



Received: 13-06-2022

Accepted: 17-08-2022

Published: 20-08-2022

The Implementation of Environmental Communication for Community Waste Management Initiative in Bontang, East Kalimantan

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Abstract

Improper waste management has a detrimental effect on the quality of life due to its impact on the ecosystem and public health. Therefore, effective environmental communication is required to raise public awareness about preserving the environment. This research examines the role of environmental communication implemented by Mekarsari Guntung Sejahtera Cooperative in the Guntung community of Bontang City. The study utilizes a descriptive qualitative method focusing on the function of environmental communication. The findings indicate that Mekarsari Cooperative employs two communication functions: constitutive and pragmatic. In the constitutive function, environmental communication promotes values of awareness, compassion, and cooperation to create a clean environment and economically empowered community. In the pragmatic function, environmental communication is used to educate and inform individuals about proper waste management methods and their benefits for the community.

Keywords: Ecological awareness, environmental communication, and community waste management.

Abstrak

Pengelolaan limbah secara tidak tepat berdampak pada penurunan kualitas hidup karena gangguan ekosistem dan kesehatan masyarakat yang disebabkan. Dalam hal ini, diperlukan penerapan komunikasi lingkungan yang efektif untuk membangun kesadaran masyarakat tentang pentingnya menjaga lingkungan. Penelitian ini, dengan demikian, menjelaskan peran komunikasi lingkungan yang dilaksanakan oleh Koperasi Mekarsari Guntung Sejahtera di kalangan masyarakat Guntung di Kota Bontang. Penelitian ini menggunakan metode kualitatif deskriptif yang berfokus pada fungsi komunikasi lingkungan. Hasil penelitian menunjukkan bahwa terdapat dua fungsi komunikasi yang diterapkan oleh Koperasi Mekarsari, yaitu fungsi konstitutif dan fungsi pragmatic. Dalam fungsi konstitutif, komunikasi lingkungan di Koperasi Mekarsari menumbuhkan nilai kesadaran, kepedulian, dan kerjasama untuk menciptakan lingkungan yang bersih dan masyarakat yang berdaya secara ekonomi. Pada fungsi pragmatik, komunikasi lingkungan dilaksanakan untuk mendidik dan memperingatkan orang-orang tentang metode pengelolaan limbah yang tepat dan manfaatnya bagi masyarakat.

Kata Kunci: Kesadaran ekologis, komunikasi lingkungan, dan pengelolaan sampah komunitas.

A. Introduction

The pollution problem due to inadequate waste management practices has a detrimental impact on the quality of life for future generations in Indonesia. One major contributor to this problem is the prevalence of bad habits among people, such as waste disposal into rivers. This behavior is perpetuated by a lack of knowledge and education among the general population as well as a failure on the part of the government to enforce strict regulations and policies. The poor management of waste can significantly impact the degradation of water quality, leading to increased flooding occurrences and exacerbating existing public health problems (Indonesian Ministry of Life and Forestry, 2020).

The Indonesian National Plastic Action Partnership released data in April 2020 indicating that more than 67.2 million tons of waste accumulate in Indonesia annually (Pranita, 2020). This waste is disproportionately distributed into lakes, rivers, and oceans, with approximately 9% of the total

waste being deposited into these areas. According to this trend, it is estimated that the amount of waste produced in Indonesia will increase by 85,000 tons per day and reach 150,000 tons in 2025 (Pranita, 2021). Most of this waste comprises household waste, accounting for between 60% and 75% of the total. Household waste contains a high proportion of organic waste, such as food waste from vegetables and fruits, which contributes to the production of methane gas and exacerbates the global warming crisis (Rahman, 2022).

According to the global warming index, methane gas, a potent greenhouse gas emission, has a 21-times greater negative impact than carbon dioxide gas (Indonesian Ministry of Life and Forestry, 2020). Inadequate waste management practices pose a threat to public health and increase the risk of hydrometeorological disasters. To mitigate these impacts, it is essential for society to be more aware of environmental problems and to engage in sustainable waste management practices. The adverse effects of waste management on the environment and public health can be prevented by taking these steps.

