Community Environmental Communicators' Network Establishment and Communication Strategies: A Case of Chiang Mai Province

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Abstract

This applied research aimed to investigate the establishment of a community environmental communicators' network in Chiang Mai Province and examine the communication strategies employed to foster collaboration within the network. Based on qualitative case studies, the research employed in-depth interviews and participatory observation focusing on four key environmental issues: ecotourism (Chiang Dao District), waste and wastewater management (Mueang Chiang Mai District), expansion of green space in urban areas (San Kamphaeng District), and sustainable agriculture (San Sai District). Grounded in participatory environmental communication theory which emphasized the empowerment of local stakeholders, inclusive dialogue, and community-led action, the findings revealed that Prachatham Media Foundation played a central coordinating role in initiating and supporting the network. The foundation facilitated the formation of the network through issue-based analysis, alliance building, and the development of proactive local communicators. These efforts enabled community members not only to participate in environmental communication but also to shape the agenda and strategies themselves. This finding also affirmed the use of three key communication strategies in establishing the network: 1) creating content grounded in core data and contextual linkage, 2) horizontal communication, and 3) participatory media. The study underscored the importance of cross-sector collaboration, including support from government agencies, business operators, external partnership networks and young audiences, for developing communication competencies and sustaining the network's long-term activities. Ultimately, this research contributed to the theoretical understanding and practical application of participatory environmental communication. It highlighted how localized, collaborative communication network could empower communities and serve as a bottom-up mechanism for advancing sustainable environmental solutions and informing broader policy development.

Keywords: Environmental Problem, Environmental Communication, Community Environmental Communicators' Network, Participatory Communication, Chiang Mai

Introduction

Environmental issues have become a major global concern due to the continuous and widespread impact of urbanization on the environment. It has significantly affected people's daily lives and quality of life. Environmental communication, therefore, plays a crucial role in raising awareness, generating public interest, and fostering participation in seeking solutions.

Environmental communication involved the application of approaches, principles, strategies, and communication techniques to address environmental issues. It served not only as a supportive tool to ensure the success of environmental initiatives but also as an indispensable component of such efforts. Effective environmental communication should focus on all elements of communication model, including a trustworthy sender, a well-crafted message, a suitable medium, and active participation of the audiences (Flor, 2004).

Although environmental communication emphasized all elements of communication, the sender served as the starting point and driving force of the environmental communication process. Cox (2013) categorized senders into seven groups: citizens and communities, environmental activists, environmental scientists, organizations/companies and lobbyists, anti-environmental groups, environmental journalists, and government agencies related to the environment. Among them, the first group faced significant challenges in terms of resources for advocating

their concerns and securing support to express their environmental worries and mobilize others to demand accountability from the government. Therefore, environmental communication efforts by citizens and communities required collaboration with agencies or organizations that had the expertise and resources for effective communication. Additionally, building networks with other relevant groups was essential to collectively drive efforts toward solving problems.

Chiang Mai is a continuously developing city renowned as a destination for both tourists and investors. However, its residents have long faced persistent and underlying environmental issues. In response to increasingly severe environmental challenges, the provincial government had taken a proactive role by formulating the strategic vision "Sustainable Growth in Harmony with the Environment" as part of the Chiang Mai Provincial Development Plan (2023–2027). This strategy underscored the government's commitment to participatory management of PM 2.5 air pollution, disaster risk reduction and climate adaptation, transforming open burning areas into carbon credit production zones, sustainable natural resource management, green space expansion, and fostering a low-carbon society (Chiang Mai Provincial Office, 2024). At the same time, several non-governmental organizations and community-based initiatives had been involved in environmental communication efforts. These included local residents, academics, socially engaged monks, youth, and civic networks such as Chiang Mai Greenery. Beauty. Scent Network, Chiang Mai Urban Revival Project, and Hak Chiang Mai Alliance, among others (Sitthisuntikul et al., 2019, p. 292). While these actors had contributed to raising environmental awareness and mobilizing participation, their efforts were often fragmented and short-lived due to limited financial resources and an over-reliance on external facilitators. This dependency could weaken the ability of local communities to sustain long-term communication efforts and independently address environmental issues. Addressing these challenges requires policy support, capacity-building, and the strengthening of autonomous, community-led environmental communication network that is resilient and self-sustaining. Therefore, fostering collaboration between civic media organizations and communities, as well as empowering communities to take a leading role in implementing and communicating efforts, may offer a more sustainable and community-centered approach to achieving effective environmental communication.

Prachatham Media Foundation is an organization with experience and expertise in empowering local communities to communicate and create content on social issues, particularly environmental issues. In 2021, it received funding for the project "Creating Environmental Communicators for Monitoring and Sustainable Environmental Restoration (Chiang Mai)" from the Environmental Fund, the Office of Natural Resources and Environmental Policy and Planning. It had developed a collaborative network to foster proactive environmental communicators and enhance their capacity to engage with all sectors in monitoring and addressing environmental issues across four key scopes: ecotourism, waste and wastewater management, expansion of green space in urban areas, and sustainable agriculture. These four thematic areas encompassed diverse yet interconnected environmental contexts, highlighting the complex challenges faced by local communities. Across all areas, community members showed a strong commitment to addressing these issues through their own voices. However, many lacked necessary communication skills, tools, and platforms to do so effectively. There was a growing recognition that building a community-based network could strengthen outreach efforts, enhance engagement with both the public and policymakers, and promote more impactful collective environmental action. Therefore, this research aimed to investigate the participatory establishment of the community environmental communicators' network, initiated by

Prachatham Media Foundation, and to examine the communication strategies employed to foster collaboration within the network.

In this study, the establishment of the community environmental communicators' network referred to a participatory process that involved identifying local environmental issues, mobilizing stakeholders, building alliances, and developing communication structures to support collaborative action. Based on the participatory communication framework proposed by Kheerajit and Flor (2013), this process progressively enabled stakeholders to move toward deeper levels of engagement, ultimately allowing them to participate in decision-making, contribute to network management, and influence sustainable policy change. Communication strategies for network collaboration referred to intentional and structured approaches designed to facilitate, maintain, and enhance interactions among members of the environmental communicators' network. These strategies aimed to foster mutual understanding, build trust, and enable coordinated action across diverse stakeholders, thereby supporting the network's overall cohesion and effectiveness.

This study sought to answer the following research questions: 1) How was the community environmental communicators' network established through participatory processes initiated by Prachatham Media Foundation? 2) What communication strategies were employed to foster collaboration among members of the network?

