

The Canadian Journal of Information and Library Science
La Revue canadienne des sciences de l'information et de
bibliothéconomie



Information Sharing and Communication Through Climate Change Images on Social Media

A. K. M. Eamin Ali Akanda  and Naziat Choudhury 

Volume 47, Number 2, 2024

Bobcatsss 2024 Special Issue
Numéro spécial Bobcatsss 2024

URI: <https://id.erudit.org/iderudit/1116010ar>
DOI: <https://doi.org/10.5206/cjils-rcsib.v47i2.17632>

[See table of contents](#)

Publisher(s)

Canadian Association for Information Science - Association canadienne des sciences de l'information

ISSN

1195-096X (print)
1920-7239 (digital)

[Explore this journal](#)

Cite this article

Akanda, A. & Choudhury, N. (2024). Information Sharing and Communication Through Climate Change Images on Social Media. *The Canadian Journal of Information and Library Science / La Revue canadienne des sciences de l'information et de bibliothéconomie*, 47(2), 209–218.
<https://doi.org/10.5206/cjils-rcsib.v47i2.17632>

Article abstract

In today's world, the most popular and powerful tool to disseminate information on complex topics including climate change is social media. Information shared through various forms of texts and visual content on social media makes complicated topics easier to comprehend. The emotions, thoughts, and feelings expressed through images carry values that are far greater than those of texts. These features of images turn them into more meaningful content. People can be motivated to take action to establish and manage sustainable development. This research attempts to analyze the images posted on social media to build awareness among its users on climate change in Bangladesh. The accounts of Bangladeshi social media users are analyzed to find the various forms of images posted on social media and how people are engaging with these images. Also, social media users' perspectives and awareness of climate change are studied here. Content analysis of 63 images on social media and semi-structured interviews with 10 social media users suggest that Bangladeshi social media users are focusing mostly on the impact of climate change, and less on its causes and solutions. Images containing the general public are more popular than images with political leaders, celebrities, and scientists which contradicts other findings. However social media users expressed less concern about the issue and believed that it is a matter of concern for the authority. Nevertheless, the younger generation in Bangladesh is taking a more active part in initiating actions to reduce the impact of climate change. As this younger generation ages, the future may bring positive changes if policies are made to support their initiatives.



Information Sharing and Communication Through Climate Change Images on Social Media

A.K.M Eamin Ali Akanda ¹ and Naziat Choudhury ²

¹Department of Information Science and Library Management, University of Rajshahi, Bangladesh

²Department of Mass Communication & Journalism, University of Rajshahi, Bangladesh

In today's world, the most popular and powerful tool to disseminate information on complex topics including climate change is social media. Information shared through various forms of texts and visual content on social media makes complicated topics easier to comprehend. The emotions, thoughts, and feelings expressed through images carry values that are far greater than those of texts. These features of images turn them into more meaningful content. People can be motivated to take action to establish and manage sustainable development. This research attempts to analyze the images posted on social media to build awareness among its users on climate change in Bangladesh. The accounts of Bangladeshi social media users are analyzed to find the various forms of images posted on social media and how people are engaging with these images. Also, social media users' perspectives and awareness of climate change are studied here. Content analysis of 63 images on social media and semi-structured interviews with 10 social media users suggest that Bangladeshi social media users are focusing mostly on the impact of climate change, and less on its causes and solutions. Images containing the general public are more popular than images with political leaders, celebrities, and scientists which contradicts other findings. However social media users expressed less concern about the issue and believed that it is a matter of concern for the authority. Nevertheless, the younger generation in Bangladesh is taking a more active part in initiating actions to reduce the impact of climate change. As this younger generation ages, the future may bring positive changes if policies are made to support their initiatives.

Keywords: image, information sharing, climate change, social media, engagement, communication

Introduction

Bangladesh has been experiencing severe cold weather for the past several years. The temperature dropped by four degrees in one night in 2024, creating a record. The country has never experienced this extreme weather scenario. Climate change's impact is being experienced worldwide, including in Bangladesh. Information on global warming and climate change is disseminated through multiple media sources. Social media is one such source where climate change information is constantly shared through texts and images. Images are a vital and ubiquitous part of our daily lives since we live in an image-dominated society. With the increasing advancement of digital technologies and social media, images have become more widespread and can be shared more easily. As a result, we are continuously bombarded with images, ranging from advertisements and news media to social media posts

and personal photographs (Farkas et al., 2022). Therefore, this research attempts to analyze the images posted on social media to build awareness among its users on climate change in Bangladesh. The images posted on three popular social media platforms, Facebook, Instagram, and X, are examined through content analysis. This research looks into the accounts of Bangladeshi social media users to find out the various forms of images posted on social media and how people are engaging and sharing these images. Also, social media users' perspectives and awareness of climate change are studied here. In this research, content analysis and semi-structured interviews were conducted to seek answers to the research questions. Content analysis was done on 63 climate change-related images, and ten social media users were interviewed. As this study focuses only on Bangladesh-based social media accounts, the quantity of the samples was small. Moreover, the social media users here posted fewer images on climate change than other images. Nevertheless, the findings highlight the scenario of a developing country that is limited in research related to climate change images. As this study found, Bangladeshi social media users are more keen to focus on the impact rather than on climate change's causes and

mitigation process. Also, this research reflects the significant importance of locally contextualized images of Bangladesh.