In Indonesia, including in Bontang city in the East Kalimantan province, numerous initiatives have focused on community empowerment in the environmental field. The Koperasi Mekarsari Guntung Sejahtera established one such initiative. Founded as a homesteading group, the organization evolved into a Joint Business Group (JBG) and ultimately transformed into a cooperative. From 2015 to 2018, the Mekarsari Guntung Sejahtera Cooperative was actively involved in waste management, utilizing waste to produce compost. This initiative is an example of community empowerment efforts to address environmental issues and promote sustainability.

The Mekarsari cooperative has achieved success in empowering the community of RT. 07 in Guntung by raising awareness about proper waste management. In 2010, the community received the "black award" from the Bontang Municipality government due to the negative impact of indiscriminate waste disposal on the environment, causing water and air

pollution and even leading to skin diseases among the local population (Bontang Post, 2018). However, by 2021, Guntung had become the third-best urban village in East Kalimantan, partly due to its innovative waste management program, which involves recycling organic waste into solid and liquid compost. This demonstrates the positive impact that community empowerment initiatives can have on environmental conservation and sustainability.

The Mekarsari Guntung Sejahtera Cooperative employs various informal communication strategies in its interactions with the local community to encourage active participation in waste collection and sorting (both organic and inorganic waste). Initially, Mrs. Rahmawati, the head of the cooperative, faced challenges in persuading the community to take an active role. However, she adopted a creative approach by setting an example of regularly sweeping dry leaves in her and her neighbors' yards. This non-verbal form of communication embodied the principles of social interaction and was influential in building rapport with the local community. Mrs. Rahmawati understood the local habits and was able to elicit empathy from the community to help maintain a clean environment. As stated by Gerald et al. (cited in Inayah, 2018), community members are more likely to understand and respond positively to communication that is in tune with their habits and avoids ambiguity in social interactions.

The initiative made by Mekarsari Guntung Sejahtera Cooperative to encourage the community to engage in waste management actively constitutes a form of environmental communication activity. Environmental communication serves as a symbolic medium for constructing environmental issues and negotiating diverse responses from society (Ardian, 2019). At the outset, the community in Guntung held divergent views on the waste management initiatives launched by Mekarsari Cooperative. In environmental management, public opinion and perception are crucial factors in environmental communication (Ardian, 2019). The community members who

have actively participated in waste management experience economic benefits through the sale of compost, vegetable pesticides, and fertile planting media but also develop positive opinions and perceptions that can influence those who are yet to participate in waste management in Guntung.

Flor (2018) defines environmental communication as a combination of communication approach, principle, strategy, and environmental management and protection techniques. Regarding this, Cox (2013) highlights seven areas of study in environmental communication, including environmental rhetoric and discourse, environmental media and journalism, public participation in decision-making, public education and advocacy campaigns (social marketing), environmental collaborations and conflict resolution, risk communication, and representation of environmental issues in popular culture and green marketing.

Environmental communication has been the subject of several studies to understand its impact on environmental awareness and behavior. Cerya (2021) discusses two environmental communication strategies for building awareness about managing household waste. The first strategy is mass communication, which uses media such as banners and flyers to influence society. The second strategy is personal communication, which involves direct counseling and is designed according to the needs of the community. Another study by Candrabuwono (2019) found that environmental communication uses informative, coercive, persuasive, and human relations techniques to influence society and change habits regarding the cleanliness of the Tabuk River. These studies highlight the importance of effective communication in promoting environmental awareness and behavior.