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Literature Review

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Environmental Communication

Pezzullo and Cox (2018) defined environmental communication as a pragmatic and constitutive medium for understanding the environment and creating relationships between humans and the natural world. The pragmatic involved communication campaigns aimed at raising awareness, understanding, and alertness about environmental issues. On the other hand, the constitutive involved the role of language and symbolic actions embedded in the efforts to create understanding and awareness of the human-environment relationship. Accordingly, environmental communication was regarding raising awareness of problems, creating representations of nature or environmental issues, and responding to these problems. They also proposed three core principles: 1) Human communication was symbolic action, 2) beliefs, choices, and behaviors about the environment were imagined, shared, and judged through communication, and 3) the public sphere was a discursive space in which competing voices engage each other about environmental matters as a cornerstone of democratic life.

Flor (2004) further noted that environmental communication involved the application of approaches, principles, strategies, and communication techniques to address environmental management. Environmental communication not only served as a tool to support the successful implementation of environmental initiatives but also as an indispensable component of the process. Consequently, environmental communication should focus on all elements, including sender/source, message, medium, and the participation of the audience. Additionally, Flor introduced six key components for effective environmental communication practices: 1) knowledge of ecological laws, 2) sensitivity to the cultural dimension, 3) ability to network effectively, 4) efficiency in using media for social agenda setting, 5) appreciation and practice of environmental ethics, and 6) conflict resolution, mediation, and arbitration.

According to Baengthit and Benjasilarak (2022), the era of environmental issues and communication in Thailand could be divided into two major periods based on the country's development: **Period 1:** development of infrastructures, mass media, and environmental activist groups, and **Period 2:** public awareness on environmental

issues, alternative media, and the growth of civil society. The first period, during 1980-2000, Thailand had made significant progress in its development to become an economic leader in Southeast Asia, involving the destruction of vast natural resources for the construction of dams, water diversion projects for electricity generation, and large-scale agriculture, as well as the establishment of coal-fired power plants. These projects had been criticized for primarily benefiting economic development in urban and industrial sectors, while sacrificed local communities had been left to face poverty, loss of livelihoods, health issues, and a declining quality of life. The key players driving environmental communication were communities affected by dam construction, lignite mining, and the use of agricultural chemicals. These communities had collaborated with social activists and NGOs to convey the facts to publics and the government through mainstream media. Since these environmental movement groups faced limitations in communication skills, they relied solely on the mass media. This factual information aligned with the statements of Boykoff and Boykoff (2007) and Harris (2017), in that mainstream media played a vital role in shaping the understanding of nature and critical environmental issues through their agenda-setting role and framing of environmental issues.

From 2001, the second period, the emergence of numerous large cities across the country had attracted rural people to migrate to urban areas, as well as a significant influx of foreign investors and tourists. The urbanization had led to persistent environmental issues in cities. The residents faced environmental challenges such as pollution, waste, the loss of green spaces, PM 2.5 dust pollution, and the severe impacts of climate change. During this period, there had been a noticeable rise in individual-level civic awareness as people recognized the impacts of environmental issues. Coupled with the growing trend of environmental consciousness and the green economy among younger generations, environmental problems had increasingly become widely regarded as a significant social issue. As a result, groups of environmental communicators, including urban and communal activists, had emerged. These groups focused on creating content to influence thoughts and behaviors of their audiences rather than advocating for government policy changes as in earlier periods. Communication efforts had shifted toward using new media to engage younger audiences and generate social momentum.

As reported by Kaewthep (2006), early studies on environmental communication in Thailand often focused on the roles and communication processes of mass media, the effectiveness of communication, and the media exposure. These studies were conducted within a paradigm that viewed communication through isolated dimensions of its components (SMCR Paradigm), examining sender, message, channel, and receiver as separate elements. Nevertheless, since the 2000s, it had increasingly emphasized public participation in environmental management.

Participatory Community Environmental Communication

Pezzullo and Cox (2018) fundamentally stated that public participation involved local, regional, state, national, international, and global voices. One of the most striking features of environmental communication in the public sphere had been the increase in public participation by ordinary citizens, environmental groups, scientists, businesses, and others in government decisions that impacted their benefits. They succinctly summarized the core principles of public participation as the ability of individual citizens and groups to influence decisions through the right to know, the right to comment, and the right of standing. Kheerajit and Flor (2013) elaborated more specifically in practical terms that participatory communication was a tool for stakeholders, supporting them in uniting to create sustainable social change, rather than focusing solely on individual behavior change. Participatory communication in natural resource management was not just a set of techniques that made people change their knowledge, attitudes, and practices but they should voluntarily participate in management. As Harris (2019) suggested, participatory

communication nurtured dialogue, empowered marginalized people, gave voice to overlooked narratives, utilized horizontal communication, and employed participation in the action-reflection-action cycle. Flor (2004) summarized that participation and collective action came from within, not forced from the outside. Hence an effective environmental communication program changed its beneficiaries internally, particularly the attitudes, values and norms.

There was a substantial body of research that indicated participatory environmental communication as an effective approach. This method emphasized collaboration among stakeholders, ensuring that affected communities were actively involved in discussions and decision-making processes, by fostering dialogue, sharing understanding, and co-created solutions. Particularly, participatory communication not only raised awareness but also empowered communities to take ownership of environmental issues, ultimately leading to more sustainable and impactful outcomes. Kheerajit and Flor (2013) revealed that the higher level of participatory communication corresponded to higher knowledge, attitude and practice on natural resources management. Suchitta et al. (2023, p. 52) concretely suggested communication model for enhancing public participation in solid waste management which consisted of three elements: 1) communication management, focusing on communication policy, knowledge management, attitude adaptation, acceptation/revolution, network and procedure management, 2) communication strategy that created awareness of ownership, mission-driven, persuasion, communication tools, and teamwork, and 3) communication development guideline. Furthermore, Harris (2017) intriguingly highlighted that participatory media provided an important platform for communities through which they could share knowledge, create awareness and provide their own perspectives on environmental issues. Communication among participants empowered external networks and revealed unique solutions that emerged from the community context. The study by Yasir et al. (2021) proposed a remarkable model of participatory environmental communication based on the CBT (Community-based Tourism) concept. The model emphasized the integration of environmental conservation with the development of local tourism, highlighting the community empowerment, participatory decision-making, cultural and environmental integration, education and awareness, and sustainable economic benefits. They also argued that the CBT-based model not only promoted sustainable practices but also strengthened the relationship between humans-to-humans and humans-to-environment, ultimately fostering long-term environmental stewardship.

