

Sensemaking and Media Logic of Filipino Environmental Activist Groups in Communicating Climate Science and Action

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Abstract

Climate change is a reality felt across all sectors of society and in many countries. The Philippines, a developing country, has been cited as one of the most vulnerable countries to climate change even though several reports point to developed countries as major contributors of historical greenhouse gas (GHG) emissions. With the release of the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), it was concluded that the global surface temperature will continue to increase and may exceed the 1.5-degree Celsius threshold. This makes climate change the most serious issue among other environmental problems and requires concerted effort from all levels of government, public and private sectors, and civil society. One of the crucial voices in the climate change discussions is the environmental activist groups. Multiple case studies of three mainstream and three grassroots environmental activist groups based in the National Capital Region (NCR) and provinces showed that they consult science and use media to communicate climate action in their online and on-the-ground campaigns. Their understanding of climate science allows them to perform their roles and functions and communicate effectively with other change agents such as the government, scientific community, industry, media, and ordinary citizens. They likewise use social media accounts to meet where their audiences mostly are and produce creative multimedia materials imbued with specific climate action messages. This study proves that environmental activist groups are critical sources of climate change-related messages. They demonstrate high value for research and social media as foundations for their communication strategies.

Keywords: climate change, climate science, environmental activist groups, media logic, sensemaking

Introduction

The climate is changing. It is an irrefutable truth backed up by stark evidence that points to its widespread impacts on both the environment and humanity.

Climate change refers to any long-term shifts in the average temperature and weather patterns in a region or on the planet because of natural variability or human activities (Climate Change Commission, 2018; Intergovernmental Panel on Climate Change, 2014; Unday et al., 2010). It manifests through sea level rise, increase in temperature, and occurrence of extreme weather events such as super typhoons and intense drought.

Now, it is profoundly felt across the world, and more significantly, in the Philippines. The dry season is becoming drier. Typhoons are getting stronger and occurring even in what is supposed to be the dry season. Against this backdrop, Gabriel, Santiago, and Casimiro (2021) affirmed that climate-related disasters are becoming more frequent and destructive.

In the Philippines, climate risks are felt across sectors including agriculture, coastal ecosystems, water and energy resources, infrastructure and services, and human health (USAID, 2017). For instance, strong typhoons can cause landslides, mudslides, and damage to human settlements and infrastructures. Intense drought can affect agricultural production, eventually compromising food security in some areas. Unpredictable weather conditions can give rise to water-, food-, and vector-borne illnesses like malaria and dengue. In fact, the World Health Organization (2021) declared that climate change is expected to cause about additional 250 000 global deaths each year between 2030 and 2050 due to malaria, malnutrition, diarrhea, and heat stress. Worst of all, more frequent extreme weather events can lead to damages to hard-earned properties, injuries, and loss of lives.

From this vantage point, climate change assumed the ‘master discourse’ (Hansen, 2011; Moser & Dilling, 2007) among other issues and discussions affecting the environment. At the same time, it has been

the top agenda of numerous environmental groups (Dai, Zeng, & Wang, 2016).

Multi-sectoral climate action then proves critical in averting the catastrophic outcomes of climate change, as well. Aside from State actors such as national and local governments that contribute to climate change governance, environmental activists in particular are critical voices in environmental communication and policy (Schmidt, 2012).

In the Philippines, these environmental activist groups are pivotal in working against dubious and destructive projects or practices that tend to evince a business-as-usual mindset at the expense of the environment. The rise of environmental groups in the 1970s became a symbol of the civil society's fight against harmful mining operations and development projects during the Marcos regime (Holden, 2005; Sunga, 2010).

Interestingly, Maesele (2009), Fähnrich (2018), and Fähnrich, Riedlinger, and Weitkamp (2020) argued that environmental activists are alternative science communicators who mediate scientific information to inform policy and public opinion. They use scientific evidence to support their arguments and gain legitimacy, as well as translate scientific findings into a language that people would appreciate and understand.

At the same time, they mediatize climate change through their media strategies (Doyle, 2009; Jamison, 1996; Rucht, 2004; Vu et al., 2021). They conduct awareness-raising activities and educational campaigns or programs that cultivate not only climate change awareness but also motivational change among local communities (Brüggemann & Rödder, 2020).

The scholarship on environmental activist groups and their role in climate change discourse shows interesting areas worthy of further research.

Firstly, existing literature on environmental activism has heavily focused only on motivations for activist behaviors among college students (Fung & Adams, 2017) and adults (Chawla & Cushing, 2007; Fielding et al., 2008; Marquart-Pyatt, 2012), but little is known about the work, communication and media practices, and information use of environmental activists.

Secondly, the explanation as to how environmental activist groups use science and translate scientific information into their individual epistemology and professional contexts is scant (Eden, 2010; Jasanoff; 2012; Maesele, 2009). This is especially that science communication research has merely centered on professional science communicators such as science journalists and public relations officers from science organizations but has widely overlooked alternative science communicators such as environmental activist groups.

Thirdly, most studies examined climate change communication by environmental groups on Twitter (Anderson & Huntington, 2017; Holmberg & Hellsten, 2015; Veltri & Atanasova, 2015), but Vu et al. (2021) stressed the need to examine other possible platforms to gain a nuanced understanding of the role of communication and media in environmental activist groups.

Lastly, there is a growing interest in examining collective sensemaking and actions in both bottom-up or grassroots and institutionally driven or mainstream social movements, which Obregón and Tufte (2017) also suggested as one of the research agendas that would prove interconnections between communication and social movements.

To address these interesting gaps, this study has two manifold purposes. The first is to investigate the sensemaking of climate science by environmental activist groups. The second is to explore the media logic that they implement in communicating climate action after they have made sense of scientific information on climate change.

Sensemaking is “the cognitive and communicative processes by which humans understand, describe, and relate to phenomena” (Wibeck & Linnér, 2021, p. 11). In this study, it involves the research, selection, and use of scientific information on climate change by environmental activist groups. Media logic refers to the various media, formats, and processes that shape and frame media content (Mazzoleni, 2008). Altheide (2015) also defined this as the process by which an organization or media uses a medium to transmit and communicate information. In this study, this term covers the media use, media product, media production process, and climate action messages of the environmental activist groups.

This study is among a limited number of scholarly works that investigate climate change communication by environmental activist groups in the Philippines using a qualitative approach. Most studies on climate change and environmental activism are usually situated in the Western context (Erlyani et al., 2020; Fähnrich, 2018; Fung & Adams, 2017) and are viewed in the lens of environmental science, sociology, and psychology. Also, most of these studies employ quantitative and scale-based methods in studying perceptions and determinants of environmental activism (Dietz et al., 1998; Dono et al., 2010; Li & Chen, 2015; Lubell, Zahran, & Vedlitz, 2007).

The researchers then aimed to enrich the existing literature on this research topic via providing a communication perspective. This study contributes to the empirical and analytical understanding of the role of environmental activist groups in the politics of climate change through a specific focus on their sensemaking of climate science and implementation of media logic to communicate climate action.

This study answered the main research question, “How do environmental activist groups make sense of climate science and implement a certain media logic in communicating climate action?”

Specifically, the researchers sought to:

1. determine the aims of environmental activist groups in their climate activism;
2. understand the process by which environmental activist groups make sense of climate science;
3. examine the media logic that environmental activist groups implement in communicating climate action; and
4. describe their successes and challenges in making sense of climate science and implementing media logic in communicating climate action.

Methods

This study used a qualitative research approach, particularly a multiple case study design, which according to Yin (2009), is used to explore an issue or problem using multiple cases in real-life or contemporary settings.

For this study, the researchers examined multiple cases — three mainstream and three grassroots environmental activist groups — to show an in-depth picture of their varied practices, experiences, and perspectives on sensemaking and media logic toward communicating climate science and action. These selected environmental activist groups conduct climate change campaigns and perform any of the difficult ecological behaviors that Séguin, Pelletier, and Hunsley (1998) cited to characterize environmental activism.

On the one hand, mainstream environmental activist groups are groups that are driven by either the State or internationally known organizations. They are characterized by being usually media savvy and having adequate capital, human resources, technology, and expertise (Dai, Zeng, & Wang, 2016). In this study, these are groups situated in the National Capital Region such as 350 Pilipinas, AGHAM-Advocates of Science and Technology for the People (AGHAM), and Youth Strike 4 Climate Philippines (YS4C PH).

On the other hand, grassroots environmental activist groups are groups arising from local communities that are most often susceptible to climate change impacts. They are groups small in number and scale and have weak social credibility and inadequate resources such as media (Dai, Zeng, & Wang, 2016; Deng, 2004). In this study, these groups are based in the regions, namely, One Child, One Tree (OCOT), Pangasinan People's Strike for Environment (PPSE), and Young Bataños for Environmental Advocacy Network (YoungBEAN).

Specifically, qualitative data were drawn from online in-depth interviews (IDIs) with the groups' leaders whose positions are classified as convenors, founders, chairpersons, or national coordinators, as well as online focus group discussions (FGDs) with the members of the communication teams or working groups of these groups. Each interview

and FGD were performed one group at a time and lasted for an hour and 30 minutes. There were six informants for the IDIs and 16 members for the FGDs.

A semi-structured interview protocol consisting of 20 questions was used for the online IDI, while a semi-structured FGD guide consisting of 38 questions was used for the online FGD.

From the qualitative data gathered using the abovementioned methods, the researchers sought to describe the sensemaking and media logic of environmental activist groups in detail, identify major themes within each group (within-case analysis), analyze across groups (cross-case analysis), and provide interpretations of the meanings derived from these cases.