Communicating information through images on social media

Images are not neutral statements or static representations of the world but rather the promotion of particular messages and the reproduction of dominant social structures (Rose, 2016, cited by Hayes and O'Neill, 2021; Lopes & Azevedo, 2023). Being able to motivate and encourage political initiatives and impact policy-making decisions, visual images are crucial (Doyle, 2007; Hannigan, 2006; Brulle et al., 2012; Nisbet, 2011). Culturally relevant images play a strong role in attracting the public's attention (Anderson, 1997; Caple, 2013). Images are viewed as being closer to reality because of their analogical character, and consequently, they receive fewer inquiries than vocal content (Brantner et al., 2011). This analogical quality helps people index and subsequently recall visual information more effectively (Messaris & Abraham, 2001). In the information-based environment, images have become vital, which is supported by the attractiveness of visuals on social media, and these have turned out to be both significant bases of general information, news, and sites for meaning-making (Highfield & Leaver, 2016; Pearce et al., 2020).

Visual media has been considered a prime tool for communicating information about climate change. In the context of climate change communication, images play a critical role because they help to increase consciousness on the issue and promote public participation in alleviation and adaptation initiatives (O'Neill & Smith, 2014). Joffe (2008) argues that images can draw viewers' attention by evoking strong emotional resonance. Images containing the effects of climate change—such as melting ice, polar bears, etc.—have been used more often in traditional media than images representing the causes, such as factory smokestacks belching out gasses into the atmosphere, both on television (Lester & Cottle, 2009; León & Erviti, 2015) and in print media (Smith & Joffe, 2009). Despite experiencing global warming at every level of life, people are still reluctant to recognize its impact. Motel (2014) found that most US citizens do not identify climate change as a pressing issue, and 30% are not interested in the topic (Roser-Renouf et al., 2016). People find this issue as having less personal and psychological importance (Gifford, 2011; Lorenzoni et al., 2007). As the popularity of social media is increasing day by day and images are posted constantly, it is important to examine whether images on social media are contributing to mitigating climate change.

Social media has become a popular and powerful tool that provides opportunities to disseminate information on complex topics, including climate change. The dissemination of information through various forms of texts and visual content makes complicated topics easier to comprehend. The emo-

tions, thoughts, and feelings expressed through images carry values that are greater than those of texts. These features of images turn them into more meaningful content. Thus, people can be motivated to take action to establish and manage sustainable development.

Social networks are a common way for people to get information (Painter et al., 2016, 2018), participate in discussions, and take steps (Seegerberg, 2017) regarding this issue. Furthermore, social media has the power to significantly influence people's psychological perceptions of climate change (Anderson, 2017), increase public consciousness (Mavrodieva et al., 2019), and encourage them to take measures to address it (Vraga et al., 2015). While conventional media lacks the characteristic of interactivity, social media allows users to become more active users who offer their thoughts and information and establish connections with people who share the same interests (Zolkepli & Kamarulzaman, 2015). Social media, in particular, and digital media, have grown to be significant information sources (León et al., 2022). Research indicates that social media has become one of the primary sources of information about climate change for young people. Research shows that between the ages of 18 and 24, social media is a popular tool for gathering information on climate change (Andi, 2020). But it has been consistently demonstrated that visual representations of climate change affect not only people's views of the relevance of the issue but also their approach to it (Mooseder et al., 2023; Chapman et al., 2016; Metag et al., 2016; O'Neill & Nicholson-Cole, 2009; O'Neill et al., 2013). Therefore, the role of social media in understanding how images posted on them assist in developing awareness about climate change will be focused on here. Also how the users take actions to combat the impact of climate change will be investigated in this research.

Review of literature on climate change, social media and images

Climate change and social media

As a popular media, social media has been a place where climate change-related content has been created and shared by users. Thus, it has become a great source of information for many issues, including climate change. Schafer (2012) stresses the significant function of social media as information-sharing platforms, which is essential for arguing and comprehending complicated global topics like climate change. Another research shows that social media provides climate change information to most people (98.3%), and social media affects people's knowledge and concerns about climate change. It also highlights that groups and institutions dealing with climate change could use social media as an efficient tool for communication (Ogunjinmi et al., 2016). People who developed programs to create climate change awareness were unrelated to the government and social media were often

used to disseminate their messages through various forms of content (Mavrodiya et al., 2019). While studying 11,964 Instagram images posted during Hurricane Sandy in the USA, Murthy et al. (2016) found that the general public posted images that depicted their dealings and struggles with the destruction of the hurricane in their everyday lives. Humour was used in their pictures with their pets, meals, and selfies, and the authors argue that such “macro images highlight possible changes in the politics of representing disasters – a potential turn from top-down understandings of disasters to bottom-up, citizen-informed views” (p. 113). Analysis of images on Twitter showed that people posted pictures with quotes, politicians, and protests, but users on Twitter interacted with protest-related images the most (Mooseder et al., 2023). Besides images, videos on social media were also popular among users, helping them understand complex issues such as climate change. A study in India showed that people preferred video to understand climate change issues. They specifically relied on YouTube as video and audio combined to create a message (Athira & Karthika, 2021).