Environmental communication initiatives required enthusiastic leaders or initiators, whether they were communities, government agencies, or NGOs. Collaboration in the form of network was essential, as environmental problems were complicated and interconnected with other multidimensional issues. As demonstrated in many studies (i.e., Kaeochada, 2014; Phuengsamran et al., 2019, p. 86; Sitthisuntikul et al., 2019, p. 295; Suansida, 2016, p. 186; Vejjanukroh, 2013, p. 7; and Wannaudom, 2019, p. 201), which stated that the effective environmental communication required engaging diverse stakeholders through a networked approach. These findings emphasized the importance of involving affected communities, government agencies, and NGOs in a synergistic manner. The previous studies also highlighted the necessity of ongoing planning and consistent actions to address the multifaceted nature of environmental issues.

<div align="center">**Research Methodology**</div>

The study was based on qualitative method with case studies by using in-depth interviewing and participatory observation on four environmental issues: ecotourism, waste and wastewater management, expansion of green space in urban areas, and sustainable agriculture. The methodology was defined as follows:

Area of Study

In establishing a collaborative network of community environmental communicators, the selection of the four case study sites was based on purposive sampling, aimed at capturing a range of environmental issues and community responses in different local contexts. Chiang Dao District was selected for its ecotourism-driven environmental pressures; Mueang Chiang Mai District, for its high population density and associated waste and wastewater problems; San Kamphaeng District, for its proximity to the city and ongoing green space management issues; and San Sai District, for its role as a major agricultural zone facing frequent crop burning and air pollution. These criteria ensured the inclusion of diverse yet interconnected cases suitable for analyzing community-based environmental communication practices. Table 1 shows the number of communities participating in the network.

Table 1   Participants in Each Area

Area of Study	Number of Communities
Ecotourism (Chiang Dao District)	7
Waste and Wastewater Management (Mueang Chiang Mai District)	13
Expansion of Green Space in Urban Areas (San Kamphaeng District)	5
Sustainable Agriculture (San Sai District)	4

Steps of Study

This study was divided into two phases: the establishment of community environmental communicators' network and the participatory communication implementation. Figure 1 illustrates the research process.
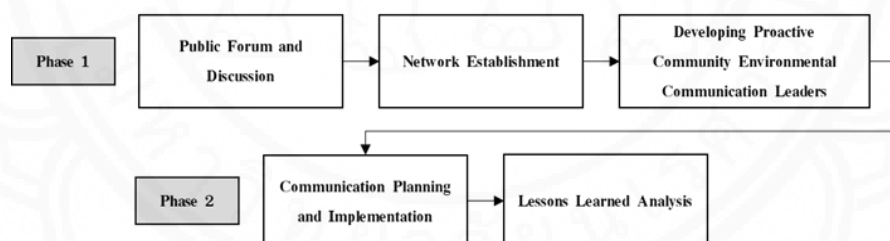
Figure 1 Research Implementation Process.

<u>**Phase 1**</u>: **Establishment of Community Environmental Communicators' Network**

Step 1: Public Forum and Discussion

Three forums were organized to exchange views and opinions of stakeholders on environmental issues to gather critical information for driving the advocacy campaign. The forums were led by Prachatham Media Foundation, experienced environmental communicators, and key leaders and members of the communities.

Step 2: Network Establishment

Prachatham Media Foundation collaborated with various sectors to establish a network of community environmental communicators, including community leaders, local schools, local government agencies, environmental activists, and academic sector.

Step 3: Developing Proactive Community Environmental Communication Leaders

The network of community environmental communicators participated in training sessions to enhance their communication skills.

<u>Phase 2</u>: **Participatory Communication Implementation**

Step 4: Communication Planning and Implementation

The members of the network in each area collaboratively planned their communication programs, with Prachatham Media Foundation providing consultation and coordination.

Step 5: Lessons Learned Analysis

After the communication activities were carried out, the network evaluated the communication outcomes and conducted a lessons-learned session to identify challenges and obstacles.

Data Collection and Analysis

This study was based on qualitative method with case studies. Data collection consisted of in-depth interviewing with sound records and participatory observation. The interviews were guided by open-ended questions focused on community environmental problems, past communication practices, network building processes, perspectives on environmental communication through network, and perceived challenges. This format allowed for in-depth insights while maintaining consistency across cases. In parallel, participatory observation was conducted alongside interviews to gain deeper understanding of communication dynamics within each community. The researcher engaged in relevant activities, observed interactions among stakeholders, and recorded field notes to complement and triangulate the interview data. A total of 15 people were interviewed, three individuals from Prachatham Media Foundation and lead communicators in each area as key informants. The collection of data was handled during 2021-2023. After completing data collection, the researcher verified the accuracy and reliability of the data through the triangulation method. This involved cross-checking information from multiple sources, including interview transcripts, field notes from observations, and secondary documents. Triangulation was used to validate findings by comparing perspectives from different actors and data types, thereby enhancing the trustworthiness and interpretive depth of the study.

Analytic Induction was used to interpret qualitative data, guided by the research framework. The researcher manually reviewed interview transcripts and field notes, identifying key themes and recurring patterns through hand-written keyword coding. Common keywords included "community participation", "network building", "policy engagement", "communication challenges", "media tools", "visibility of local issues", and "community voice". These keywords were grouped into thematic categories that aligned with the two main objectives: 1) the formation of the community environmental communicators' network, and 2) its communication strategies. The process was iterative, with constant comparison of themes across different cases to ensure consistency and depth in interpretation.

Results

This research investigated the establishment of the community environmental communicators' network in Chiang Mai Province and examined its communication strategies, the results are presented as follows.

1. The Establishment of the Community Environmental Communicators' Network

Figure 2 shows the process of establishing the network of community environmental communicators by Prachatham Media Foundation.
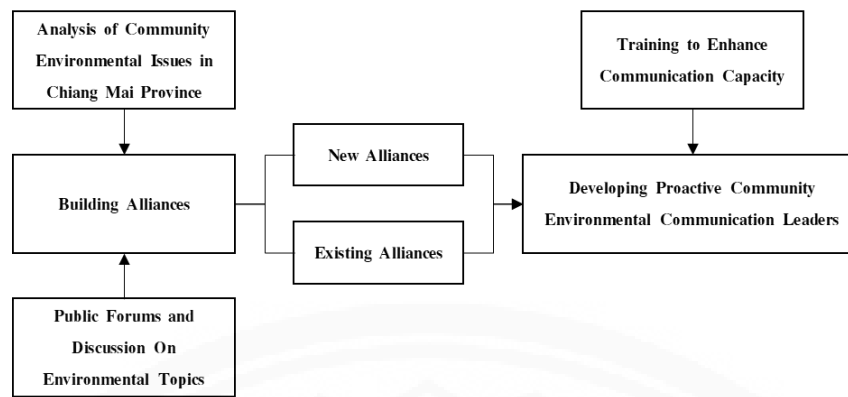
Figure 2 A Process Model for Building a Collaborative Network of Community Environmental Communicators.