Furthermore, the analysis of qualitative data was a multi-step and iterative process to create a workable set of codes and themes that emanate from the raw data sets.

Specifically, the six steps of thematic analysis by Braun and Clarke (2006) were followed, such as familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining these themes, and writing the report.

To give a better sense of the findings, the researchers likewise selected quotes from the online IDI and FGD transcripts, interpreted these data based on larger research literature written by previous scholars, and added these in the results and discussion part of this study.

Results and Discussion

This study examined the sensemaking and media logic of Filipino environmental activist groups. It was found that the environmental activist groups make sense of climate science through painstaking research, selection, and use of scientific and humanistic sources of climate change information. Meanwhile, their media logic is characterized to be systematic, responsive to the information needs of audiences, novel in terms of data presentation, and adaptive to new channels of information dissemination, that is, through social media.

1. Aims of Environmental Activist Groups in Their Activism

The groups all aim a multisectoral approach that considers the crucial role to play by the government, scientific community, industry, media, and ordinary citizens. Aside from the significant contributions of each sector, they believe in climate justice where industrialized countries with huge emissions are held into account and natural resources are maximized for the benefit of the Filipinos. Just transition to renewable energy is also cited as necessary to achieve a low-carbon economy and promote demand for green energy options rather than power grids controlled by a few vested interests. While collective action is pushed by several informants, some of them still perceive individual lifestyle change as a micro shift that can gain momentum and create good examples for others to join the environmental cause.

1.1. Multisectoral climate action

Both the mainstream and grassroots environmental activist groups aim for a multisectoral approach involving the government, industry, scientific community, media, and ordinary citizens. Their answers highlight the importance of collective, whole-of-society efforts over individual initiatives.

Because the key informants view the government as a key player in the issue of climate change, they aim to encourage it to declare a climate emergency, listen to environmental activist groups like them, refrain from red-tagging, harassment, and violation of human rights, become more proactive than reactive to climate impacts, and implement policies or projects that benefit Filipinos.

FGD Member 15 from YoungBEAN said, “*Makinig sila. Eto kasi ‘yung pinakamahalaga eh. Kasi ang nakikita nating problema, napakarami nilang mga programa na hindi talaga lapat sa katotohanan, hindi lapat sa komunidad, at hindi talaga nakakatulong.*” [They must listen because this is what is important. We notice that the problem is they implement several programs that are not fit and relevant to the realities in the community.] According to her, in so doing, the government can ensure

that the policies it implements are appropriate to the conditions of the communities they intend to serve.

FGD Member 13 from PPSE believes that the government's participation in educational discussions (EDs) and inclusion of environmental groups in climate talks can help translate national policies that will benefit ordinary citizens. They also think that engaging in dialogues with the government will allow them to raise community-level problems and rally support for their advocacies for the environment.

The same view is supported by FGD Member 5 from AGHAM who said that when climate activists and environmental groups maintain their dialogues with the government, public officials will be more obligated to address community issues of climate change.

As for the industries, they are encouraged to shift to renewable sources of energy, engage in eco-friendly practices, and resist greenwashing. All grassroots environmental activist groups, including 350 Pilipinas and YS4C PH, mentioned these in their answers.

IDI Informant 4 from OCOT shared that her group critically assesses some voluntary initiatives of businesses to plant mangrove trees, as she does not want to fall prey to corporate interests. She said, “*‘Yung ibang organizations kasi, ‘yung heart nila nasa tamang lugar naman pero they don’t know na mas makaka-contribute lang sila sa emissions na makaka-damage. Madami ‘yan, sangkatutak, linggo-linggo yan. Kesyo CSR po kami.*” [Other organizations have the heart for volunteer work. But they do not know they may only contribute to harmful emissions.] She reasoned that there were instances some organizations would tell them their intention to plant mangrove trees but whose number was not enough to compensate for the carbon emissions they would generate when they transport the plants from one point to Bulacan by private vehicle.

The worry of OCOT about corporate interests becoming the dominant driver for organizational corporate social responsibility (CSR) activities was echoed by YS4C PH. FGD Member 7 from YS4C PH believes that businesses can show their deep and true commitment to environmental protection by resorting to eco-friendly products and services even in the absence of pressure from the government. She stated, “*...mas maging genuine kung anuman ‘yung sinasabi nilang*

environmentally friendly practices *na ginagawa nila... kahit na walang* mandates or legislations *na nagpo-prohibit sa kanila or nag-go-govern, sana mas piliin nila mag-produce ng* better and greener alternatives for the consumers.” [Businesses must be genuine about what they proclaim as their environmentally friendly practices. I hope they choose to produce better and greener alternatives for the consumers even in the absence of mandates or pieces of legislation prohibiting or governing them.]

Moreover, environmental activist groups argued that climate scientists must popularize and laymanize their scientific findings about climate change, join in street protests, and combat fake news and climate denialism.

Mainstream environmental activist groups such as 350 Pilipinas and AGHAM, as well as grassroots activist groups such as OCOT and PPSE encouraged scientists to immerse themselves in communities to learn the culture, experiences, and language of residents.

IDI Informant 1 from 350 Pilipinas said that scientists must highlight and obtain narrative experiences of community members and make this information accessible to them, as well. He supported this statement by saying, “*Yung isa nating kahilingan sa mga scientific community ay mapaglingkuran ‘yung mismong inaaral nila, gusto nating ipaksa nila lagi ay ‘yung papunta sa kagalingan ng mga tao, lalo ng mga vulnerable na tao.’*” [We wish the scientific community to serve the sites or people they study. We want them to center their advocacies on the betterment and welfare of people, especially those vulnerable.]

To also popularize climate science, FGD Member 2 from 350 Pilipinas and FGD Member 13 from PPSE suggested the removal of paywalls to scientific findings on climate change so that many people could read them. This way, people will not become victims of disinformation peddled by some unconscionable persons promoting false solutions to climate change, or worse, denying the climate change impacts. This is true considering that climate change is perceived as a distant and abstract concept for ordinary people (Scanell & Gifford, 2013).

However, FGD Member 3 from AGHAM and IDI Informant 5 from PPSE mentioned that limited and lack of funding for scientific research is a problem in popularizing climate science.

FGD Member 3 said, “... *may mga* scientists *na gustong gumawa ng* research *kaso siguro* they are limited *kasi hindi naa-approve ang* funding proposal *nila* by the government *kasi iba ‘yung* priority *ng* government.” [Some scientists want to conduct research but they may be limited because their funding proposals are not being approved and prioritized by the government.] He said for instance that the Department of Science and Technology (DOST) is more interested in technology development than basic research, such as environmental research, thereby affecting the capability and inclination of scientists to invest in knowing about the impacts of climate change and generating solutions to this problem.

The participants want the media to increase their reports on climate change, champion and align with the advocacies of environmental groups, and avoid falling into the traps of corporate greenwashing.

350 Pilipinas, AGHAM, and OCOT all concurred that the media are powerful agents in information dissemination, and thus, believe that they must amplify and increase their reports on scientific findings about climate change.

FGD Member 5 from AGHAM and FGD Member 11 from OCOT underscored that there are already pieces of evidence pointing to the interest of media in reporting climate change unlike before, but they hope the reports can be more nuanced and audience-specific.

FGD Member 11 from OCOT said:

“... *alamin din muna nila siguro’ yung* audience *nila para mas tama yung ma-deliver nilang* message. *Kasi dati, nagsimula muna kami sa pakikipag-usap dun sa mga* audience *para mas maging tama ‘yung* message *na binibigay namin sa kanila, kung ano ‘yung gusto nilang* malaman *para mas lalong makakonek ‘yung mga tao.’* [They must identify their audiences to deliver their messages efficiently. We started by interacting with our target

audiences to ensure the delivery of the right messages to them. We asked them what they wanted to know to further connect with people.]

For YS4C PH, it is necessary that the media also support and champion the advocacies of different environmental activist groups. YoungBEAN added something to this point by inviting the media to join in their on-the-ground campaigns for climate justice and cover the real experiences of marginalized sectors most affected by climate change.

Responsible media reportage, for the participants in this study, is crucial as the media hold up a mirror to deep-seated issues of society. It extends climate change awareness and knowledge and brings to the fore novel or existing actions that media audiences can perform. This is supported by Dahlstrom's (2014) assertion that the mass media are a resource for the public to learn about scientific topics such as climate change. Also, Swain (2012) emphasized that the effectiveness of mitigation and adaptation strategies depends on how people understand these through mass media.

All grassroots environmental activist groups and mainstream activist groups such as 350 Pilipinas and AGHAM aim to persuade citizens to join the scientists and environmental activist groups in their fight for the environment.

For one, FGD Member 12 from PPSE shared that it is making rounds in elementary and high schools and higher education institutions (HEIs) to conduct its educational discussions in hopes of arousing the consciousness of students and inciting them to action or membership in its group. He emphasized that the cultural shift from individual actions to collective actions is stressed in these EDs as a necessary step to convey that climate change response is not a journey by one.

Meanwhile, FGD Members 10 and 11 from OCOT added that they envision a future where it is not only OCOT or its existing volunteers who are taking the lead in mobilizing the community. Specifically, they want the residents of Hagonoy, Bulacan to plant mangroves and native trees with them or sign up as new volunteers.