Texts and audio-visual content on social media focus on various issues. Some photographers focus on people, while others focus on nature. Kangas (2019) notes that for more than a decade, studies on images related to climate change have increased. Based on previous studies, he found that images posted in media focused mainly on politicians, activists, and issues that led to global warming and the impact of the warming. In the British press, Smith and Joffe (2009) studied images related to climate change risks through content and thematic analysis. Three main themes were found: impact with local emphasis, people affected by climate change, and statistical data presented through graphs and charts. Research also shows that some images particularly focus on specific people while ignoring others. Rebich-Hespanha et al. (2015) conducted a content analysis of 350 images from 11 newspapers and magazines in the USA. “Regular people” were missing in the images, and political leaders, celebrities, and scientists received the most attention they found (p. 11). Their findings show that the images did “not portray the people who profit from maintaining traditional means of energy production and consumption, or those who work behind the scenes to delay action or spread misinformation” (p. 11-12). By citing studies conducted in Canada, the US, the UK, and Australia, Duan et al. (2017) noted that their study also found many images of people from specific communities and organizations, such as politicians, stars, and others from high-ups. They suggested that future studies could investigate if the publication of a greater number of images containing the general public plays a strong role in creating a bond between the public and their concern with climate change. Considering this, this paper will investigate whether social media users engaged more with images of the general public or not.

Reaction to climate change images

Social media users are not only gaining knowledge but are also engaging with the information on the content. These users react and engage differently with various types of images. Some attract more attention than others. For example, images that create fear generally attract people more, especially with images of harsh weather (O’Neill, 2013; O’Neill & Nicholson-Cole, 2009). On the other hand, Leviston et al.’s (2014) study showed that images that contained the impact of climate change-related themes received more negative emotions. The context of the images also played a role in gaining more reactions from social media users. Research shows that people are more drawn to locally and nationally situated images as they are closely associated with them (Nicholson-Cole, 2005). Chapman et al. (2016) also found that images that contained “. . . individuals with authentic, identifiable emotional expressions evoked issue concern and emotional reactions. . .” and “. . . overall, images of impacts were the most motivating for individuals” (p. 180). As images on the impact of climate change create fear, Portuguese media noticed a 16.3% rise in images that project possible mitigation, remedy, and plan of action (Lopes and Azevedo, 2023). This paper looks into the specific areas focused on the images posted by social media users in Bangladesh and analyzes the images that get the most engagement. Also, the views of these social media users on climate change are examined in this research.

Conceptual Framework

The images related to climate change in social media are analyzed through the lens of framing theory and news values. This theory provides the platform to understand the type of images posted that influence the way people think about an issue. The concern of framing theory explains certain perspectives of reality are reflected in media content and thus the entire picture of an issue is difficult to portray through media content (Entman, 1993). Researchers often use a theoretical framework to understand how certain images are being highlighted while others are being neglected and how these selective images impact people (Scheufele & Tewksbury, 2007; Chong & Druckman, 2007, 2011). Entman (1993) explains that “. . . the frame determines whether most people notice and how they understand and remember a problem, as well as how they evaluate and choose to act upon it. The notion of framing thus implies that the frame has a common effect on large portions of the receiving audience, though it is not likely to have a universal effect on all” (p. 54). The type of images created and shared through social media in Bangladesh will be analyzed through framing theory. The way people react and engage with such images and news values from the audiences’ views will be used here.

Journalists use news values to decide what information will

be regarded as news and thus be published in a newspaper or broadcast on television or radio. Journalists decide based on proximity, sensitivity, conflict, impact, and timeliness. As the media scenario changes due to technological advancement and other social and political factors, news values are also changing and are not limited to journalists alone. Audiences are experiencing information overload as multiple information channels are popping up daily. As the sources of information are advancing and bringing with it new means of interaction with the content and the consumers, audiences are also finding it difficult to pay attention to all the content. The constant availability of a large quantity of information pushes the audience to choose and select specific media content for consumption. The type of climate change-related images social media users choose to interact with among a wide range of images available on social media is studied here. For this purpose, news values theory will be applied here as researchers gradually analyze the theory from the audience's perspective (Temmerman & Mast, 2021). Studies have shown that, similar to journalists, audiences also use news values to determine the worthiness of content (Ziegele et al., 2014). News value theory explains how people interact with certain content online, share it, or engage with it (Weber, 2014; Garcia-Perdomo et al., 2018). Although news values may vary from country to country, some elements remain the same, such as immediacy and timeliness, that also assist in gaining the attention of the media audiences (Wilkinson et al., 2021). Research shows that news items that contain materials dealing with human interest, conflict, or controversy are mostly shared by people on Facebook and Twitter (Garcia-Perdomo et al., 2018). Contents that are either positive or negative also determine whether they will be shared (Hornik et al., 2015). Therefore, the elements found in the images of climate change on social media that are interacted with most often will provide a glimpse of how users express their concerns. Images taken in the context of Bangladesh and posted on social media accounts from Bangladesh that interact with most users will help us understand the factors attracting the users' attention. By incorporating framing theory and news value theory from the audience's perspective, this paper will investigate of how social media users in Bangladesh express their concerns about the issue. Along with analyzing people's reactions and engagement with climate change-related images, this paper also wanted to examine if the images could create awareness and motivate them to take action in such matters.