Anam et al. (2020) found that social media can effectively increase public participation and promote grassroots movements when framed and appropriately communicated. This research focuses on the participation and public education aspects of environmental communication in Guntung, Bontang city. The study aims to understand the impact of persuasive

communication in encouraging public participation in garbage management. The purpose of the persuasive effort is to provide shared learning (public education) and change the habit of the society in Guntung, which have been careless about waste management. Society's behavior that needs to change includes throwing garbage carelessly, abandoning it, not sorting organic and inorganic waste, and accumulating garbage. The research adds to the existing body of knowledge in the areas of environmental media and rhetoric and discourse.

Pezullo and Cox (2018) describe environmental communication as a study area with constitutive and pragmatic functions. The constitutive function involves verbal and non-verbal interaction that establishes, directs, and negotiates environmental issues' meaning, relation, and value. It creates definitions, perspectives, feelings, and beliefs about the problems. The pragmatic function involves verbal and non-verbal interaction with instrumental purposes such as promising, insisting, teaching, warning, refusing, promoting, and so on, to create concrete actions. These functions highlight the role of environmental communication in shaping society's understanding and behavior toward environmental issues.

The efforts made by the Mekarsari Guntung Sejahtera Cooperative to raise environmental awareness and alter societal behavior through environmental communication in Guntung are rooted in the principle of persuasive communication. This approach emphasizes the influence of attitudes, values, opinions, and behaviors through creative problem-solving, targeted persuasive activities, developing close relationships with the target audience, and providing incentives for change. Persuasive communication is crucial for environmental communicators to foster environmental awareness and shape societal attitudes and behaviors toward environmental matters (Soemirat and Suryana, 2015).

The communicator must understand both verbal and non-verbal messages for the persuasion to be effective. Verbal and non-verbal

communication is a crucial factor in successful persuasive environmental communication. According to Tubbs and Moss (cited in Soemirat and Suryana, 2015), oral communication includes all types of communication that use one word or more. The message being shared should be repeated, and the language used should be easy to understand by the target audience. The two core elements of verbal communication are speech stimulation and the use of words, such as in conversation, writing, and other forms. The society also uses non-verbal communication, which is shared without comments or other indirect means, such as facial expressions and body language (Soemirat and Suryana, 2015). In this research, the Mekarsari Guntung Sejahtera Cooperative is using persuasive environmental communication to increase community participation in Guntung, Bontang City.

B. Research method

This research utilizes a descriptive qualitative method. Qualitative data consists of words and sentences that form a narrative related to the categories and characteristics of the research through questions (Krisyantono, 2020). The questions for the key and supporting informants are organized and structured based on the research focus. The research focus is established to provide limits and boundaries for discussing and analyzing problems. The limitation of qualitative research is that the researcher is not studying the entire object or situation (Sugiyono, 2017). This research focuses on the constitutive and pragmatic functions of environmental communication. Through the second focus, it is revealed that environmental communication is a persuasive effort in waste management in Guntung, Bontang City.

The subjects of this research were determined using a purposive sampling technique. This technique involves selecting subjects based on specific characteristics identified by the researcher to meet the research purpose (Krisyantono, 2020). The key informant is determined based on being the initiator and having a role as a communicator in waste and environmental

management programs in Guntung. The supporting informants were selected based on characteristics such as being involved in or having experience with waste management education in Guntung cooperatives, being actively involved in the cooperation's economic, empowerment, and development programs for garbage management, having experience in cooperative service, small-scale businesses, and trading in Bontang City, being the head of Guntung urban village, or being a member of the Bikal foundation.

Primary data was collected through interviews with the key and supporting informants. Secondary data was collected from various sources such as libraries, books, journals, news articles, and others. The data collection techniques used included field observation, interviews, journal documentation, and media news articles. The data analysis technique used is Miles and Huberman's interactive model. The qualitative data was analyzed in an interactive manner until data saturation was reached (Sugiyono, 2017). Data analysis involved several steps, including data reduction, data presentation, conclusion, and verification.