For YoungBEAN, they desire a citizenry that knows how to self-organize and mobilize fellow residents to join the fight against development-aggressive projects. To do this, the group aims to start by involving the youth in its initiatives. IDI Informant 6 from the group said, *“Ang goal ng YoungBEAN ay pakilusin ‘yung mga kabataang Bataenyo para makiisa sa global climate action na ating isinasagawa, upang magbigay-bose, upang manindigan para sa komunidad, para sa kalikasan, at para sa aming kinabukasan.”* [The goal of YoungBEAN is to move Bataño youth into global climate action for them to give a voice for others and stand up for our community, environment, and future.]

1.2. Climate justice

The insights from both mainstream and grassroots environmental activist groups uphold the argument of See et al. (2024) that climate justice issues are evident on international and local scales. At the international level, there are countries heavily responsible for GHG emissions but are least likely to bear harmful consequences.

Mainstream environmental activist groups thus assign the responsibility to the highly industrialized Global North. Whereas at the local level, unequal vulnerabilities are felt between urban and rural areas. Grassroots environmental activist groups viewed climate change in the context of their local experiences, which they think are dissimilar to other regions that have a wealth of resources and opportunities to escape from the ill effects of climate change.

IDI Informant 2 from AGHAM held that climate change is not only a science concept but rather a conflation of political, economic, and social factors. He noted that it involves an imbalance dynamic between the very few who take advantage and exploit natural resources and several people who are left underserved and robbed of opportunities to live with security and health. Thus, he suggested a critical analysis of society by looking into who gains and loses out in development projects.

IDI Informant 2 said:

“So *‘yung analysis namin* as a group, you cannot just talk about climate change as a fact, as a data. We cannot discuss the climate change, *o ang mas tinatawag namin* on our end *na* climate imperialism *at* climate crisis, *kung ‘di natin tinitingnan kung sino ba ‘yung mas nagbe-benefit at nae-exploit [ng development projects]?’* [Our analysis in the group is you cannot just talk about climate change as a fact, as data. We cannot discuss climate change, or what we usually call on our end as climate imperialism and climate crisis when we do not look at who is benefiting and who is being exploited (by development projects).]

This view is reinforced by IDI Informant 1 from 350 Pilipinas who said that rich and developed countries are the true major carbon emitters. It does not even help that the Philippines is disadvantaged geographically, experiences seasonal changes, and has no dedicated facilities for climate-adaptive systems, infrastructures, and policies, according to IDI Informant 3 from YS4C PH.

IDI Informant 3 from YS4C PH also built on the notion of social justice by investing in actions that are a win-win situation for both the environment and the people. He pointed out that no sector in society must be left behind. For example, he said that the closure of coal-fired power plants must not be immediately performed when there are no green jobs created yet for the employees who would be laid off from work.

According to Ritchie (2019), the heavy emitters of carbon in the atmosphere since the time are the United States, which has been responsible for 25 percent of the total historical emissions, and the European Union at 22 percent. This was similarly held by the co-convenor of PPSE who insisted on demanding much more from imperialist countries such as Europe, the US, Japan, and China.

Two environmental activist groups, such as AGHAM and PPSE, introduced the idea of national industrialization during their respective in-depth interviews. National industrialization is a process by which various industries in the country are established and developed to help stimulate

and provide for its own economic needs while transitioning from agricultural to industrial production (AGHAM, 2017).

IDI Informant 2 from AGHAM advocated national industrialization to make sure that it is the Filipinos who are benefitting from the country's natural resources and economic outputs.

IDI Informant 2 said:

“Kung meron tayong national industrialization, tayo mismo ang makikinabang sa mga resources natin. Kung magmimina naman tayo ng resources natin, alam natin kung gaano lang kadaming resources ‘yung kailangan nating minahin. Hindi siya usapin ng overexploitation. And kapag nagmina tayo, saan ito patungo? Gagawa tayo ng mga industries na makakatulong sa Pilipinas. Kaya natin gumawa ng Doppler radar na makakatulong sa pag-assess ng kung meron bang parating na mga bagyo, malaking tulong siya kasi hindi mo na kailangan bumili sa ibang bansa. Meron kang sariling kakayanan na mag-analyze.” [If we implement national industrialization, we are the ones who will benefit from our natural resources. We will know how much to mine to prevent overexploitation of our resources. We know where it will be used. We can create industries that will help the Philippines. We can create a Doppler radar that can assess the occurrence of typhoons, which is of big help because we no longer need to buy from other countries.]

IDI Informant 2 clarified, however, that national industrialization does not mean zero external funding from foreign countries. External funding is still necessary, but he reminded the government to clarify the extent of the funding and ensure that the country gains the most from these studies and the resources used in conducting them.

IDI Informant 5 from PPSE acknowledged the fact that the Philippines is one of the mineral-rich countries in the world with its high production of gold, copper, nickel, and chromite, which is also recorded

by the IBON Foundation (2016). Because these minerals are all necessary for industrial development, he wants the government to utilize these to create types of machinery and generate jobs for experts, scientists, and technicians who would further develop the country's resources.

1.3. Just transition to renewable energy

350 Pilipinas, YoungBEAN, and PPSE all share the same view that renewable energy is a cleaner, cheaper, more affordable, and more abundant source of energy. They agreed that fossil fuels are dirty sources of energy that must be put to an end.

FGD Member 2 from 350 Pilipinas pointed out that the good thing about renewable energy is it is locally sourced, unlike fossil fuel or gasoline use that is imported. FGD Members 14, 15, and 16 from YoungBEAN and IDI Informant 5 from PPSE believe that the Philippines has the potential to depend on renewable energy because there are already available resources in the community or environment. They all mentioned that solar, hydro, wind, and sea current energies can be maximized and explored, the same renewable energy sources (RES) suggested by Ellaban et al. (2014).

IDI Informant 5 from PPSE said:

“Kung kaya sana na ma-tap ang available na sa community, mas maigi. Halimbawa, kung malapit sa tabing bundok man ‘yan, o may maliit na waterfalls, pwedeng ma-tap kasi ‘yan for hydropower. Sa tabing bundok, baka pwedeng magkaroon dun ng windmills. Ang ibig kong sabihin, parang community-based na kaysa nakaangkla sa power grids na nangangailangan ng bigger coverage areas, para rin sana mas madali para sa mga malalayong isla... Kung community-based [ang energy sources] kasi, mas sustainable.” [It is better if available resources in the community can be leveraged. For example, waterfalls near mountains can be tapped for hydropower. Windmills may be

built near mountains. Community-based resources must be used overpower grids that require bigger coverage areas to be constructed. This way, far-flung islands can also be supplied with energy. Community-based energy sources are more sustainable.]

IDI Informant 5 advocates renewable energy sources in the community to veer away from the evident and deep-seated problems associated with heavy centralization and privatization of the energy sector, which deprives far-flung areas of cheaper and reliable electricity to power up their households.

The shift to renewable energy, according to IDI Informant 1 from 350 Pilipinas, can help lower carbon footprints and emissions in the country. This is aligned with the Department of Energy's (DOE) target to achieve 35 percent renewable energy by 2040, as well as the UN's commitment to have more RES by 2030, which were points significantly stressed by FGD Member 2 from 350 Pilipinas. It is important to note that the goal of substantially increasing the share of renewable energy in the global energy mix is stipulated in Sustainable Development Goal 7 targets (UN, 2023). The International Renewable Energy Agency (IRENA) (2021), in its World Energy Transition Outlook, even showed an optimistic estimate that 90 percent of the world's electricity would and should come from RES by 2050, assuming that policies pushing for divestment from fossil fuel are maintained and strengthened in the years to come.

350 Pilipinas and PPSE desire a transition to renewable energy that is just. For 350 Pilipinas, just transition means thinking also of the employees or workers who will be affected when fossil fuel industries are halted. Whereas for PPSE, just transition means being wary of the intentions behind renewable energy projects. IDI Informant 5 from PPSE warned, "*Gusto natin mag-transition 'no sa renewable energy siyempre. Kaso lang ginagamit din siya minsan ng mga corporations for greenwashing.*" [Of course, we advocate a transition to renewable energy. But corporations capitalize on this transition for greenwashing.] He

pointed out that some corporations are capitalizing on renewable energy projects to usurp lands and displace natives in certain communities.

1.4. Individual lifestyle change

While there is a growing debate on who has the bigger responsibility for addressing climate change, whether individuals or existing systems and structures, much of the extant literature still points to the importance of individual lifestyle choices in tackling climate change and transitioning to a low-carbon society (Fløttum et al., 2021; Hampton & Whitmarsh, 2023; Ivanova et al., 2020).

350 Pilipinas and OCOT indicated that any individual can make important decisions and actions that are geared toward solving climate change.

IDI Informant 1 from 350 Pilipinas shared that its climate action strategies combine two traditions, namely, individual lifestyle change and community organizing. He illustrated individual lifestyle change as, “*Meron ding lifestyle change na climate action naman. ‘Yung responsibility, ibibigay mo sa individual. ‘Yung mas individualistic na effort na magbabawas ako ng carbon footprint ko, magko-commute ako, maglalakad, magbibisikleta, magbabawas ng basura. ‘Yung individual na effort o initiative.*” [You give the responsibility to individuals. Individual efforts or initiatives, such as reducing personal carbon footprints, commuting, walking, cycling, and managing solid wastes, can be performed.] This description is buttressed by Tvinnereim et al. (2017) when they explained lifestyle change as a way of living that reflects an individual’s attitudes, interests, and values and that is expressed in choices he or she makes in certain activities such as transport, house construction, energy use, consumption, and food waste.