Methodology

Content analysis of climate change-related images was employed to understand the type of images posted using social media. Also, an in-depth interview was conducted among social media users in Bangladesh to know if the images created awareness and inspired them to take action. Only images that

were posted on Bangladesh-based social media profiles were selected. The study was conducted on images from three popular social media in Bangladesh: Facebook, Instagram, and X. Images were downloaded from June 20, 2023, to January 20, 2024. A comprehensive search was made using the terms "climate", "climate change", and "global warming" in three social media. After discarding duplicate images, the final number of samples of images was 63.

The data collected were categorized under the thematic categories used by Duan et al. (2017), a modified version provided by DiFrancesco and Young (2011). The image themes were human, nature, industry, human and nature, nature and industry, human and industry, and human, nature and industry, and none of the above. Under the "human" category, sub-themes were political people, businessmen, workers, scientists, environmentalists, and the general public. Similarly, "Nature" included sub-themes such as Earth, ocean, river, plant and animal. "Industry" contained images of transportation, oil sands, refineries, factories, green technology, and energy infrastructure. These sub-themes were also provided by Duan et al. (2017, p. 10). We also included flood/rain and drought under the nature theme as Bangladesh is a country that experiences flood and drought every year, and they impact the people immensely.

To understand how people reacted to and interacted with social media images, we categorized their reactions under themes like Love, Hug, Laughter, Wow, Cry/Sad, Angry, and Sharing. Under the interacting section, the comments were also categorized as themes, with both "positive", "negative", and "neutral" sub-themes chosen. The top ten comments were examined to understand how people felt about the issue.

It is difficult to identify the awareness gained through images, but this paper attempts to understand how images create awareness by speaking with social media users. Ten respondents who were frequent social media users and viewed images related to climate change were selected. The interview took around 50 minutes to complete. A semi-structured questionnaire was prepared to find out their awareness and motivation level.

Questions regarding what type of images they view in general and whether they have taken any actions to mitigate climate change. The respondents were young social media users, the age group of 23 to 35. The snowball sampling technique was used to select the respondents. Those who used social media regularly and viewed climate change-related images were selected for the study. The focus of the research was on social media users in Bangladesh, so the respondents had to be in Bangladesh. A total of 10 respondents were chosen with these criteria in mind. Although the aim was to include an equal number of women and men, only four women and six men met the respondents' selection criteria. While analyzing the data, pseudonyms were used, so the respondents remained unidentified. In-depth interviews with

the social media users allowed us to understand their online image viewing patterns and the steps they took after viewing images on climate change. The limitation of the sample was related to fewer images of climate change posted by social media users in Bangladesh. Therefore, a convenience sample was chosen for this study.

Analysis

Types of images

While looking at 60 images on Facebook and Instagram posted on social media accounts in Bangladesh, most included images where humans and nature were blended, as seen in Table 1. It must be mentioned here that images related to climate change in Bangladesh were challenging to find on X. Compared to Facebook and Instagram, there are a limited number of X users in Bangladesh; thus, images were less available. Although there are 59.2 million Facebook users, 6.5 million users on Instagram, and 1.05 million on X (Hossain, 2023), images on climate change were difficult to find. Nevertheless, 30 images respectively from Facebook and Instagram and only three images from X were found within the seven months of the research period. Besides images with human and natural elements, images that contained only humans were also popular on Facebook and Instagram. Nature alone was seen to be the third most often found image on all three social media. Having humans in images helps to connect with social media as they can relate with the person in the image. Leon et al. (2022) found that “The use of images of people, in particular those that tell a story, can be related to the news value of personification . . . Presenting a topic or event through human beings makes it easier for social media users to identify with the main character of the image” (p. 987). This connection played a role in posting more pictures of humans in images of climate change.

Several specific elements were found within these main themes. Under the main themes of humans, nature, and industry, Duan et al. (2017) provided several subthemes. Under the main theme of the human category, images that contained the general public were posted most often (FB=16, INS=19, X=3). Social media users posted pictures of the impact of climate change on the general public, their misery and struggle, their coping mechanism, and their actions to reduce the cause of climate change. These images were mostly posted by social media users. This finding contradicts previous research (Kangas, 2019; Rebich-Hespanha et al., 2015), which mentioned that images with political leaders, celebrities, and scientists were mainly posted. However, our data suggests that the trend in Bangladesh is different from that in Western countries. The second most popular images within the same theme had images with political people (FB=4) and environmentalists (FB=2, INS=2).

In the nature theme, most pictures contained flood-related

Table 1

Types of images found on social media

Themes	Facebook	Instagram	X
Human	8	5	
Nature	3	4	1
Industry			
Human and nature	17	20	2
Nature and industry			
Human and industry	2		
Human, nature and industry		1	

images (FB=7, INS=12). Similar to Smith and Joffe’s (2009) finding, our study also found the importance of images with climate change impact that are locally contextualized. This cultural proximity factor . . . “can be regarded as a news value indicator of meaningfulness, in the sense that climate change has a ‘real impact’ on ‘real people” (Leon et al., 2022, p. 987). As Bangladesh faces floods yearly, images of that are highlighted mostly in social media. Second most posted images contained plants (FB=8, INS=2). Drought-related images were found to be posted third most often (FB=2, INS=2). Images of industries were also posted occasionally, especially when the industry was associated with either humans or humans and nature. The data showed that when images on social media focused on the industries, they mainly contained green technology-based themes (FB=1, INS=1).