C. Findings and discussion

The efforts made by Mekarsari Guntung Sejahtera Cooperative in promoting environmental awareness and changing society's behavior in Guntung, Bontang City, through environmental communication is a successful example of the principle of persuasive communication. This method is focused on influencing attitudes, values, opinions, and behaviors by utilizing creative thinking, carrying out persuasive activities, building close relationships with the target audience, and providing incentives for change. Verbal and non-verbal messages play a crucial role in persuasive communication, as they are a critical success factor in effectively communicating the importance of environmental issues to society. Environmental communication is a two-way messaging process involving society as the movement's main actor. It aims to

increase public participation and management in addressing environmental concerns (Polk, 2020).

The Mekarsari Guntung Sejahtera Cooperative has been conducting a participatory and dialogic interaction process in the Guntung community since 2015, formerly known as the Joint Business Group (KUBE). The number of cooperative members is now recorded at 50 individuals. The Mekarsari Guntung Sejahtera Cooperative is a business group with a vision of becoming a superior and independent entity, with three missions: to increase the living standards of its members, to lead economic growth in the community, and to cooperate with various parties. Initially, the interaction process faced challenges such as low public awareness of environmental management, particularly concerning waste management. The residents of RT 07 lacked knowledge on how to manage their garbage. It leads to unhealthy habits such as burning waste without proper sorting. This resulted in health problems such as dengue fever and skin scabies. Given these issues, environmental communication is critical in developing awareness in the Guntung community.

The constitutive function of environmental communication is demonstrated in the interaction carried out by a group of females (mothers) in RT 07 who are concerned about poor environmental conditions. They communicate with organizations that prioritize the environment, such as the Bikal Karya Lestari foundation, to receive guidance on proper waste management. The first program implemented by the foundation involved educating the community on how to make compost from dry leaves, which can then be sold for income. After realizing the benefits of composting, the mothers communicated with the head of the neighborhood unit and received support for the infrastructure required, including a chopping machine and a compost production house.

Pezulla and Cox (2018) argue that the constitutive function involves verbal and non-verbal interactions that form, direct, and associate meanings, relationships, and values. This consistent and continuous program drew the

attention of other organizations, including Bontang Social Service and Kaltim Fertilizer Company (PKT), who joined forces with the Bikal foundation to form a Joint Business Group (KUBE) that later became the legal Mekarsari Guntung Sejahtera Cooperative. The application of the constitutive function has led to the construction of values such as community awareness and concern for a clean and economically empowered Guntung and the creation of relationships based on mutual ownership, cooperation, and responsibility to maintain a healthy environment. Society's perspective on waste management has also changed, making persuading others to get involved easier.

As a communicator and persuader, the Mekarsari Guntung Sejahtera cooperative applies the pragmatic function of environmental communication to educate, warn, entertain, and promote environmental management activities. Before addressing the waste management problem, public awareness and knowledge of proper waste management were low. This aligns with the concept of the pragmatic function as a verbal and non-verbal interaction with an instrumental purpose, such as making promises, insisting, educating, warning, refusing, promoting, and more, with the ultimate goal of inducing concrete action (Pezullo and Cox, 2018).

The pragmatic function of environmental communication seeks to educate the community to participate in waste management, starting with the proper disposal of household waste. The Mekarsari Guntung Sejahtera cooperative leads by example, such as regularly sweeping their own and their neighbors' yards. The communication aims to persuade the community to actively collect and separate their household waste into organic and inorganic. Initially, Mrs. Rahmawati, the head of the cooperative, faced difficulties in persuading the community. However, by demonstrating her actions, such as regularly sweeping dry leaves, Mrs. Rahmawati could show the importance of environmental cleanliness and encourage community involvement. Her non-verbal communication behavior, which embodied social interaction,

demonstrated her understanding of local habits and elicited sympathy from the community to clean up their environment.