Analysis of Community Environmental Issues in Chiang Mai Province

Ecotourism: The problem arose from the nature-based tourism business, which tourists came to ride elephants and rafts, leading to the extensive cutting of bamboo for making rafts. At the same time, the increasing number of tourists who enjoyed adventure tourism had led to the destruction of forests, rivers, biodiversity, and waste problems. Moreover, the expansion of accommodation had encroached into forest areas, with some locations illegally issuing land titles. As a result, a progressive group of local tourism business operators in Chiang Dao District introduced the concept of ecotourism. However, it was still not widely known or understood. The initiators thus aimed to raise awareness among the community and tourists to ensure that the management of community tourism resources was effective and sustainable.

Waste and Wastewater Management: Urbanization had led to the filling of canals, obstruction of original water channels, encroachment on public waterways, and the silting of canals. As water flow paths were altered and narrowed, they could no longer efficiently handle water drainage. Moreover, drainage pipes were clogged with soil debris and waste from households and businesses, exacerbating the issue. This had resulted in water pollution problems, particularly in Chiang Mai city. At present, communities along the Mae Kha Canal, which are directly affected by waste and water pollution, have played a crucial role in restoring the canal. Their efforts include dredging sections of the canal that run through their communities, planting trees along the banks to prevent encroachment on public waterways, and encouraging residents to manage household waste responsibly.

Expansion of Green Space in Urban Areas: The problem arose from the expansion of the city into suburban areas; trees were being cut down to widen roads and accommodate the growth of economic zones and residential areas. As a result, the amount of green space was significantly reduced. The communities in San Kamphaeng District, which borders Mueang Chiang Mai District, believed that the unlimited expansion of the city could lead to the destruction of ancient trees along their cultural heritage roads, which would negatively impact both the landscape and their way of life. Correspondingly, the communities were bonded with dedication to conserve trees and green spaces. However, it was essential to build understanding within the community, as some groups accepted that the trees should be preserved as they were, while others opposed.

Sustainable Agriculture: The problem stemmed from the widespread practice of monoculture farming. This had led to soil, water, and air contamination with chemicals, inevitably impacting both farmers and consumers. Furthermore, the burning of agricultural residues had unavoidably contributed to the issue of haze and air pollution. Considering this, farming communities in Chiang Mai had become increasingly aware of the impacts of monoculture farming. Many had begun transitioning to sustainable agriculture practices. However, this concept had yet to gain

widespread acceptance among farmers, as many remained focused on maximizing yields and profits for their survival. Moreover, sustainable farming required support from both government and private sectors to establish market mechanisms for safe agricultural products, create consumer demand, and, most importantly, persuade farmers to recognize the importance of this new approach.

Public Forums and Discussion on Environmental Topics

As part of the operations of community environmental communicators' network, a series of forums and discussions was held to facilitate stakeholder engagement, knowledge sharing, and collective reflection on local environmental issues. These public platforms enabled community members, environmental communicators, and relevant organizations to learn from one another and strengthen collaboration across different thematic areas.

An online forum titled "Now and Beyond COVID-19: What's Next for Chiang Mai's Environment?" highlighted the importance of each community communicating its own environmental concerns, while also recognizing the value of forming a broader network to amplify their voices and support joint advocacy efforts. The discussion also emphasized the role of socially responsible businesses in addressing environmental problems, particularly in tourism and agriculture.

Issue-based forums were conducted in four areas. **Chiang Dao District:** Discussions focused on ecotourism potential, youth involvement, and challenges in land-use regulations. **Mueang Chiang Mai District:** Stakeholders addressed problems of solid waste and wastewater, emphasizing youth participation and collaboration with government agencies. **San Kamphaeng District:** The forum centered on green space protection and community-driven campaigns, such as mapping significant trees tied to local culture. **San Sai District:** Forums examined barriers to sustainable agriculture, including chemical used traditions and limited market access, and discussed the need to communicate more effectively with both farmers and consumers.

A concluding synthesis forum brought together experienced environmental communicators and representatives from NGOs to reflect on communication practices. Key insights were framed around three core components of communication. **The sender:** While NGOs often played a leading role in initiating communication, community-driven efforts using local media were increasingly emerging and tended to resonate more effectively with local audiences. **The message:** Content generated within the community, particularly when practical and closely tied to everyday experiences, was found to be more impactful than technical or problem-centered messages from NGOs. **The receiver:** Participants noted that insufficient audience analysis had limited the effectiveness of many communication efforts. They emphasized the importance of clearly identifying both internal and external target groups, including government agencies, whose support was crucial for advancing environmental initiatives.

Building Alliances

Prachatham Media Foundation had strengthened its relationships with existing networks from its earlier days as a news agency (Prachatham News Agency). The network was analyzed by the communication capability and strength of the network. It was then categorized into two groups: the existing alliances, which demonstrated relatively high communication capabilities and network strength, and the new alliance, which faced limitations in communication and network cohesion, as shown in Figure 3.

The stakeholder analysis aligned with the theoretical framework of environmental communication proposed by Pezzullo and Cox (2018), which emphasized three key dimensions. First, the more established alliances—waste and wastewater management network, the expansion of green space in urban areas network, and ecotourism network—exemplified symbolic action through their ongoing communication practices and shared commitments.