Impact, Cause & Solution

Images that dealt with the impact of climate change were posted the most. Floods inside the heart of the cities, draught, houses, and livelihoods destroyed by tornados are the popular images posted on all three social media. Of the 63 images analyzed here, 43 (FB=28, INS=13, X=2) contained impact-related elements. The second most popular images were the ones that showed the causes of climate change, 12 (FB=9, INS=2, X=1) out of 63 images. These images contained themes such as cutting trees, chemical water thrown into rivers, and plastic bottles clogging drains. Solutions or mitigation of climate change images were limited on Facebook and Instagram (FB=4, INS=4).

Sources of images

One of the objectives of this research was to locate the sources of the images posted by social media users in Bangladesh. The Internet provides multiple sources for collecting and posting images on social media. The researchers wanted to investigate the sources social media users used to

Table 2*Sources of images*

Source of image	Facebook	Instagram	X
Newspaper	2	8	1
NGOs	9	12	
Go	3		
General users	16	10	2

find images of climate change. Four sources were found to be popular among the social media users. These are newspapers, government organizations, non-government organizations, and images taken by the general public, as shown in Table 2. All these sources were used to post images on Facebook only. Interestingly, general users preferred Facebook and X to post their pictures depicting climate change. Instagram was their second preference. On Instagram, images taken by non-government organizations were posted most often. Newspapers were also the second most chosen source on Instagram. Climate change-related images from government organizations were posted only on Facebook.

Engagement with climate change images

The central feature of social media allows users to express their reactions to the content. Reactions can be expressed without posting comments. In this research's three social media studies, users can communicate their feelings by reacting to content, commenting, and sharing it with other users. Facebook users can demonstrate their thoughts by choosing several options. The "Like" button means positively responding to an image by appreciating or enjoying the content. The "Love" option is selected when the user associates a strong positive feeling with the image. Negative thoughts can be communicated through the "Angry" and "Cry" buttons, while the "Hug" button is selected for showing empathy and "Wow" for surprise. Only positive reactions can be chosen through the "Heart" button on Instagram and X, and negative feelings can be expressed by writing comments. The "Share" option is available on all three social media platforms to suggest a post to others, indicating its importance. This research examined how social media users reacted to climate change-related images and what images they engaged with the most.

Instagram

On Instagram, images containing text and images received the most LOVE reactions. For example, an image containing text and an image of a woman in a village trying to fetch drinking water by walking through mud land received 3,174

LOVE reactions. Secondly, images that had the general public, especially children, and images that showed the impact of climate change received a lot of LOVE reactions on Instagram. However, we did not find any comments on the images posted on Instagram.

Facebook

In the case of Facebook, images with general people got the most reactions. For example, an image that showed a school-going girl dressed in her school uniform walking through knee-high flood water received 19,200 reactions. Images analyzed on Facebook showed that most reactions were positive, such as LIKE and LOVE. ANGRY, CRY, HUG, and WOW were less often used in images related to climate change on Facebook. But interestingly, a few of the images received laughter reaction. The climate change-related images were shared in limited numbers.

X

Images that contained the general public in the setting of nature got the most LOVE reactions and were also shared often in X.

The findings in this research suggest that social media users interacted with images with emotional elements. For example, emotional attachment to certain elements of images, such as the suffering of the general public, including children, received the most reaction from social media users. This resonates with the statement of Keib et al. (2018), who noted that "emotions—perhaps particularly ones that are highly arousing or negative in valence—play a role in what gets attention and engagement on social media" (p. 208). The images often posted on social media show the impact climate change has on the general public in Bangladesh, which aroused the emotions of social media users.

Social media users engaged less through comments on images in Bangladesh. They rarely initiated conversations with the user who posted the image. They often chose sticker comments to express their thoughts. Images on Instagram and X did not contain any comments. However, images on Facebook received many positive comments through sticker comments or small conversations. Impact-related images received the most comments from people who expressed empathy. And in rare cases, negative and neutral comments were found.

Climate change as a concern

Social media users in Bangladesh are less concerned about climate change. When asked how concerned they are about the issue, most respondents stated that they have other important issues that require more attention than climate change. About 73 percent felt that climate change is a global issue, so the decision-makers, scientists, and environmentalists will need to work on it. Less concern about climate change is

also reflected in our small sample number. As they are not worried, they post less images and react and comment less on those images. In China, a similar result was found when Weibo users viewed climate change as not a “personal concern” (Zeng, 2022, p. 8).

Among these 73 percent of the respondents, the younger generation expressed more concern about the issue than the older age group in this research. Those in the age group of 28-35 expressed less interest in climate change. A respondent, age 29, said “I am much more worried about the security of my job, rising price of daily goods and rent than climate change. The policy makers and government are there to think about these issues”. Whereas a younger respondent, age 24 expressed her fear about the future as “we are already experiencing the impact of climate change every day. Unfortunately, we are not realizing the ultimate consequence this will have in our lives.”

