creating jobs focused on curbing pollution could not only address environmental issues but also provide economic benefits to the community. Some residents noted that certain types of pollution, such as soil pollution, are rarely discussed, with more attention being paid to noise, water, and air pollution. They emphasised the need for a broader focus in media coverage to include all forms of pollution and their impacts on the environment. Recommendations from respondents were then taken which emphasised the need for stronger community engagement, improved policies, and better resources for media reporting.

Based on the findings and discussions in the main report, the following recommendations are made:

- **Increase Funding for Environmental Programmes:** Allocate dedicated budgets to ensure the production of high-quality, regular content on environmental issues.
- **Safeguard Journalistic Independence:** Implement stricter policies to protect journalists from external pressures and ensure unbiased reporting.
- **Invest in Modern Technical Equipment:** Upgrade cameras, microphones, and editing software to enhance the quality of environmental reports.
- **Provide Specialised Training for Journalists:** Organize workshops and courses to equip journalists with the necessary skills and knowledge in environmental reporting.

- Promote Collaborative Strategies Encourage ZNBC TV1 and Rise FM to adopt complementary strategies, combining visual and interactive formats to maximize public engagement and awareness.

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