350 Pilipinas promotes individual lifestyle change in its ongoing project on inclusive mobility at the Polytechnic University of the Philippines (PUP). This project aims to convince faculty members and students to use bicycles and public transport as a tactical and strategic means of commuting. They conducted a mobility survey to find out how many at PUP own bicycles, how many use them for school or work, and

who among the school community rides trains, jeepneys, and pedicabs. From the results of the mobility survey, 350 Pilipinas sought pieces of advice and recommendations from experts to determine if there is a necessity for bike rentals and bike facilities like shower areas inside the campus. On a broader level, this project aims to push for viable mass transportation and endorse people-centric over car-centric roads.

The group's focus on transport aligns with the finding of Ivanova et al. (2020) where the most impactful transport-related choices of an individual include riding public transport, walking and cycling, living car-free, and switching to electric vehicles.

As for OCOT, its optimistic disposition toward individual lifestyle change takes root from its background as an environmental activist group. OCOT was conceived because of its founder's values and because of a family practice she wants to preserve. FGD Members 10 and 11 from the group mentioned that the founder of OCOT and her family were fond of planting trees, even when they stayed in the United Kingdom. When they returned to the Philippines, they helped with planting narra trees in 25 schools and mangrove trees in Pugad and Tibaguin, which are two coastal barangays in Hagonoy, Bulacan. They were also successful as a group in putting up a mangrove sanctuary.

To promote individual lifestyle change, OCOT held webinars about household waste management and other practices to mitigate climate change. IDI Informant 4 from OCOT indicated that successful climate actions start from a personal level.

IDI Informant 4 from OCOT said:

*“Climate action kasi starts from *sabi ko nga sa iyo, sa tao*. So, *gusto namin talaga marating ay ma-inculcate sa isip mo bilang tao, bata ka man o matanda, mangingisda ka man o professional, kung ano ‘ng nangyaryari sa ating mundo at sa ating universe and it's about climate change. ‘Yung notion namin na we start in educating people and also pagka na-educate na sila, diyan magdyo-join sila in our actions.*”*
[Climate action starts from the person. We want to instill in them that all that happens on the planet and universe is

because of climate change, regardless of whether you are young or old, fisherfolk or professional. We start with educating people so that they will join in our actions.]

She highlighted that encouraging individuals to change something in their attitude and behavior requires telling them that they are capable of solving climate change. Belief in one's capability to perform something is called self-efficacy. This concept is being used as well to understand human responses to climate change (Kellstedt et al., 2008, as cited in Ung et al., 2015).

2. Sensemaking Process of Environmental Activist Groups

The environmental activist groups use not only scientific reports by well-known and credible institutions such as the IPCC but also local knowledge and experiences of communities that are grappling for ways to fare amid worsening climate change impacts. They vary in terms of the climate change information that they focus on in their research and campaigns, as each of them showed how to build on problems, impacts, and responsibility of specific actors. But their choice of climate change information is affected by their intention to mirror local experiences and engender solutions. Their use of climate change information showed a step-by-step integration that starts from an issue discussed by the internal members and cascaded or validated with the communities they intend to serve. After doing so, they begin to design their respective campaigns. Scientific knowledge and informed-ness about climate change is relevant to the roles, tasks, and interactions of the environmental activist groups.

2.1. Research of climate change information

In terms of research, both mainstream and grassroots environmental activist groups consult different sources of climate change information and have considerations in using these sources.

All grassroots environmental activist groups and mainstream environmental activist groups such as 350 Pilipinas and AGHAM

answered that they consult communities as part of their gathering of scientific information on climate change. This practice of immersing themselves in communities for climate change information reinforces the point of Gyampoh et al. (2008) that harnessing, documenting, and using indigenous knowledge and local experiences are important to contribute to climate change policies.

FGD Members 1 and 2 from 350 Pilipinas viewed communities as a rich source of qualitative data on climate change, such as the storied experiences of members. IDI Informant 1 from the same group thinks of communities as “sites of struggle” where the fight against dirty sources of energy, as well as active people’s organizations and nongovernment organizations, are very much evident. Some of the communities where the group conducted its research projects were Metro Manila and PUP. In Metro Manila, 350 Pilipinas partnered with the Institute of Climate and Sustainable Cities (ICSC) for a study that determined establishments, LGUs, schools, and offices that are bike-friendly. Part of this study surveyed traffic and volume of cyclists during peak hours in the morning and routes where cyclists normally pass through. At PUP, the group also performed a bike count, in coordination with the Center for Environmental Studies and Institute of Technology, to know how many faculty, nonacademic staff, and students are riding on bicycles and public transport. All these data helped 350 Pilipinas with conducting their campaigns on the transition to renewable energy and inclusive mobility.

FGD Member 4 from AGHAM stressed that because its office is situated in the National Capital Region (NCR), they make sure to gather insights from the community through field interviews to provide their partners in the environmental advocacy network and policymakers with localized findings on climate change effects. She said, “Although limited *‘yung capacity ng maraming communities na gumawa ng comprehensive report, kahit papaano, nakakakuha tayo sa kanila ng ibang impormasyon. Lalo na kapag may disaster like bagyo o baha, may mga organized communities na nakukuhanan natin ng developments.*” [Although several communities have limited capacity to write comprehensive reports, we still obtain information from them, especially during disasters like typhoons and floods. There are organized communities from whom we

can seek development.] In light of this problem with the capability of communities to do scientific reporting, the group provides them with technical support or assistance through the Environmental Investigation Mission (EIM).

FGD Member 3 from AGHAM said:

“Yung isa talaga sa pangunahin na ginagawa namin ay to provide technical assistance sa mga communities na nakakaranas ng development aggression. ‘Yung tawag namin sa activity na ito ay Environmental Investigation Mission (EIM), kung saan tumutungo kami sa mga community para aralin ‘yung iba’t ibang epekto ng mga proyekto o certain environmental issues sa kabuhayan, kalusugan, at iba pang aspects ng kalikasan, ng mga affected communities.” [We primarily provide technical assistance to communities experiencing development aggression. We call this activity an Environmental Investigation Mission (EIM) wherein we visit the communities and study the different impacts of projects or certain environmental issues on the livelihood, health, environment, and communities affected.]

For the grassroots environmental activist groups, OCOT shared that it focuses more on human sources than documents for climate change research. FGD Member 11 from OCOT recalled that they sought advice and expertise from a few community members who are opinion leaders in mangrove planting and water and soil conditions. IDI Informant 4 from OCOT added that her communication team conducts field interviews with some residents of the 26 barangays in the municipality to get insights about their experiences of extreme weather events such as extremely hot temperatures and flooding, as well as strong typhoons. The group uses this local data to determine the information that residents already know and need to know. Also, these help them with localizing their campaign

activities in Hagonoy, Bulacan. This is the same case for the PPSE and YoungBEAN in their respective climate change campaigns.

Communities are valuable sources of climate change information because they are the ones directly experiencing climate change impacts firsthand. The community members provide the grassroots environmental activist groups and mainstream activist groups such as 350 Pilipinas and AGHAM with access to local climate trends and expertise, and mitigation or adaptation strategies specific to their contexts.

For instance, 350 Pilipinas and AGHAM whose offices and influence are situated in the National Capital Region (NCR) seek information from cities, proving what Bai et al. (2018) suggested about cities as sites for climate change problems and solutions. The groups' practice of sourcing climate change information from the community likewise demonstrates Yeh's (2015) advice for global climate change research to include local people as a form of knowledge. Even a scientists' organization such as AGHAM has confidence in community knowledge, which is the opposite of what Gaillard and Maceda (2009) noticed about some scientists being reluctant to local knowledge for its subjectivity and lack of rigor.

Apart from the communities where they operate, all environmental activist groups in this study obtain climate change information from the reports of other organizations within their networks. They particularly cited international organizations such as the Intergovernmental Panel on Climate Change (IPCC), Global Witness, 350.org, World Health Organization (WHO), Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), Amnesty International, and United Nations, as well as local organizations such as 350 Pilipinas, Greenpeace Philippines, Kalikasan People's Network for the Environment (Kalikasan PNE), and Youth Advocates for Climate Action Philippines (YACAP).

Both mainstream and grassroots environmental activist groups cited IPCC's Sixth Assessment Report in 2023 as a crucial document to demand urgent action from the government, carbon-major corporations, and developed countries. It can be recalled that a notable finding of the said report is a 50 percent possibility that the world temperature will reach

or exceed 1.5 ° Celsius between 2021 and 2040 (Boehm & Schumer, 2023; IPCC, 2023). The United Nations (UN) Secretary-General António Guterres even warned that the recent estimate by IPCC in the first part of its Sixth Assessment Report is a ‘code red’ for humanity (UN, 2021).

FGD Member 5 from AGHAM described the IPCC reports as a comprehensive study, with nearly 8,000 pages, where they can get key points or big findings they can highlight in their campaign for climate change.

IPCC as a resource for climate change information is understandable given its standing as a knowledge institution, which according to Rosenthal (2022) and Sanz-Menéndez and Cruz-Castro (2019) can be consulted for policy recommendations and scientific aspects of the climate change issue.

Meanwhile, both PPSE and YS4C PH disclosed that they also read reports from Global Witness. The Global Witness is an international NGO founded in 1993 that works on solving issues of exploitation of natural resources, corruption, poverty, and human rights abuses worldwide.