Sources of climate change information

The respondents learnt first about the climate change issue through social media, family, and friends. A small number of respondents stated traditional media was the first source. Most respondents (71 percent) stated that climate change-related information was first learned through social media. However, for those above the age of 27, family and friends were the first source of information on climate change. Social media was chosen as the source by mostly the younger generation between the ages of 23 and 26. There were no specific gender differences in this section of the interview. Although diverse sources of climate change information were identified where the respondents learned first about climate change, the majority (91 percent) stated that they gained a vast amount of knowledge on climate change through social media alone.

Awareness through climate change images

As mentioned earlier, measuring awareness level involves a complex process that may not always provide an accurate answer. By speaking with the respondents, an attempt was made to understand the types of awareness gained by viewing social media images. A small number of the respondents (27 percent) mentioned that images of climate change on social media created some form of awareness. This encouraged them to take actions that would support mitigating climate change. A respondent, age 25, said that she became aware of not using plastic bottles and utensils and thus began to use glass water bottles and products that will not harm nature. Another respondent in this research, age 27, began to recycle and reuse old clothes to avoid consumption of fast fashion, which causes various forms of pollution. Two out of ten respondents joined groups that volunteered to build a green environment. Along with these activities, some took a different approach to initiate actions to combat climate change.

For example, a male respondent, age 24, began posting images about the impact of climate change in Bangladesh on multiple local and international Facebook groups. One male and one female respondent narrated how they posted trolls on the impact of climate change. For example, when main roads and houses in the country’s big cities are underwater, images are used to troll the authorities. They said this is a way to protest the authorities’ lack of initiatives to clean the drains, not only as a source of information but also as a place for activism. Although small in numbers, some are still trying to create awareness among others through images on social media. In this research, the age group of 23 to 27 claimed that they became more aware and took up actions to combat climate change by seeing the images of climate change-related activities posted by others on social media. They were also asked if they initiated online and offline conversations about an image seen on social media. Only four out of ten respondents mentioned speaking about such images with their friends and families, mainly offline. They are taking offline information gathered on online social platforms. This allows the dissemination of information among others who may or may not have seen the images.

Conclusion

This research investigated the images of climate change posted on Bangladesh-based social media accounts. The way social media users engage with these images and their awareness about climate change was also analyzed. There seems to be a lack of awareness among Bangladeshi social media users as a limited number of images dealing with climate change were found. Bangladeshi social media users seem to focus mostly on climate change’s impact and less on its causes and solutions. Locally contextualized images were most popular among social media users in Bangladesh. Interestingly, the study’s findings show that images with the general public are more popular than images with political leaders, celebrities, and scientists. The social media users expressed less concern about the issue and believed it was a matter of concern for the concerned authorities. This finding was also found in other countries. However, the younger generation in Bangladesh is taking a more active part in taking initiatives to reduce the impact of climate change. As this younger generation ages, the future may bring positive changes if policies are made to support their initiative. Future research can investigate why people are less interested in crucial issues, such as climate change, and why certain images receive more reactions in social media than others.

References

- Anderson, A. (1997). *Media, culture and the environment*. UCL Press.
- Anderson, A. A. (2017). *Effects of Social Media Use on Climate Change Opinion, Knowledge, and Be-*