These networks, having previously collaborated with Prachatham Media Foundation or other NGOs, demonstrated how meaning was created and sustained through repeated communicative acts in community contexts. Second, the diversity of communication approaches observed across the networks illustrated how beliefs, choices, and behaviors regarding the environment were socially constructed and negotiated through communication. Community‑led narratives, particularly those rooted in lived experience, were more resonant and actionable than externally driven, technical messages. Third, the networks occupied varying degrees of presence within the public sphere, which Cox defined as a discursive space where competing voices engaged in democratic dialogue over environmental issues. While traditional networks were more visible and integrated in public discourse, the newly formed sustainable agriculture network represented an emerging voice with potential. Though loosely organized, its committed local leaders embodied the agency needed to participate meaningfully in deliberative processes— highlighting the importance of inclusive participation in environmental decision‑making. Overall, the analysis revealed how communicative capacity, organizational cohesion, and symbolic engagement collectively shaped the influence and visibility of stakeholders within the environmental public sphere.
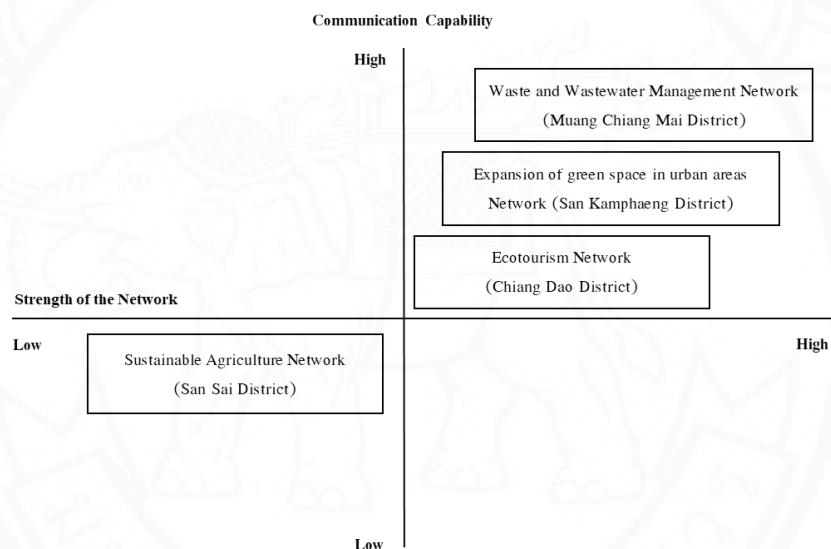
Figure 3 Stakeholder Analysis in the Development of the Community Environmental Communicators' Network.

Youth in local schools were also encouraged to collaborate with the network. They could serve as a bridge to ensure continuity and sustainability in environmental communication. Besides, they were key driving forces in engaging younger generations. The strength of youth groups lay in their ability to communicate effectively through new media, which amplified environmental concerns and drew the attention of a broader audience.

Developing Proactive Community Environmental Communication Leaders

The assessment of the communication abilities indicated that, on average, the network possessed a good level. However, as it expanded to include youth, along with the rising popularity of new forms of media and communication methods, the environmental communicators' network needed to further improve skills. Therefore, three practical training courses were provided: developing a new generation of community environmental communicators, using data for communication, and using media for environmental advocacy campaigns at school. Table 2 shows a summary of community environmental communicators workshops.

Table 2 Summary of Community Environmental Communicators Workshops

Workshop Title	Environmental Issues	Target Group	Date
Developing a new generation of community environmental communicators	Ecotourism, waste and wastewater management, expansion of green space in urban areas, sustainable agriculture	Community leaders and youth from four selected areas	June 28–29, 2021
Using data for communication	Ecotourism, waste and wastewater management, expansion of green space in urban areas, sustainable agriculture	Community leaders and youth from four selected areas	July 5, 2021
Using media for environmental advocacy campaigns at school	Ecotourism, waste and wastewater management, expansion of green space in urban areas, sustainable agriculture	Students from schools in the four selected areas	February 25–26, 2023
Youth for Kaomai Chamcha (Rain Tree)	Expansion of green space in urban areas	Students from San Kamphaeng School	March 21, 2022
Environmental issues: field research in Mueang Chiang Mai District	Waste and wastewater management	Students from Wattanothai Payap School (Green Power Gangster Thailand team)	May 21–22, 2022
Ecotourism network workshop	Ecotourism	Students from Chiang Dao Witthayakhom School	October 22, 2021
Communication workshop at San Sai Witthayakhom School	Sustainable agriculture	Students from San Sai Witthayakhom School	May 17, 2022

Developing a new generation of community environmental communicators through training focused on storytelling techniques and the concept of activist media. It included environmental communication concepts, target segmentation, narrative structure development, and communication strategies. The target groups were community leaders and youth. The goal was to empower participants to become leaders in horizontal communication between communities to expand network and build coalition, as well as to persuade communities for collectively pressing for environmental issues in their local areas.

The training on using data for communication was a workshop on managing data for environmental communication. Applying the concept of data journalism, it included data collection, analysis, synthesis, and data management techniques to derive factual evidence as the core of storytelling. The training also featured experience-sharing from Thai PBS and Jai Ban Group. The target group consisted of youth representatives and community leaders from the target areas.

The training on using media for environmental advocacy campaigns at school was a workshop organized for student leaders in schools within the target areas. Participants learned about the environmental issues in their own areas and designed communication plans to advocate for solutions. For example, the project of "Youth for Kaomai Chamcha (Rain Tree)" coordinated with San Kamphaeng Heritage Conservation Group, San Kamphaeng School, and Chiang Mai Greenery. Beauty. Scent Network, the students learned about the botany and green spaces of San Kamphaeng District through the Chamcha trees that were connected to the community's history, way of life, culture, and economy. They became more aware of the importance of these trees, leading to the design of a communication plan to advocate for both internal and external community members to help monitor the health and care of the trees. They also sought ways for harmonious coexistence between those who agreed and those who disagreed on the conservation of the trees. In Mueang Chiang Mai District, Green Power Gangster Thailand of Wattanothai Payap School conducted field research, discovering that waste and wastewater problems were

intricately linked to broader social issues—such as urban congestion, unequal access to public waste management services, and a lack of environmental responsibility among local businesses. These challenges reflected the root causes of environmental degradation, which went beyond technical waste disposal to include systemic inequalities and institutional neglect. This insight inspired them to communicate and advocate for raising awareness in urban communities, emphasizing the importance of addressing these underlying social and structural conditions. Meanwhile, the Ecotourism Network Mae Na Subdistrict Municipality, and Chiang Dao Witthayakhom School had collaborated to strengthen the role of youth by involving them in the work of the network leaders. This provided them the opportunities to learn in real situations and exchange perspectives on environmental issues. The project also supported youth participation in advocacy communication by producing media through social media platforms. At San Sai Witthayakhom School, a communication workshop was organized to advocate for agricultural issues, using storytelling through food menus to share the story of natural farming. The workshop also included field visits to provide participants with firsthand experience in safe agriculture practices.