FGD Member 7 from YS4C PH shared, “*Siguro ang specific na mame-mention ko lang is ‘yung Global Witness. Bale sila ‘yung global watchdog for environmental defenders. So, same kaming activists, so dun din kami nagre-rely ng information on the status of Philippine environmental defenders.*” [I can specifically mention Global Witness. It is a global watchdog for environmental defenders, and we rely on it for information of the status of Philippine environmental defenders.] It is important to note that it is the same organization that reported about the perils in the Philippines for land and environmental defenders, reporting the country as the most dangerous in Asia and third in the world (Global Witness, 2021).

Mainstream environmental activist groups such as 350 Pilipinas and AGHAM and grassroots environmental activist groups such as PPSE and YoungBEAN answered that they also get climate change information from the national and local governments, as these institutions capitalize on data when they craft and implement national and local climate policies.

FGD Member 1 and IDI Informant 1 from 350 Pilipinas mentioned the Climate Change Commission (CCC) as a central agency focusing on addressing the climate change impacts and driving solutions.

FGD Member 5 from AGHAM cited the same agency, as well, and acknowledged that the agency is becoming more vocal in demanding urgency of climate actions in the Philippines. However, he also wished that CCC should echo the experiences of local communities in the country and the need for collective action rather than carrying the same narratives of US and global emitters that promote individual responsibility and lack relevance to Filipinos.

YoungBEAN and PPSE expressed that they also consult LGU data.

FGD Member 15 from YoungBEAN emphasized that they consulted their LGUs for population and socioeconomics data, which they can use when conducting small-scale research projects on the perception of residents in Morong, Bataan on coal-fired power plants and nuclear energy. Moreover, they needed government data to know about the land use plan in Bataan, which can help them identify existing industries and potential locations for the establishment of dirty sources of energy.

Whereas FGD Member 13 from PPSE shared that their group consults written reports, social media accounts, and websites of some government agencies depending on the nature of their campaigns as a group. For example, they consult channels of information of the Department of Energy (DOE) for data on recent energy projects of the administration, and of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (Pagasa) for weather reports.

Moreover, all mainstream environmental activist groups, including PPSE, expressed that they never forget to read news media reports to supplement their research.

IDI Informant 1 from 350 Pilipinas mentioned a specific article from the daily newspaper, *The Guardian*. The article is entitled, “We can’t afford to be climate doomers,” written by Rebecca Solnit.

IDI Informant 1 said:

“Interesting *‘yon kasi parang nagsasalita din siya in behalf ng mga nasa Global South o ng mga nasa bulnerableng mga bansa. Sinasabi niya doon na parang ‘di nga afford ng mga mahirap ng mga bansa na maging climate doomers o ‘yung magsabi ng wala ng pag-asa.’* [The article is interesting because it speaks on behalf of the vulnerable countries in the Global South. It states that developing countries cannot afford to be climate doomers or say that there is no hope.]

He explained that the reason for his citing of this article is because it opened a different lens for him about the need for developing countries to keep on holding the line for the planet. The article, according to him, says that it is easier for some who are affluent and have the privilege to say that climate change can no longer be solved. But it is different for ordinary citizens, including farmers, students, and minimum-wage workers, who are regularly bearing the brunt of worsening climate change impacts. He further asserted that the article gave him and his group hope that collective actions and truthful listening to vulnerable groups can spur the Global North to take climate change seriously by providing just reparation for loss and damages they cause to developing countries for their huge carbon emissions. It is important to note here that developing countries such as The Philippines and some parts of Africa, recorded 0.2% and 3%, respectively, as cited by Ritchie (2019).

AGHAM, YS4C PH, and PPSE indicated that they follow news media reports in online channels such as social media. This is different from the findings of Li (2015) that the traditional mass media, such as television and newspapers, were the most used information-seeking channels about climate change among Chinese respondents.

The informants also pointed out that there are experts whom they consult for climate change information. AGHAM and YS4C PH identified experts who are also members of their respective groups.

As for AGHAM, which is an organization of scientists, it considers itself as a home of experts whom they can coordinate with for information on various issues. For example, FGD Member 3 from AGHAM mentioned that the group has marine scientists who could share

their personal research projects and knowledge about reclamation, geologists who know about the impacts of mining projects, and disaster experts who can share their insights about calamities and relief operations.

The same is the case for YS4C PH whose national director has expertise in biodiversity.

IDI Informant 3 from YS4C PH said:

“We maximize our own fields of expertise *din e*. For example, ‘*yung* co-founder *namin sa* YS4C PH *ay* freelance architectural designer and more on urban mobility *naman ang kanyang* interes. *Tapos ako naman*, BS Biology, *kaya* I deal more with biodiversity.” [We maximize our fields of expertise. For example, our co-founder in YS4C PH is a freelance architectural designer interested in urban mobility. I am a BS Biology student so I deal more with biodiversity.]

FGD Member 6 from YS4C PH also elaborated on gaining recent climate change information from their co-founder, as he is also a member of the international group Loss and Damage Youth Coalition. According to her, their co-founder serves as their adviser and consultant.

Whereas all communication teams of 350 Pilipinas, PPSE, and OCOT named some experts from the academe who have profound knowledge and research about climate change.

IDI Informant 1 from 350 Pilipinas cited Prof. Lourdes Tibig, an academic researcher on topics such as geology and climate change, of Ateneo de Manila University. FGD Member 12 from PPSE mentioned Dr. Fernando Siringan from the University of the Philippines Marine Science Institute (UPMSI), Dr. Kelvin Rodolfo from the University of Illinois at Chicago (UIC), and Dr. Irene de Vera from Pangasinan State University (PSU).

Getting insights from academic experts affirms what Urai and Kelly (2023) mentioned about the role of academic research in broadening people’s understanding of the climate crisis and informing policy for mitigation and adaptation. This also shows that the academic community

takes a lead toward a transformative society that tackles ecological crises, which Gardner et al. (2021) recommended to people in academia.

The environmental activist groups in this study ensure that the information provided by several sources of climate change information was gathered through the scientific process and marries scientific proof and community experiences. On their end, they also try to cross-check these sources to identify affirmations and contradictions in available data.

2.2. Selection of climate change information

Each environmental activist group is distinct in terms of the climate change aspect it focuses on and the climate action it highlights in its campaign. There are groups whose climate change research focuses on problems and effects of climate change, while some indicate the responsibilities of certain sectors in society.

All environmental activist groups focus their research on climate change problems. AGHAM, YoungBEAN, OCOT, and PPSE pay attention to the impacts of climate change on the communities they serve. All mainstream environmental activist groups and grassroots environmental activist groups such as OCOT and YoungBEAN underscore responsibilities that the government, youth, children, and developed countries must perform.

Problem-focused. PPSE mentioned local problems that are contributory to climate change such as offshore mining, nuclear energy, and sea level rise. OCOT disclosed that the major problems in Hagonoy, Bulacan include solid wastes, changes in high tide, and flooding. YoungBEAN cited harmful local projects such as coal-fired power plants and nuclear energy. 350 Pilipinas is more concerned about dirty sources of energy and GHG-emitting transport systems. The same is true with the case of YoungBEAN, as they cited that there are many fossil fuel industries in Bataan. There are coal-fired, nuclear, and liquefied natural gas (LNG) plants, as well. FGD Member 14 from YoungBEAN further pointed out that fossil fuel use is the number one reason for climate change.

The abovementioned environmental activist groups give importance to showing the problems surrounding climate change due to anthropogenic reasons or human activities. The current state of the environment as described and provided by their sources of information speaks volumes to the fact that climate change is a reality that must be faced head-on, rather than be denied. This emphasis on problems illustrates what Snow and Benford (1988) coined as the diagnostic frame, which highlights a difficult situation or challenge posed by a topic such as climate change. The findings also echo Schmidt's (2012) finding that eNGOs' framing of climate change was diagnostic.

Impact-focused. AGHAM expressed that it likewise focuses its research on the impacts of greenhouse gas emissions on sea surface temperature and ocean acidification. YoungBEAN discussed the health and environmental consequences of coal-fired power plants in Bataan. OCOT cited improperly managed solid wastes as causes of clogged rivers that eventually lead to extreme flooding during heavy rains. Then, PPSE said black sand mining affects the livelihood of residents in coastal communities.

All grassroots environmental activist groups reasoned that their local experiences are telling of the reality posed by climate change.

For example, PPSE focused on illegal black sand mining because the fisherfolk in Pangasinan were complaining about their little to no catch of fish. IDI Informant 5 from PPSE said, "*Wala silang [fishermen] mahuli. Kung makahuli man, sakto sa pangkain na lang nila. So hindi sila makapagbenta. Hindi na katulad ng dati na banye-banyera ang isda. Sobrang konti na lang daw talaga 'yung mga nakukuha nila sa ngayon.*" [They (the fishermen) experience no catch. If they do, it is just enough for their food. They do not have some fish left for selling, unlike before when they had bountiful. They get a meager amount of catch now.]

For OCOT, the extreme flooding in Hagonoy, Bulacan is a dire warning that mangrove rehabilitation and planting must be prioritized in their area.

As for YS4C PH, it fights for human rights amid the climate crisis because the Philippines has been named a dangerous country for environmental defenders and indigenous peoples (IPs).

To further elaborate and relate the climate change issue to the experiences of target audiences, the abovementioned environmental activist groups select the impacts of climate change as specific information they research and highlight in their campaigns. Impact-focused selection stresses the environmental, political, public health, national security, and economic impacts of climate change (Feldman et al., 2015).