- havior. In A. A. Anderson, *Oxford Research Encyclopedia of Climate Science*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190228620.013.369>
- Andi, S. (2020). How People Access News about Climate Change. Digital News Report. Oxford: Reuters Institute for the Study of Journalism. Retrieved January 10, 2024, from <https://www.digitalnewsreport.org/survey/2020/how-people-access-news-about-climate-change/>
- Athira, T. A., & Karthika, C. (2021). Social media climate change communication: A study to identify which kind of visual representation is preferred in social media climate change communication in Kerala. *Annals of the Romanian Society for Cell Biology*, 25(6), 9382-9392.
- Brantner, C., Lobinger, K., & Wetzstein, I. (2011). Effects of visual framing on emotional responses and evaluations of news stories about the Gaza conflict 2009. *Journalism & Mass Communication Quarterly*, 88(3), 523-540.
- Brulle, R. J., Carmichael, J., & Jenkins, J. C. (2012). Shifting public opinion on climate change: an empirical assessment of factors influencing concern over climate change in the US, 2002-2010. *Climatic change*, 114(2), 169-188.
- Caple, H. (2013). *Photojournalism: A social semiotic approach*. Palgrave Macmillan.
- Chapman, D. A., Corner, A., Webster, R., & Markowitz, E. M. (2016). Climate visuals: A mixed methods investigation of public perceptions of climate images in three countries. *Global Environmental Change*, 41, 172-182.
- Chong, D., & Druckman, J. N. (2007). Framing theory. *Annual Review of Political Science*, 10, 103-126.
- Chong, D., & Druckman, J. N. (2011). Identifying frames in political news. In E. Busy & R. L. Holdert (Eds.), *The sourcebook for political communication research: Methods, measures, and analytical techniques* (pp. 238-267). Routledge.
- DiFrancesco, DA., & Young, N. (2011). Seeing climate change: The visual construction of global warming in Canadian national print media. *Cultural geographies*, 18(4), 517-536.
- Doyle, J. (2007). Picturing the clima (c) tic: Greenpeace and the representational politics of climate change communication. *Science as culture*, 16(2), 129-150.
- Duan, R., Zwickle, A., & Takahashi, B. (2017). A construal-level perspective of climate change images in US newspapers. *Climatic Change*, 142, 345-360.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of communication*, 43(4), 51-58.
- Farkas, X., Jackson, D., Baranowski, P., Bene, M., Russmann, U., & Veneti, A. (2022). Strikingly similar: Comparing visual political communication of populist and non-populist parties across 28 countries. *European Journal of Communication*, 37(5), 545-562.
- García-Perdomo, V., Salaverría, R., Brown, D. K., & Harlow, S. (2018). To share or not to share: The influence of news values and topics on popular social media content in the United States, Brazil, and Argentina. *Journalism studies*, 19(8), 1180-1201.
- Gifford, R. (2011). The dragons of inaction: psychological barriers that limit climate change mitigation and adaptation. *American psychologist*, 66(4), 290.
- Hannigan, J. (2006). *Environmental sociology*. Routledge
- Hayes, S., & O'Neill, S. (2021). The Greta effect: Visualising climate protest in UK media and the Getty images collections. *Global Environmental Change*, 71, Article 102392.
- Highfield, T., & Leaver, T. (2016). Instagrammatics and digital methods: Studying visual social media, from selfies and GIFs to memes and emoji. *Communication Research and Practice*, 2(1), 47-62.
- Hornik, J., Satchi, R. S., Cesareo, L., & Pastore, A. (2015). Information dissemination via electronic word-of-mouth: Good news travels fast, bad news travels faster! *Computers in Human Behavior*, 45, 273-280.
- Hossain, M. (2023, July 18). *Nothing but FB. Why Bangladeshis never took to Twitter, Threads and the like*. *The Business Standard*. Retrieved November 20, 2023, from <https://www.tbsnews.net/features/panorama/nothing-fb-why-bangladeshis-never-took-twitter-threads-and-667186>
- Joffe, H. (2008). The Power of Visual Material: persuasion, emotion and identification. *Diogenes*, 55(1), 84-93.
- Kangas, J. (2019). Picturing two modernities: Ecological modernisation and the media imagery of climate change. *Nordicom Review*, 40(1), 61-74.
- Keib, K., Espina, C., Lee, Y. I., Wojdowski, B. W., Choi, D., & Bang, H. (2018). Picture this: The influence of emotionally valenced images, on attention, selection, and sharing of social media news. *Media Psychology*, 21(2), 202-221.
- León, B., & Erviti, M. C. (2015). Science in pictures: Visual representation of climate change in Spain's television news. *Public Understanding of Science*, 24(2), 183-199.
- León, B., Negrodo, S., & Erviti, M. C. (2022). Social Engagement with climate change: principles for effective visual representation on social media. *Climate Policy*, 22(8), 976-992.
- Lester, L., & Cottle, S. (2009). Visualizing climate change: Television news and ecological citizenship. *International Journal of Communication*, 3, 920-936.
- Leviston, Z., Price, J., & Bishop, B. (2014). Imagining climate change: The role of implicit associations and affective psychological distancing in climate change responses. *European Journal of Social Psychology*, 44(5), 441-454.
- Lopes, L. S., & Azevedo, J. (2023). The Images of Climate