2. Communication Strategies of the Community Environmental Communicators' Network

The findings revealed that the community environmental communicators' network employed three key communication strategies that aligned with the defined concept of communication strategy—as a process to create awareness of ownership, mission-driven motivation, persuasive messaging, the use of communication tools, and collaborative teamwork, as shown in Figure 4.
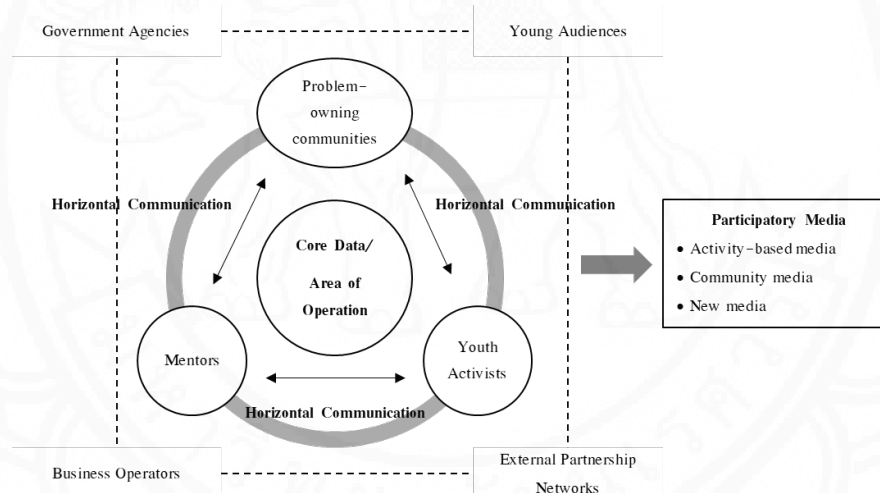
Figure 4 A Participatory Communication Model among Stakeholders in Community Environmental Communicators' Network.

<u>Strategy 1</u>: Creating Content from Core Data and Contextual Linkage

In community environmental communication implementation, "content" was a critical component in raising awareness among the audiences about the importance of collaborating to solve environmental issues. Therefore, systematically searching, managing, and linking information were the primary starting point in communication planning. In this case, data was synthesized and analyzed to be used in creating relevant content. Moreover, various pieces of information were linked together to convince the audiences since environmental problems were interconnected with other issues and had significant impacts. Once the network had collectively understood the root causes of the community's environmental issues, they collaboratively set the direction for creating content that aligned with the specific challenges of each area. The key content themes designed for each area were as follows:

Ecotourism: The creation of content began with presenting the concept of ecotourism and sharing the community environmental management experiences. Then, the ecotourism network had created content on ecotourism to enhance understanding and engage tourists, such as infographics introducing ecotourism destinations in Chiang Dao District and video clips featuring local perspectives on ecotourism.

Waste and Wastewater Management: The focus was on providing information about the amount of waste discarded each year, household waste management, cooperative efforts by businesses in waste management, and highlighting the fact that the problem affected not only the community but also the entire city of Chiang Mai. Additionally, the strategy emphasized fostering community participation in addressing the problem through cultural activities, such as Lanna candle lighting ceremony, Khuan Kha Ma Community walking street, and Lanna performing arts in provincial events.

Expansion of Green Space in Urban Areas: The collaboration had been established with academic institutions to conduct a hands-on workshop on tree health assessments under the concept of "Tree Doctors". It aimed to build knowledge on how to properly care for the trees according to arboricultural principles. Additionally, various related activities had been organized to raise awareness and generate enthusiasm for the conservation. Articles, documentaries, and video clips had been carefully produced and shared through the internet, alongside activities designed to raise awareness and deepen the understanding among community members.

Sustainable Agriculture: The key message focused on linking the audience to the negative impacts of monoculture farming on farmers, consumers, and the environment. Furthermore, the content included aspects of food literacy and preparing healthy meals with organic ingredients.

<u>**Strategy 2**</u>: **Horizontal Communication**

Horizontal communication emerged as a pivotal strategy within the community-based environmental communicators' network, which comprised three key actors: local communities committed to addressing environmental issues, mentors from Prachatham Media Foundation, and a new generation of youth environmental communicators. This networked communication approach embodied the concept of a communication strategy as a process designed to foster awareness of ownership, mission-driven engagement, persuasion, the utilization of communication tools, and collaborative teamwork. The horizontal mode of communication facilitated inclusive dialogue by enabling members to exchange information and perspectives on an equal basis. This egalitarian dynamic supported collective analysis of prior initiatives, identification of strengths and limitations, and joint problem-solving to address implementation challenges. For instance, members collaboratively examined the roles and impacts of various stakeholders within local environmental projects—assessing who was involved, who benefited, and who may be disadvantaged. This exchange of grounded, context-specific knowledge enhanced the effectiveness of internal communication and strengthened the network's capacity for evidence-based decision-making. Furthermore, horizontal communication contributed to the construction of a shared vision among network members, thereby reinforcing strategic alignment and collective motivation. This shared understanding enabled members to visualize common goals and articulate the benefits of collaborative environmental action. For example, joint efforts to preserve green spaces and large trees within communities were not only linked to aesthetic and ecological benefits but were also seen as contributing to place-based tourism development. Similarly, initiatives in sustainable agriculture were oriented toward promoting the well-being of both producers and consumers. In the domain of ecotourism, horizontal engagement encouraged the protection of local resources, mitigated conflict over land use, and supported the growth of a sustainable community economy.

Horizontal communication was also applied to stakeholders outside the network, including government agencies, business operators, young audiences, and external partnership networks. For government agencies, it involved meetings and discussions to provide information. They were also invited to participate in community activities as a way of indirectly conveying information. This approach allowed them to gain a better understanding of the issues on the ground, which may lead to an increased recognition of the importance of the problems and potentially offer more support for the community's initiatives. For horizontal communication with business operators, it was important to first study the background and interests of the specific group. This allowed the activities to be linked effectively with their needs, ensuring that the communication resonated with them and encouraged their participation in the community's efforts. Another important aspect was communicating with young audiences. Engaging them in the communication process required understanding their interests and adopting methods that appealed to them. It was essential to create suitable conditions in which they felt empowered to share their voices, express their ideas, and actively contribute. Involving them in co-creation processes significantly enhanced their sense of ownership and long-term engagement in environmental efforts. In addition, the use of digital platforms and social media channels, tools that were highly accessible and widely used among younger generations, played a key role in facilitating horizontal communication. These platforms enabled youth to co-create content, share ideas, and participate in discussions in real time. Therefore, messages targeting this group needed to be clear, easy to understand, and practically useful, in order to promote meaningful participation and encourage further dissemination within their networks. In addition, horizontal communication was also employed in engaging with external partnership networks comprising civil society organizations, environmental NGOs, and local media groups. These external collaborations enabled the network to broaden its perspectives, validate information, and generate collective momentum toward environmental goals. By engaging with these external stakeholders, the network fostered mutual understanding and reciprocal learning, rather than top-down dissemination. Civil society groups contributed local knowledge and advocacy expertise; NGOs provided technical support and policy insights; while local media amplified environmental messages and framed narratives in ways that resonated with wider publics.

This inclusive and dialogic approach enhanced the network's credibility and visibility, as it positioned the community environmental movement not as an isolated effort but as part of a broader ecosystem of change agents. It also strengthened the sense of collective ownership and shared mission across both internal and external actors, aligning with the overarching communication strategy that emphasized ownership, mission-driven action, persuasion, communication tools, and teamwork.