Focus on attribution of responsibility. Furthermore, 350 Pilipinas encourages private academic institutions to avail of the Green Energy Option Program (GEOP) and demands Japan government to refrain from implementing false solutions to climate change. The G7 Summit last May 2023 was viewed as an opportunity for 350 Pilipinas to demand a transition to a low-carbon economy from the Japanese government. According to FGD Member 2 from 350 Pilipinas, Japan is a leader in climate solutions, but it is also prone to suggesting false solutions by fighting for nuclear energy.

YS4C PH, on the other hand, demands the Philippine government to declare a climate emergency.

Living by its name, OCOT includes children in its mangrove education and planting activities. The founder of the group believes that instilling the importance of becoming environmentally aware among children will incite them to contribute to environmental protection at a young age, a behavior they will grow with over time.

This is the same reason of YoungBEAN for mobilizing the youth towards preserving and conserving Mother Earth. IDI Informant 6 from YoungBEAN views the youth as inheriting next the planet.

Attribution of responsibility blames a cause or assigns accountability for a solution of a problem to a particular individual or government (Duan & Miller, 2019). This has become evident in the answers of the abovementioned environmental activist groups as they voice out a call to arms among specific sectors that have the resources, capabilities, and duties to address the worsening climate crisis. After all, climate change is a concern for everyone in the country, thus the multisectoral approach.

2.3. Use of climate change information

Firstly, all the informants mentioned that they begin their use of climate change information by identifying an issue through internal meetings and consultations or initial dialogues with the community within their purviews.

350 Pilipinas and YS4C PH mentioned that the Secretariats of their groups initiate environmental scanning to learn about any pressing problem the country and their immediate communities confront because of climate change.

IDI Informant 5 from PPSE believes in the active participation of community members in determining the problems in their area. For instance, he shared that his group's prior community immersions informed them of the concern of residents in Laoac, Pangasinan about the construction of a waste-to-energy plant in the municipality.

IDI Informant 5 said:

"I-example ko ulit 'yung sa waste-to-energy plant na nabanggit ko. Nakipag-dayalogo ako sa mga Laoaceño, tapos ang naging resolution nila ay talagang ibasura 'yung memorandum of agreement na pinirmahan ng Laoac LGU. Nandun lang kami para mag-guide sa mga communities. Pero sila, kailangan talaga nilang mismong kumilos dahil sila mismo yung direktang apektado ng plantang ito." [Let us use the waste-to-energy plant I mentioned as an example. I dialogued with the Laoaceños, and they resolved to scrap the memorandum of agreement signed by Laoac LGU. We were there to guide the communities. But it is them who must act because they are the ones directly affected by the construction of the plant.]

Secondly, the groups determine a resource for their research, usually scientific reports and community experiences.

In the case of YS4C PH, it has a specific committee such as the Advocacy and Systems Change Working Group that answers the

important questions surrounding the climate change issue. IDI Informant 3 from YS4C PH said, “‘*Yung* Advocacy and Systems Change Working Group *ang bahala sa* research. Then, we form an outline following the structure na main thesis, call to action, and hashtags.” [The Advocacy and Systems Change Working Group is responsible for the research. Then, we form an outline following the structure as the main thesis, call to action, and hashtags.]

PPSE also designates a specific committee, such as the Education and Research Committee, that checks for sources of information and creates the official statement of the group. For this group, its research follows the outline, issue-effects-call to action.

Thirdly, the groups discuss and study the issue among themselves. They select and identify information to highlight from the sources, as they cannot cover the entirety and complexity of climate change. To facilitate an orderly discussion, YS4C PH disclosed that its Secretariat and members try to answer the 5Ws and 1H of an issue.

Along with the third step, the groups also assess effective translation strategies to ensure that their communications will be understood by the people. All of them use the Filipino language, while PPSE uses local languages spoken in the communities where it belongs. Aside from translation through language, some environmental activist groups such as 350 Pilipinas, OCOT, and YoungBEAN used visuals to illustrate the information they gathered from several sources.

The use of Filipino and regional languages supports what Kaushal et al. (2021) suggested about using localized and everyday language to fill the gap between the public’s consensus and willingness to engage in climate change discussions. Whereas, the high value they assigned to the use of visuals aligns with the suggestions of the participants in the study of Dziminska et al. (2021), which stated that citizens needed visual methods of presenting facts in the form of infographics, charts, illustrations, and videos.

Fourthly, because the groups are aware that they need to marry scientific proof with community experiences, they consult, collaborate, and seek feedback from communities to provide them with representation

and voice in the climate change discourse and to ensure that their target audiences can relate to their campaigns.

Along with this fourth step, they facilitate the exchange of climate change information through digital communications that employ social networking sites such as Facebook, Messenger, Signal, and Discord, as well as email. All the environmental activist groups also conduct informal educational discussions (EDs) with their members, volunteers, and communities to relay important information about climate change and their campaigns. In terms of storage of climate change information, they use their social media accounts, group chats, and Google Drive as databanks.

It can be recalled then that Vu and colleagues (2021) were among those who acknowledged that several research on climate change communication demonstrated the use of digital platforms by NGOs for their advocacy work, social media interactions, and mobilization of support to events.

Finally, they conduct their respective campaigns on climate change.

Science is at the heart of discussions on various environmental issues. Davis et al. (2018) proved this by saying there are several points of convergence, conversations, connections, and collaborations between science and environmental communication. For one, science is essential in explaining issues such as climate change. The scientific consensus even points out that the Earth is warming due to the changing climate worsened by greenhouse gas emissions due to human activity.

For environmental activist groups, who are also found to be crucial voices in climate change, mastery of science is a strong resource to convey that climate change is real and to create a direction for their respective communication campaigns. Maesele (2009), Fährlich (2018), and Fährlich, Riedlinger, and Weitkamp (2020) argued that environmental activists are alternative science communicators who mediate scientific information to inform policy and public opinion. Moreover, Rödder (2020) described environmental groups as pro-science communicators, especially when they talk about climate change.

Based on the interviews and FGDs with environmental activist groups, their use of climate change information follows common steps as outlined in Figure 1.

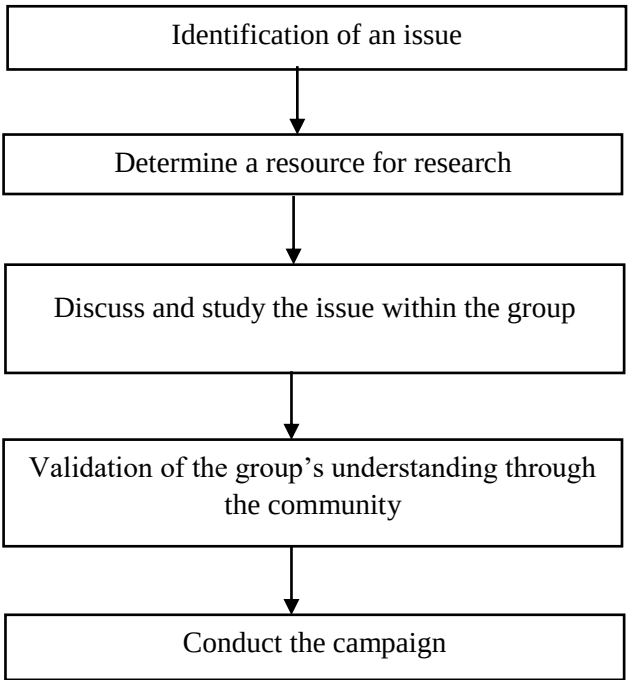


Figure 1. Process of using climate change information

3. Implementation of Media Logic in Communicating Climate Action

Their media logic is characterized to be systematic, responsive to the information needs of audiences, novel in terms of data presentation, and adaptive to new channels of information dissemination, that is, through social media. Media logic is an important concept for

understanding how media companies select, arrange, and present content in ways that influence both media creation and consumption. It emphasizes the media's influence on other institutions and public perceptions of reality (Mazzoleni & Splendore, 2018).

3.1. Media use

AGHAM, YS4C PH, PPSE, and YoungBEAN disclosed that they have specific working committees in charge of their respective climate change communication campaigns.

FGD Member 3 from AGHAM said that all members of the organization are responsible for promoting their campaigns, especially when they are launching a specific project. However, they created committees such as projects and extensions, education and research, membership, public information campaigns, finance, and international linkages committees to intensify their overall advocacy.

FGD Member 3 said:

“Lahat ng members ay itinatakda kung saan siya tutulong. ‘Yung Public Information Campaign Committee ay responsible for media coordination and pagsusulat ng statements. ‘Yung Project and Extension Committee naman ay sa pagko-conduct ng Environmental Investigation Missions. Ang Education and Research Committee ay para sa pag-o-organize ng educational discussions and forums. Bahala ang Membership Committee sa pag-i-invite ng mga interesanteng mag-attend sa forums natin.” [All members have delegated tasks. The Public and Information Campaign Committee is responsible for media coordination and writing of statements. Project and Extension Committee conducts Environmental Investigation Missions. The Education and Research Committee organizes educational discussions and forums. Membership Committee invites interested attendees to our forums.]

This is also true with YoungBEAN, as it also created specialized committees such as education and campaign, finance, digital campaign, and membership committees as they believe that doing so would help them achieve the success of their campaigns.

For PPSE, the committees in charge of the climate change communication campaigns are the education and research and creatives and publicity committees.

Whereas for YS4C PH, the communications working group is responsible for their campaigns, with the creatives, storytelling, and social media sub-working group taking the helm. The creatives lead designs publication materials; the storytelling lead produces stories of survivors of climate change through creative videos; and the social media lead manages the group's accounts on X, Instagram, and Facebook.