- Change over the Last 20 Years: What Has Changed in the Portuguese Press? *Journalism and Media*, 4(3), 743-759.
- Lorenzoni, I., Nicholson-Cole, S., & Whitmarsh, L. (2007). Barriers perceived to engaging with climate change among the UK public and their policy implications. *Global environmental change*, 17(3-4), 445-459.
- Mavrodieva, A. V., Rachman, O. K., Harahap, V. B., & Shaw, R. (2019). Role of social media as a soft power tool in raising public awareness and engagement in addressing climate change. *Climate*, 7(10), 122.
- Messaris, P., & Abraham, L. (2001). The role of images in framing news stories. In S. Reese, O. H. Gandy Jr., & A. E. Grant (Eds.), *Framing public life* (pp. 215–226). Routledge.
- Metag, J., Schäfer, M. S., Fuchsli, T., Barsuhn, T., & Kleinen-von Königslöw, K. (2016). Perceptions of climate change imagery: Evoked salience and self-efficacy in Germany, Switzerland, and Austria. *Science Communication*, 38(2), 197–227.
- Mooseder, A., Brantner, C., Zamith, R., & Pfeffer, J. (2023). (Social) Media Logics and Visualizing Climate Change: 10 Years of climatechange Images on Twitter. *Social Media+ Society*, 9(1), 1-14.
- Motel, S. (2014). *Polls show most Americans believe in climate change, but give it low priority*. Pew Research Center. Retrieved November 20, 2023, from <https://www.pewresearch.org/shortreads/2014/09/23/most-americans-believe-in-climate-change-but-give-it-low-priority/>
- Murthy, D., Gross, A., & McGarry, M. (2016). Visual social media and big data. Interpreting Instagram images posted on Twitter. *Digital Culture & Society*, 2(2), 113-134.
- Nicholson-Cole, S. A. (2005). Representing climate change futures: a critique on the use of images for visual communication. *Computers, environment and urban systems*, 29(3), 255-273.
- Nisbet, M. C. (2011). *Climate shift: Clear vision for the next decade of public debate*. American University School of Communication. Retrieved November 20, 2023, from <https://climateshiftproject.org/files/report/climate-shift-clear-vision-for-the-next-decade-of-publicdebate/>
- O’neill, S. J. (2013). Image matters: Climate change imagery in US, UK and Australian newspapers. *Geoforum*, 49, 10-19.
- O’neill, S., & Nicholson-Cole, S. (2009). “Fear won’t do it” promoting positive engagement with climate change through visual and iconic representations. *Science communication*, 30(3), 355-379.
- O’Neill, S. J., & Smith, N. (2014). Climate change and visual imagery. *Wiley Interdisciplinary Reviews: Climate Change*, 5(1), 73–87.
- O’Neill, S. J., Boykoff, M., Niemeyer, S., & Day, S. A. (2013). On the use of imagery for climate change engagement. *Global Environmental Change*, 23(2), 413–421.
- Ogunjinmi, A., Sunday, O. R., Ogunjinmi, K. O., & Adekoya, O. E. (2016). Influence of social media on climate change knowledge and concerns. *Nigerian Journal of Agriculture, Food and Environment*, 12(4), 23-30.
- Painter, J., Erviti, M. C., Fletcher, R., Howarth, C., Kristiansen, S., León, B., & Schäfer, M. S. (2016). *Something old, something new: Digital media and the coverage of climate change*. Reuters Institute for the Study of Journalism. Retrieved October 5, 2023, from <https://reutersinstitute.politics.ox.ac.uk/our-research/something-old-something-new-digital-media-and-coverage-climate-change>
- Painter, J., Kristiansen, S., & Schäfer, M. S. (2018). How ‘digital-born’ media cover climate change in comparison to legacy media: A case study of the COP 21 summit in Paris. *Global Environmental Change*, 48, 1–10.
- Pearce, W., Özkula, S. M., Greene, A. K., Teeling, L., Bansard, J. S., Omena, J. J., & Rabello, E. T. (2020). Visual cross-platform analysis: Digital methods to research social media images. *Information, Communication & Society*, 23(2), 161–180.
- Rebich-Hespanha, S., Rice, R. E., Montello, D. R., Retzloff, S., Tien, S., & Hespanha, J. P. (2015). Image themes and frames in US print news stories about climate change. *Environmental Communication*, 9(4), 491-519.
- Rose, G. (2016). *Visual Methodologies: An Introduction to Researching with Visual Materials*. SAGE Publications.
- Roser-Renouf, C., Maibach, E., Leiserowitz, A., & Rosenthal, S. (2016). *Global warming’s six Americas and the election, 2016*. Yale Program on Climate Change Communication. Retrieved November 20, 2023, from <http://climatecommunication.yale.edu/publications/sixamericas-2016-election/>
- Schäfer, M. S. (2012). Online communication on climate change and climate politics: a literature review. *Wiley Interdisciplinary Reviews: Climate Change*, 3(6), 527-543.
- Scheufele, D. A., & Tewksbury, D. (2007). Framing, agenda setting, and priming: The evolution of three media effects models. *Journal of communication*, 57(1), 9-20.
- Seegerberg, A. (2017). Online and Social Media Campaigns For Climate Change Engagement. In A. Seegerberg, *Oxford Research Encyclopedia of Climate Science*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190228620.013.398>
- Smith, N. W., & Joffe, H. (2009). Climate change in the British press: The role of the visual. *Journal of Risk Research*, 12(5), 647–663.
- Temmerman, M., & Mast, J. (2021). *News Values from an Audience Perspective*. Cham: Palgrave Macmillan
- Vraga, E. K., Anderson, A. A., Kotcher, J. E., & Maibach, E. W. (2015). Issue-specific engagement: How Facebook contributes to opinion leadership and efficacy on energy

- and climate issues. *Journal of Information Technology & Politics*, 12(2), 200–218.
- Weber, P. (2014). Discussions in the comments section: Factors influencing participation and interactivity in online newspapers' reader comments. *New media & society*, 16(6), 941-957.
- Wilkinson, K. M., O'Neill Zimmerman, T., & Light, J. (2021). Visual attention to cued targets in simulated aided augmentative and alternative communication displays for individuals with intellectual and developmental disabilities. *Journal of Speech, Language, and Hearing Research*, 64(5), 1726-1738.
- Zeng, L. (2022). Chinese Public Perception of Climate Change on Social Media: An Investigation Based on Data Mining and Text Analysis. *Journal of Environmental and Public Health*, 2022(1), 6294436.
- Ziegele, M., Breiner, T., & Quiring, O. (2014). What creates interactivity in online news discussions? An exploratory analysis of discussion factors in user comments on news items. *Journal of Communication*, 64(6), 1111-1138.
- Zolkepli, I. A., & Kamarulzaman, Y. (2015). Social media adoption: The role of media needs and innovation characteristics. *Computers in Human Behavior*, 43, 189–209.