Strategy 3: Participatory Media

The network employed a variety of media to raise awareness and foster engagement among target groups by involving them in the production process. Prachatham Media Foundation, as a mentor, provided guidance, coordinated efforts, and arranged spaces for the dissemination of content. These media could be categorized into three types: activity-based media, community media, and new media.

Activity-based media aimed to create a sense of ownership and active involvement among participants. It consisted of: short video competition under the theme "The Future of Rain Trees and the People of San Kamphaeng", student painting competition in San Kamphaeng District, under the theme "Our Rain Trees", field survey and rain tree health tagging activity, video and infographic contest titled "(Urban) Chiang Mai's Environment Through the Eyes of Locals", and "2023 Cultivate Environmental Awareness Activity".

Community media included town hall meetings, discussing environmental challenges and engaging community members in collaborative problem-solving and decision-making processes. The public forums were organized in various locations, including: "Mae Kha Canal is Now Clean, What's Next for Chiang Mai's Wastewater?" at Wat Hua Fai, Chang Khlan Subdistrict, Mueang Chiang Mai District, "Food/Us/World" at The Goodcery, Mueang Chiang Mai District, and "Mai Mai Mueang: Stories to Tell, Chamcha of Our Village, Old City of San Kamphaeng" at the San Kamphaeng Subdistrict Municipality Meeting Room. Once the first public forums were completed, another forum was held to summarize the lessons learned. This event provided a platform for sharing experiences in environmental communication efforts in Chiang Mai. Participants included representatives from academic, civil society, youth groups, and community representatives.

New media included columns such as "EnviLocalEyes" featured on www.prachatham.com, as well as social media platforms like Facebook page Prachatham, TikTok #prachatham, and pages of networks, such as Chiang Mai Greenery. Beauty. Scent Network, Chiang Mai Breath Council, and Spark U Lanna. Additionally, hashtags were used to make articles and videos easier to be found on online platforms, for example: #EnviLocalEyes, #EnvironmentalFund, #PrachathamMediaFoundation, #ChamchaTreesInSanKamphaeng, #GarbageAndWaste waterPollution, #GreenSpacesInSanKamphaeng, #CultureDrivingTheEnvironment, and #SustainableAgriculture.

Discussion

1. The Formation of Community Environmental Communicators' Network in Chiang Mai Province

Environmental communication had been defined as the application of approaches, principles, strategies, and techniques to manage environmental issues. Flor (2004) proposed six key components of effective environmental communication: 1) knowledge of ecological laws, 2) sensitivity to the cultural dimension, 3) ability to network effectively, 4) efficiency in using media for social agenda setting, 5) appreciation and practice of environmental ethics, and 6) conflict resolution, mediation, and arbitration. According to the findings, the participatory development of the community environmental communicators' network aligned most clearly with the second and third components, while also reflecting other elements of the framework in practice. Regarding sensitivity to the cultural dimension, the study revealed that each community addressed distinct environmental issues within specific social and cultural contexts. Coordinators demonstrated awareness of these differences and adapted communication strategies accordingly. Specifically, in the case of sustainable agriculture in San Sai District, the finding indicated that older generations of farmers often resisted information that contradicted their beliefs. Therefore, the communication approach focused on highlighting the benefits and advantages of sustainable agriculture for farmers, community, and environment. Additionally, the key message was emphasized on the growing consumer market for safe agricultural products. In Chiang Mai City, cultural activities were organized to bring residents together to participate in shared events on various occasions, such as the lighting of Phang Pratheep lanterns during Loy Krathong festival. This approach aimed to encourage residents to learn together and share a sense of collective ownership of the area. Therefore, exploring and understanding the social and cultural contexts of the community should be a top priority when planning community environmental communication. This aspect served as a crucial factor for fostering community participation (Wannaudom, 2019, p. 219). For the second component, ability to network effectively, the result exposed that each area initially had its own group work on community environmental communication. However, there was no concrete collaboration between these groups as part of an established network. Prachatham Media Foundation initiated efforts to accommodate and

establish a network. The process began with communication directed to community leaders or community opinion leaders; these individuals played an important role in communicating and persuading community members effectively (Kaeochada, 2014; Vejjanukroh, 2013, p. 8). Initiating communication with community leaders was also one of the key indicators of the success of community environmental communication (Wannaudom, 2019, p. 230). The creation of this network was an expansion of the network's scope, which would result in increased cooperation in various aspects, including the development of communication capabilities, having a central hub for communication channels, and empowering for communication.

The study shed light on the conditions necessary for sustaining and strengthening the self-reliance of the community environmental communicators' network, particularly the involvement of stakeholders who were united by shared goals and a sense of collective responsibility in advancing environmental communication. It was a development of community partnerships to elevate decision-making and enhance their communication capacities to effectively address community environmental issues (Phuengsamran et al., 2019, p. 91).

Beyond these two primary components, other elements of Flor's framework also surfaced. While community communicators were not formally trained in ecological science, they demonstrated a grounded, experience-based understanding of environmental problems, suggesting an implicit knowledge of ecological laws. Media use, particularly digital platforms and local channels, began to play an increasingly important role in raising awareness and engaging youth audiences, reflecting media efficiency for agenda setting. The participants also showed a strong commitment to environmental ethics, especially through promoting sustainability, intergenerational equity, and civic responsibility. Although formal mechanisms for conflict resolution were limited, many local leaders acted as informal mediators, helping reconcile differing interests between community members and government actors.

In sum, the findings illustrated how grassroots efforts reflected multiple dimensions of Flor's model, particularly cultural sensitivity and network-building, while also contributing to other aspects of effective environmental communication through practice and adaptation.

2. Empowering Community Members to Transition from Receivers to Active Environmental Communicators

The finding was consistent with Roonkaseam et al.'s approach (2019, p. 82), which emphasized the importance of mutual participation between communicators and their audiences. The idea that both senders and recipients engaged in a continuous dialogue to co-create knowledge and solutions reflected a participatory communication model. This model empowered communities to not only received but also actively contributed to the communication process, fostering ownership and shared responsibility for addressing environmental issues. Similar to Flor's perspective (2004), environmental communication should not focus solely on the sender or the media but should also allow the receivers to actively participate in the communication process. By doing so, the recipients became enthusiastic participants who actively engaged in transmitting the message and taking part in activities. Furthermore, the finding aligned with those of Vejjanukroh (2013, p. 10) and Piyasatittham (2013, p. 120), who emphasized that well-designed components of environmental communication, particularly within the SMCR framework, played a significant role in fostering the formation of collaborative network and encouraging active participation. These studies underscored that when communication elements such as the message content, transmission channels, and audience engagement were strategically planned, they could enhance community understanding and drive collective environmental action. When most recipients accepted the concept of community environmental management, they then invited others or spread the message through word of mouth.