Regarding its role in environmental communication education, the Mekarsari Cooperative provides knowledge to the community in Guntung about the proper processes and benefits of waste management. Education plays a crucial role in raising public awareness. The cause and effect of improper waste management are conveyed to society, allowing for a shared understanding and perception to be established regarding waste management. This aligns with the concept that the fundamental purpose of communication is to attain mutual understanding (Yenrizal, 2017).

One aspect of garbage management in Guntung involves the conversion of organic waste into compost and pesticide. The production takes place at the compost house, starting with the collection of materials, then weighing, chopping, composting, packaging, promotion to increase sales, and evaluating product development. The members of the Mekarsari Cooperative, who are also members of the Guntung society, receive education and training to enhance their competency and knowledge in managing waste. The cooperative also collaborates with other partners, such as environmental services, industrial services, trading, and social responsibility programs from organizations like Kaltim Fertilizer Company (PKT), Kaltim Industrial Estate (KIE), and Bikal Foundation, to spread environmental messages.

An essential perspective in environmental communication is transactional communication, which emphasizes the two-way and sustainable forms of communication. Upon receiving training or conducting comparative studies in other cities, cooperative administrators apply their newly acquired knowledge. They then disseminate this information to different audiences, serving as speakers in urban villages that require knowledge of proper waste management.

In Guntung, most of the garbage consists of organic waste derived from dry leaves and household waste. In response to this situation, Rahmawati, as

the head of the waste management initiative, engages in intensive communication with the head of the RT (neighborhood unit) to promote the importance of proper waste management for the smooth operation of the Mekarsari Cooperative's program. She strives to find the best way to encourage residents to clean their home yards. This is achieved through informal communication, specifically through a personal approach. The unique process involves Rahmawati cleaning up her neighbors' home yards and collecting the dry leaves, which serves as a model for others to follow. They engage in conversations about their everyday problems as they collect the leaves.

Demonstrating empathy through cleaning other people's yards has led to the development of additional social practices, such as sharing food during the process. This occurs when collecting the dry leaves and turns the activity into a communal experience. Informal communication is easier to establish when turning waste into compost. Informal communication is characterized by a free-flowing dialogue, without structure or formality, which can encompass a wide range of topics and lead to longer, more relaxed conversations (Sulaiman, 2013).

Rahmawati prioritized intimate relationships in her informal communication interactions to increase awareness about waste management in Guntung society. As part of her persuasive function, she regularly convenes meetings for people to exchange collected dry-leaf garbage. The Mekarsari cooperative purchases dry leaves at 500 rupiahs per kilogram or exchanges them for goods such as soap, shampoo, and food.

To expand their program and develop more varied products, the management of the cooperative has connected their program to the Corporate Social Responsibility (CSR) program of Kaltim Fertilizer Company (PKT) in the form of donated funds and materials. The sales proceeds increased in 2016 due to the production of solid compost, which generated a monthly income of

1,183,000 Rupiahs and positively impacted the economic well-being of the cooperative's 20 members that year.

The cooperative of Mekarsari persuades the small and medium enterprises community to join the cooperatives program about waste management. Since many of the cooperative members are entrepreneurs of small and medium-sized enterprises, this fits them well. Through this waste management program, the cooperative aims to reduce waste and create a sustainable and environmentally-friendly community of businesses. The program provides various benefits to small and medium enterprises, such as reduced waste disposal costs, improved resource efficiency, and the opportunity to participate in a shared waste management system. By working together, the cooperatives can achieve a more significant impact and positively contribute to the environment.

Rahmawati's efforts involve direct communication exchanges, and her thought process and communication approach aim to educate society about waste management. According to the concept of environmentalism from Flor (2018), environmental communication involves the direct exchange of information through various forms of communication, strategies, techniques, knowledge, and environmental policies to manage and protect the environment.

The members of the Mekarsari cooperative communicate their programs to other people, such as offering compost fertilizer to farmers in the district. This led to increased funds available to help the cooperative members' households. The cooperative's educational, celebratory, mobilization, and persuasive functions aim to educate and change society's behavior towards keeping and managing waste appropriately, thereby creating a healthy environment and providing economic benefits to the members.