These groups form specialized task forces that are skilled in communicating the climate situation in the context of the Philippines. However, other groups lack formal structures because of a limited number of Secretariat members and volunteers. These working groups are directing their advocacies to local and global audiences. According to Wren (2023), these committees play an important role in lobbying for certain causes or concerns by bringing together experience, resources, and varied perspectives to successfully handle the obstacles that arise.

The groups in this study likewise use various social media channels to communicate with the public, provide scientific information, and generate conversations around climate change issues.

FGD Member 3 from AGHAM mentioned that they have a presence on social media platforms. He said, “*Sa online naman, we use email for email blast ng statements to media. Meron din kaming Facebook, IG, and Twitter. May Spotify podcast din kami.*” [As for online communications, we use email for email blasts of statements to the media. We have Facebook, IG, and Twitter (now X). We also have a Spotify podcast.]

IDI Informant 3 from YS4C PH also mentioned their accounts on X (formerly Twitter), Instagram, and Facebook. FGD Member 8 from the same group added that their communications working group has a specific

role that only focuses on social media management, that is, their social media lead.

FGD Member 8 said:

“Actually, *ang pina-publish namin sa isang platform, pina-publish na namin sa lahat ng platforms na ginagamit namin. So magkakaparehas lang din po ‘yung contents na pino-post namin sa tatlong accounts na ‘yun. Yes, streamlined across all platforms ‘yung mga contents natin kasi kailangan ma-maximize ‘yung reach namin.*” [What we publish on one platform, we also publish on all our other platforms. We post the same content on our three accounts. We ensure that contents are streamlined across all platforms to maximize our reach.]

In terms of the functions performed by social media in their campaigns, FGD Member 10 from OCOT said that they use such for reaching out to interested volunteers and sponsors. IDI Informant 5 from PPSE said that their process of calling for memberships or volunteers has become efficient because of the media. IDI Informant 6 from YoungBEAN revealed that forging partnerships with different educational and likeminded institutions despite the geographical distance becomes accessible and doable because of the media.

Interestingly, FGD Member 2 from 350 Pilipinas indicated that social media help legitimize not only their work processes and advocacy campaigns but also their organization. It helped them introduce the work they are doing with the people.

IDI Informant 2 from AGHAM said that the processes of orientation, application, membership, and crowdfunding are manageable because of the media.

FGD Member 8 from YSC4 PH said, “...*mas madali po ‘yung communication and mas marami kang ma-touch... mas madaling makakuha ng funds and mas maraming mari-reach na people in the*

media.” [Communication, generating funds, and reaching out to media and ordinary citizens have become easier.]

Although social media platforms have become part of the toolboxes of the participants in this study, all grassroots environmental activist groups still supplement their communication efforts with the use of traditional media.

For instance, FGD Member 10 from OCOT talked about their experience in producing two public service announcements (PSAs) on typhoons and mangroves for Barangays Pugad and Tibaguin in Hagonoy, Bulacan. These PSAs were slated for release through the mobile public address system in the two barangays. Both PPSE and YoungBEAN shared that they create pamphlets, primers, and brochures.

All these imply that media use in communicating climate change enables environmental activist groups to connect with individuals in the Philippines and throughout the world, which helps them organize campaigns, digital strikes, and collective action.

The findings in media use also certify that social media are an easy and immediate means to reach out to the general public (Dziminska et al., 2021) disseminate their agendas, and promote mobilization (Schäfer, 2012). However, social media use poses obstacles to climate change communication, such as the possibility of misinformation, polarization, and echo chambers.

3.2. Media products

FGD Member 1 from 350 Pilipinas said that they are using videos, photos, educational materials, games, and trivia as their climate change campaign materials.

This is also the case with YS4C PH as it focuses on the development of educational modules for its group members. For its target audience, it is crafting various multimedia materials such as publication materials, infographics, and even videos.

YoungBEAN is also promoting its campaigns using multimedia materials, such as primers for the youth and educational discussion materials, for its target audience in Bataan.

OCOT utilizes multimedia materials to discuss crucial environmental issues in its municipality. FGD Member 10 from the group said, “*Meron po kaming videos na tina-tackle namin ‘yung single-use plastics, ‘yung sitwasyon nila tuwing bagyo.* We are talking about *sa* experiences *ng ating mga mangingisda sa* Hagonoy, about *sa bagyo*, and about *sa* role *ng* mangroves *para mabawasan ang matinding* impacts *nito.*” [We produced videos tackling single-use plastics and the conditions every time there is a typhoon. We are talking about the experiences of fisherfolk in Hagonoy, the occurrence of typhoons, and the role of mangroves in weakening their harsh impacts.]

As the environmental activist groups use media to promote their organization’s advocacies, they are also integrating the creative side of digital media.

FGD Member 11 from OCOT said that as part of their campaign message development, they are also looking at the color palette, the graphics, and the overall content of the campaign.

FGD Member 14 from YoungBEAN said they are focusing on integrating art. She said, “*Nag-i-invest kami ngayon at nagdu-dwell sa* integration *ng* art in our activism.” [We are now investing and dwelling on the integration of art in our activism.]

FGD Member 7 from YS4C PH is also integrating creativity with their campaigns as they add a storytelling initiative aimed at reaching different kinds of audiences.

The findings show that the production of multimedia materials and use of creative elements are adopted from the features of the social media platforms that environmental activist groups use. Some groups produce videos on YouTube because these are the content format possible on the platform. Memes, videos, infographics, and photos are used because Facebook capitalizes on click-through rates to indicate the success of a campaign. Looking into the findings confirms that communicating climate change must exhibit broad use of creativity and sensible application of visual techniques (Dziminska et al. 2021). The content format afforded by social media differs from the heavily textual information provided by traditional media such as a newspaper.

3.3. Media production process

Environmental activist groups have their approaches when it comes to the production process of their campaigns. It ranges from informal to institutionalized steps.

350 Pilipinas characterized its approach as an informal process. IDI Informant 1 from 350 Pilipinas said, “Mostly informal *ang aming* process... *may* pressing issues *o* deliverables *kami* as a group *kaya kami nakakapagsimula sa pagdye-generate ng idea.*” [Our process tends to be informal. There are pressing issues or deliverables, that is why, we can start generating an idea.]

FGD Member 11 from OCOT stated that their idea generation starts with curiosity about a specific phenomenon and why it occurs. They arrive at an idea for publication material because they make rounds in the communities, interact with the residents, and ask about their recent concerns.

This curiosity, in the case of PPSE, can be further answered when the members of the group analyze the premise of a local climate change problem.

FGD Member 12 from PPSE said:

“*Siguro babalik ako dun sa parang tatlong proseso ko ng paggawa ng campaign, ano ‘yung issue, effects nito, saka call to action. So doon nagsisimula talaga, so ano ‘yung issue? Ano ‘yung kailangan gawin? Ano ‘yung appropriate isulat o ilabas o i-publish para mas madaling maipamahagi.*” [I go back to the three steps in conducting a campaign, determining the issue, recognizing its effects, and suggesting a call to action. It begins with the issue. What has to be done? What messages to write, release, or publish for broader dissemination.]

For these environmental activist groups to identify their target audience, FGD Member 10 from OCOT said that they begin by answering the question, “To whom an issue will be addressed?”

YoungBEAN adapts to their audience's needs by conducting a social investigation and case analysis. FGD Member 14 from YoungBEAN said:

“Number one is *‘yung* diagnosis. *Ayun ‘yung pinaka*-number one *na dapat i-consider kung ano ba talaga ‘yung* behavior *ng mga* youth. And *ano ba ‘yung gusto nila, ano ba ‘yung* interest *nila*. So *doon tayo mag-base kasi ang* campaign *naman ay matagal na rin nating ginagawa sa* organization.” [Diagnosis is the first thing. You must consider the behavior of the youth, what they want, and what interests them. We anchor our campaigns on this procedure because we have been doing this campaign in our organization.]

FGD Member 14 explained that their target audience is Gen Z's, especially that YoungBEAN is a youth organization. As such, they ensure that their content is relatable to the youth.

The focus on youth for campaigning was echoed by IDI Informant 3 from YS4C PH who stated, “*Ang* main audience *namin* is of course *‘yung* youth, to empower our co-youth to take part in big climate actions, as well as other issues *na* related *sa* environment and climate change.” [The youth is our main audience, and we empower them to participate in big climate actions and other issues affecting the environment and contributing to climate change.] FGD Member 6 from YS4C PH explained, however, that their group intends to serve all audiences because everyone inhabits the planet and plays a role in acting against harmful activities that exacerbate climate change.

FGD Member 1 from 350 Pilipinas disclosed that they are doing power mapping analysis and values-based segmentation to know the major and powerful players they need to tap and gain an initial understanding of the attitudes held by their audience about climate change. She said, “*Nagko-conduct kami ng* training needs analysis (TNA) *para masiguro na marami ang* gains *ng* campaign *kaysa* risks *sa* aming target audience. Friends of friends *ang bumubuo sa* aming network *kaya*

may target audience kami agad kapag nagsasagawa ng campaigns.” [We conduct training needs analysis (TNA) to ensure that our target audience can experience gains rather than risks from our campaign. Our network comprises friends of friends, thus, we already have a target audience when conducting our campaigns.] FGD Member 2 from the same group added that conducting casual debriefing sessions after a campaign allows them to determine what contents resonate with their audience.