3. The Expansion of the Community Environmental Communicators' Network

The study found that the community environmental communicators' network evolved into a more structured and dynamic model consisting of three primary driving components: the problem-owning communities, youth activists, and mentors. These groups collaboratively operated around core data and specific areas of environmental concern. Each played a distinct role, the problem-owning communities provided technical knowledge and mobilization, youth activists contributed creativity and digital fluency, while mentors offered guidance and strategic support. This central collaboration was reinforced through connections with external stakeholders, including government agencies, business operators, broader partnership networks, and young audiences. However, in order to ensure continuity and sustainability in operations, there was still a need for a central hub to drive and expand the network further. In this study, Prachatham Media Foundation played a crucial role as the central hub that not only initiated but also sustained the development of the environmental communicators' network. Its function extended beyond coordination; it provided strategic direction, facilitated knowledge exchange, and served as a trusted intermediary among diverse actors. The presence of a central hub was essential in creating coherence within the network, enabling cross-sector collaboration, and maintaining momentum in collective environmental action. This was consistent with Chongkolrattanaporn (2009, p. 5), who suggested that environmental communication networks should have a clear central hub to drive collaborative activities. This, in turn, would garner public support for movement and problem-solving efforts more effectively. Similarly, Sitthisuntikul et al. (2019, p. 300) found that relational networks were a key factor in supporting the success of environmental communication efforts in achieving their goals.

This study offered contextualized insights into the development of a community-based environmental communicators' network in Chiang Mai Province. However, certain limitations should be acknowledged. The findings were drawn from a specific socio-cultural and environmental context unique to Chiang Mai, including its urban-rural dynamics, cultural diversity, and existing civil society infrastructure. As such, the transferability of results to other regions in Thailand or beyond may be limited. Furthermore, the qualitative nature of the study may involve subjective interpretation despite efforts to ensure credibility through triangulation and stakeholder validation. Future research could address these limitations by conducting comparative studies across provinces with differing environmental issues and community structures. Longitudinal research would also be valuable to examine the durability of network impacts over time, especially in sustaining youth engagement and cross-sector collaboration.

Conclusion and Suggestions

This applied research investigated the participatory network establishment of community environmental communicators and examined the communication strategies employed to foster collaboration within the network. The study was based on qualitative method with case studies by using in-depth interviewing and participatory observation on four environmental issues: ecotourism, waste and wastewater management, expansion of green space in urban areas, and sustainable agriculture. The finding found that Prachatham Media Foundation played a key role as the central coordinator in fostering a more concrete network of community environmental communicators in Chiang Mai Province. It also provided support and guidance in planning and implementing the network's communication initiatives. The creation of the network began with analyzing the environmental issues in each area, building alliances, and developing proactive environmental communicators. The finding also revealed

that the communication strategies used to establish the network included three strategies: 1) creating content grounded in core data and contextual linkage, 2) horizontal communication, and 3) participatory media. The formation of a participatory network of community environmental communicators emerged as one of the key factors for effective environmental communication, as it enabled all relevant stakeholders to actively participate in addressing local environmental challenges. Furthermore, the study identified fundamental components that stimulated the process of environmental communication, such as issue-based analysis, stakeholder engagement, and the development of shared narratives. These components were enhanced through collaboration with agencies or organizations that possessed technical expertise, media resources, and institutional capacity. Such collaborations not only strengthened the communicative capacity of local communities but also contributed to the scalability and credibility of environmental messages. Building network with other relevant groups, such as local government agencies, civil society organizations, and subject-matter experts, was therefore essential for collectively driving efforts toward solving environmental problems. This research underscored that environmental communication was most effective when it was both participatory and collaborative, integrating local knowledge with broader institutional support. However, for the continuous and sustainable operation of the network, this research article offered recommendations dealing with action and future research as follows:

Action

1. The operations of the community environmental communicators' network should have a central hub that acts as a coordinator and connects the various groups. The central hub could be a local government agency, a non-governmental organization, or a civil society group that has capacity of continuously carrying out such activities. To strengthen policy impact, this hub should also serve as a liaison with policy-making bodies to ensure that grassroots environmental concerns are represented in local and regional development plans.

2. The network, as a sender of messages, faced limitations in communication skills. Academic institutions or professional communication organizations should provide support through consultations or hands-on training workshops to enhance these skills. This collaboration will not only empower the network but also help shaping a generation of community-based communicators who can influence public opinion and policy agendas through informed and strategic messaging.

3. The community environmental communicators' network should collaborate with local educational institutions to support youth in becoming more aware and conscious of community environmental issues. This collaboration should also create opportunities for youth to actively participate in community environmental communication initiatives and even integrate environmental topics into local school curriculum, thereby expanding the long-term educational impact.

4. Local government agencies should adopt policies that support and collaborate with the network. This may include integrating the network into local environmental planning processes, allocating dedicated budgets, and establishing community forums or digital platforms to collect feedback and insights from citizens. Such policy mechanisms would institutionalize the network's role in local governance and ensure the sustainability of its initiatives.

5. Community development organizations and local planning units should consider using insights and data generated by the network to inform development projects. For instance, input from communicators can be used to prioritize environmental needs, co-design infrastructure projects, and monitor the environmental impact of ongoing community development efforts.

Future Research

1. Since the network members had varying capabilities of communication skills, future studies should explore the specific competencies that needed to be developed (e.g., news/report writing, photography, videography, storytelling). A detailed competency framework could guide the design of skill-improving programs, increasing the communicative effectiveness and credibility of the network's messages.

2. It is important to assess the effectiveness of different media formats and platforms in order to determine which ones have the greatest impact and foster the highest level of participation from the audiences. The findings could influence both communication strategies and funding priorities for environmental campaigns in similar contexts.

3. It would be valuable to study the communication processes and strategies used by environmental communicators' networks in other regions with different cultural, social, and ecological contexts. This comparative research could inform the development of a flexible communication model that accommodates local specificities while maintaining core principles of participatory and inclusive communication.

4. Future research should examine how community environmental communication influences policy decisions at the local and regional levels. By tracing the pathways from grassroots messaging to policy action, researchers could highlight the network's role in environmental governance and demonstrate its contribution to sustainable development goals.

5. Another area for exploration is the long-term impact of youth involvement in environmental communication. Longitudinal studies could track changes in environmental attitudes, behaviors, and civic participation among young people who have engaged with the network, providing valuable evidence for integrating such programs into educational and community development frameworks.

Acknowledgments

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