The Mekarsari cooperative's environmental communication functions involve public education and advocacy campaigns, aiming to change society's habits to meet environmental and social needs (Cox, 2013). The cooperative's

collaboration with other stakeholders also helps to increase awareness of the environment, and constructive communication is open to offer support and persuade companies and other service units to support the cooperative program. Environmental collaboration includes the study area of environmental communication and collaboration with other stakeholders to discuss and solve problems without advocacy or debate (Cox, 2013).

The principle of the persuasive method based on Suzuki (Soemirat and Suyatna, 2015) is a powerful tool for inspiring social change. This approach is rooted in creative thinking, persuasive messaging, reliance on social environments, creating intimate relationships with the target audience, and offering incentives for movement. This essay will explore how the Mekarsari Cooperative has successfully applied these principles to its work in the Guntung community.

The first principle of this approach is developing creative thinking. Mekarsari cooperative has used creativity to design a program encouraging people to participate actively in their community. For example, the cooperative buys dry leaves for 500 Rupiahs per kilo or exchanges them for goods such as soap, shampoo, food, etc. This program is an innovative way to encourage community members to be more involved and participate in activities that benefit everyone.

The second principle of this approach is persuasive messaging in the target place. The Mekarsari Cooperative has implemented a persuasive effort by directly inviting neighbors in Guntung to participate in their compost home production program. By doing so, the cooperative has successfully increased community participation in its program.

The third principle is that every people rely on the social environment. The work program prepared by the Mekarsari Cooperative aims to develop and increase the community's potential. The program is realized by carrying out various pieces of training, such as business skills, increasing the ability of its members, and conducting comparative studies. This approach highlights

the importance of creating a supportive social environment that encourages community members to learn and grow together.

The fourth principle is creating intimate relationships with the target audience. The work program constructed by the Mekarsari cooperative is built without coercion. It gives an example of real action: cleaning up and sweeping their home and neighbor's yard as an act of persuasion. After cleaning, they would meet and eat together, which fostered closer relationships between community members. This approach has led to the creation of social action programs that collect the skills of cooperative members, UMKM in Guntung, and social services, such as sharing food with the community. Communication is essential to this principle as every program obtained is communicated.

The fifth and final principle is offering incentives for movement. Mekarsari cooperative has been successful in its efforts to provide rewards to members who participate in their programs. For example, sales increased in 2016, with the omzet from solid compost reaching 1.183.000 Rupiahs per month. This increase in sales has had a positive economic impact on the members of the cooperative. At the time, there were 20 members in the cooperative.

In conclusion, the principle of the persuasive method based on Suzuki has proven to be an effective way to inspire social change. The Mekarsari Cooperative in Guntung has successfully applied these principles to its work, which has led to increased participation, improved community relationships, and positive economic impacts on members. The approach emphasizes the importance of creative thinking, persuasive messaging, social environments, intimate relationships with the target audience, and offering incentives for movement. Other organizations can create positive change in their communities by adopting these principles.

D. Conclusion

Effective communication plays a pivotal role in the planning and implementation process of environmental programs, thereby serving as an indispensable tool in environmental management. Within the Mekarsari Guntung Sejahtera cooperative, environmental communication performs two essential functions: constitutive and pragmatic. The constitutive function of environmental communication promotes environmental awareness, concern, and cooperation, fostering a clean environment and empowering individuals economically. Additionally, the cooperative actively seek guidance and assistance from external sources to address waste management challenges, ensuring sustainable and consistent efforts. The pragmatic function of environmental communication educates and cautions individuals regarding the impact of waste and proper waste management strategies. To encourage community involvement in waste management, environmental communication employs persuasive techniques such as creative thinking, real-life examples, training, comparative studies, and fostering close relationships while providing rewards, including additional income. Overall, the strategic use of environmental communication is a valuable instrument in advancing environmental sustainability.

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