In terms of language, FGD Member 12 from PPSE said that they are using appropriate language to communicate their advocacy, which AGHAM buttressed as FGD Member 3 underscored that they are using laymanized language as much as possible to make their messages understandable.

The use of Filipino and regional languages supports what Kaushal et al. (2021) suggested about using localized and everyday language to fill the gap between the public’s consensus and willingness to engage in climate change discussions. Doing so likewise puts the community as a relevant source of knowledge development about the issue.

It is important to note as well that Tirosh (2020) and Hourdequin (2021) introduced the concept of ecolinguistics as an emerging discipline that points to translation as an important aspect of epistemic justice, or the ability to possess, interpret, and produce knowledge about climate change.

Translation proves to be important for these environmental activist groups because the existing research and recommendations about climate change require multilingual dissemination so that local populations can identify immediate dangers in their areas and understand broader patterns of world climate impacts (Maddy, 2023).

In the formulation of the core messages, FGD Member 1 from 350 Pilipinas said that they are critical in crafting their core messages as their reputation and branding play a big role in protecting their organizational principles.

The said point is supported by FGD Member 6 from YS4C PH as she pointed out that they are crafting their core messages based on their organization’s objectives.

FGD Member 11 from OCOT likewise said that layout and visual elements, especially the organization's color palette, is followed whenever they are posting to their Facebook page.

The media production process of environmental activist groups shows meticulous assessment of the issue, target audiences, language to be used, and content format or presentation. This affirms the suggestion of audiences from five countries, such as Italy, Poland, Portugal, Slovakia, and Spain, that were studied by Dziminska et al. (2021). According to these audiences, communicating climate change and climate actions need to take into account their information needs and use a language that is plain and understandable for a layman.

3.4. Specific climate action messages

These environmental activist groups have their advocacies to tell their target audience.

Pro-people lifestyle change. IDI Informant 2 from AGHAM said something about sustainable practices of people. He said, “We also advocate just transition *sa* green energy options. *Kapag* just transition, we mean *na dapat ang* solution *ay* pro-people *din*. *Saka iba pang* sustainable practices.” [We also advocate just transition to green energy options. Just transition must be pro-people and encompass sustainable practices.]

IDI Informant 4 from OCOT said that even plant enthusiasts can help plant trees.

Government accountability. IDI Informant 5 from PPSE said that a climate change plan from the government is critical, especially since most of their messaging is into policy lobbying. They specifically target the campaigns towards government agencies.

This is also the same case with the YS4C PH as they believe in systemic change. IDI Informant 3 from the said group stated, “*Pagde-*demand *sa* local government units *at* national government, not individual people... *may* systematic change *kung merong* change *sa sistemang ginagalawan*.” [We demand local government units and national government, not individuals. There is systematic change when the structures where we operate are transformed, as well.]

Collective mobilization. FGD Member 13 from PPSE said that the youth should join the force against climate change. She said that the role of the youth is crucial when they are with the affected communities.

For 350 Pilipinas, FGD Member 1 said that it is important that climate activist groups focus on heightening the capacity of the communities to practice green energy conservation. She said, “*Pagsulong ng green energy options program at hinihikayat namin ang academic institutions na i-maximize at i-utilize ang programang ito.*” [Academic institutions must advocate and utilize the green energy option program.]

The reinforcement of these climate action messages is based on the environmental activist groups’ personal experiences.

FGD Member 10 from OCOT said that they chose their message about mangrove planting because of its reachability and feasibility. She added, “Frustration [ko] *sa isang bagay... ma-eradicate ‘yung frustration ‘ko na ‘yun... kailangan mong gumawa ng action... napi-feed ko ngayon ‘yung frustration ko,*” noting about the extreme flooding experience in Hagonoy, Bulacan. [It is my frustration to carry out some actions (to address the problem).]

FGD Member 15 from YoungBEAN stated that the reason why they are doing their climate action message is because someone taught them the importance of mitigating climate change.

The groups also advocate for related or larger issues that they used to campaign for.

FGD Member 14 from YoungBEAN said that they started their climate message campaign from anti-nuclear energy to anti-BNPP, from implementing a campaign against single-use plastic to holding big plastic polluters liable.

AGHAM started with a total ban on coal and plastics and later realized that they needed to give leeway to companies to also fairly give plastic users enough time to shift.

The specific climate action messages of the environmental activist groups convey encouraging and authoritative tones. The messaging appears encouraging because the groups still want their audiences to think and realize that they must not remain vulnerable but must rather be active change agents who can contribute to the solutions to climate change,

either through individual lifestyle change or participation in climate change movements. The messages tend to be authoritative, as well, because the groups believe that power structures and systems have to be changed from being profit-oriented to being pro-people. This agrees with Hornsey and Fielding (2019) who contended that apocalyptic climate change messages to motivate action can have serious and problematic consequences. Stern (2012) likewise cautioned against using fear appeals in climate change communication because it can only apply to specific conditions and can backfire.

4. Successes and Challenges in Sensemaking and Media Logic

They experience several successes and challenges in making sense of climate science and implementing a certain media logic.

They view their dedication to information-gathering, networking, and professional background of members as their strengths in sensemaking, while the insufficient manpower, inaccessibility of information, limited expertise of members, and unfavorable audience reception are their challenges.

According to Solyst (2023), being a part of a team of motivated, intelligent, and supportive individuals is critical to the success of climate advocacy. As one organization, these environmental activist groups need people with people from multiple professional backgrounds. Population Matters (2024) supported this as it stated that multiple people contribute different perspectives, talents, and knowledge to the group, which enriches conversations, problem-solving, and decision-making. Diversity in the group can result in novel solutions, creative methods, and a more comprehensive grasp of the complex climate issue.

In terms of media logic, they find the increase in their volunteers and members, quality information, and improved reach and engagement as the successes. Whereas their challenges in communicating climate action are uncontrollable audience perception and unavailability of persons in charge of other topics outside their expertise as a group.

With insufficient manpower, environmental activist groups may struggle to attract and keep a diverse variety of members with various

skills, viewpoints, and knowledge, which are critical for formulating complete answers (Engetou, 2017). The groups also encounter challenges in terms of accessing the needed information for their messages. Although this is the reality for these climate activist groups, Barnes-Holmes et al. (2004) counterargued this result as they believe that some have gone on to say that the framing of information for particular audiences and its relevance to cultural and personal settings, rather than a lack of information itself, is what typically prevents people from acting or understanding. Limited expertise is considered to be the climate activists' challenge. Limited expertise should be overcome by providing members the chance to learn new skills and increase their knowledge by offering mentorship programs, workshops, and courses. For the unfavorable audience reception, the Department of Communication of the University of Pittsburgh (2024) gave a tip that an organization can lessen the impact of a bad response by changing the organization's message and delivery method.

Conclusion and Recommendations

Climate change is a worsening crisis felt across all sectors of society and countries around the world. It cannot be overemphasized that addressing climate change must be urgently done by everyone, including the government, industry, media, scientific community, and ordinary citizens, especially environmental activist groups. Both changes in the system and power structures and individual lifestyle choices could have a positive impact on reducing greenhouse gas emissions and ensuring that world temperature does not exceed the 1.5 degrees Celsius threshold.

With science, the environmental groups in this study are able to provide answers to the questions people have about climate change, which is an abstract, loose term for many, especially since they have situated experiences of this phenomenon. As deemed alternative science communicators, these groups make sense of climate science derived from renowned scientific reports and lived experiences in communities. Scientific knowledge is a form of currency for them because they can participate in domestic and international climate negotiations, represent

vulnerable sectors in policymaking, and lead climate actions that are appropriate and specific to the contexts and conditions of ordinary Filipino people.

Meanwhile, the emergence and use of social media allowed the environmental activist groups to spread their messages far and wide and partake in the national discourse on climate change aside from always putting the power to comment on the issue only to already-established structures such as the government and mainstream media. They need not go through the gatekeeping and agenda-setting powers of the media.

Most importantly, their members and intended audiences are found as both their strength and weakness. On the one hand, their workforce such as members and volunteers are relevant to achieving a collaborative approach to sensemaking and avoiding delays in their postings. Hence, they are investing in teach-ins, educational discussions, fellowship programs, seminar-workshops, and other capacity-building activities to leverage their current members' skill sets and entice potential members to participate in their online discussions and on-the-ground activities. It also helps that they get support from other groups within and outside their networks because they can exchange resources and provide consultation for each other's campaigns. On the other hand, these groups also experience some difficulties in persuading their intended audience because of some misconceptions about climate change and because their members themselves also perform other tasks outside their organizational duties.

As a way forward, the researchers suggest that environmental activist groups also engage in climate storytelling or activism as new forms of climate change communication. People love stories, and stories can humanize the abstractness of climate change as a topic and can bind people to realizing the realities in their immediate environments and inciting actions that range from starting individual lifestyle changes to holding the system and power structures into account. More so, installation arts, murals, poetry, prose, music, and filmmaking are creative means to raise climate change awareness and action, especially among audiences who want more creative and expressive materials.

Finally, the future researchers may analyze the framing of climate change communication messages of environmental activist groups because much of the extant literature already delved into news framing of climate change reports. This way, research readers realize the importance of the narratives and meaning-making of environmental activist groups as alternative science communicators. Future researchers may also perform observations or ethnography to learn about the everyday plight of climate activists, their sensemaking process, and implementation of a certain media logic. All these are geared toward providing thick descriptions of climate activism in the Philippines.

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