



**International Journal of Education, Social Studies,
And Management (IJESSM)**

e-ISSN : 2775-4154

Volume 4, Issue 2, June 2024

The International Journal of Education, Social Studies, and Management (IJESSM) is published 3 times a year (**February, June, November**).

Focus : Education, Social, Economy, Management, And Culture.

LINK : <http://lppipublishing.com/index.php/ijessm>

**Digitalization of CDC Environmental Communication in
Handling Ciliwung River Ecosystem Sustainability
through Instagram**

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ABSTRACT

Digitalization technology has brought significant changes to people's lives. Environmental communication in the current era is present due to the emerging concerns regarding environmental damage and climate change that are increasingly evident worldwide. The Ciliwung watershed, which stretches long and passes through major cities in Indonesia, is, in fact, currently in a condition where its environmental ecosystem is increasingly crowded with piles of garbage, landfills, and wastewater pollution from irresponsible industries. The presence of the Instagram platform as a medium for environmental communication provides a significant opportunity for communities or organizations to continue campaigning on environmental issues, such as the Ciliwung Depok Community (CDC). The research conducted by the researcher aims to analyze and find forms of environmental communication as part of the CDC's efforts to deal with the preservation of river ecosystems through the Instagram platform. The research used a qualitative method with data collection conducted using virtual observation techniques and semi-structured interviews with several influential figures in the community and society. Data analysis in this study uses the Miles and Huberman, an interactive technique; the data will later be validated using source triangulation. The results show that CDC is able to become a community that conveys messages of conservation and education of the Ciliwung River ecosystem to its audience utilizing the Instagram Social Media platform. Communicating using Instagram allows users (CDC) to continue to represent community identity, communicate, collaborate, and interact with users so as to build social ties online. Thus, as a digital communication platform, Instagram is a very important tool in environmental conservation and sustainable development efforts, especially in the Ciliwung River ecosystem.

Digitalization, Environmental Communication, Ciliwung, Instagram.

[10.52121/ijessm.v4i2.291](https://doi.org/10.52121/ijessm.v4i2.291)

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ARTICLE INFO

Article history:

Received

22 March 2024

Revised

27 April 2024


Accepted

25 May 2024

Keywords

Doi

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Author 

INTRODUCTION

The development of the times, especially civilization, is a very complex and diverse scientific discipline. Humans slowly introduce new concepts at the community level and make updates to knowledge and insights in science, one of which is in the discipline of communication, which currently appears as a branch of the discipline of environmental communication. The concept of environmental communication itself was triggered by the emerging concerns related to environmental damage and climate change that are increasingly evident in the world (Agustina, 2023). When awareness of the negative impact of human activities on the environment is increasing, there is a need to understand, disseminate information, and communicate about environmental issues, which are often problems that do not get better. Based on the opinion of Cox and Pezzullo (2018), environmental communication is one of the platforms (media) of expression that is both constitutive and pragmatic. This means that this concept (environmental communication) will be involved in the process of meaning, orientation, naming, and human ecological negotiations that are united with nature so that it will have a pattern of relationships between systems, non-human species, and systems created by humans themselves (Hidayat, 2023).

The dysfunction of river ecosystems in the millennial era is still being discussed and even trending in various mass media. The definition of a River, according to Marsudi (2021: p.6), is a section of the earth's surface, reservoirs, and channels that are made naturally and are used as a way for water and currents to flow from the upper basin to lower places and end at sea. So, if we conclude that rivers have an important role in human life and ecosystems. Rivers provide water supply for human use, agricultural irrigation, and power generation. Rivers also provide habitats for various species of plants and animals and play an important role in the water cycle and soil erosion. In addition, rivers are also a source of recreational activities, such as water sports and tourism spots. Indonesia is an archipelago, meaning that the more islands there are, the more diverse the rivers in Indonesia. One of the rivers in Indonesia that has a high density of human ecosystems is the Ciliwung River, which crosses the Jakarta-Bogor-Depok area and is long. According to Satmoko Yudo (2018), the Ciliwung River is a river with an urban category, meaning that it has strategic significance in a national context that should be managed and given special attention. The ratio of length of the Ciliwung River reaches a distance of approximately 117 kilometers from upstream (Tugu Puncak, Bogor) to downstream (Jakarta Bay, North Jakarta) with an estimated area of 347 square kilometers.

However, based on data from the Ministry of Environment and Forestry of the Republic of Indonesia (KLHK), as many as 7,000 tons of garbage are dumped

in the Ciliwung River every day. The orange troops in charge of overcoming the garbage problem can only transport 75 percent of the total that is discharged into the Ciliwung River. Meanwhile, another 25 percent of the Waste is carried away by the river flow, then 8 percent of the total carried away by the flow, around 180 tons, settles and pollutes the Ciliwung River (Widiyanto, 2017). This is a very serious problem, and there must be concrete actions taken by various parties, but not based on the fulfillment of interests in building trading or viral only, between the front stage and the backstage are contradictory.

The Waste collected and taken from the Ciliwung watershed is dominated by disposable plastic waste and textile waste. Apart from the effects of household activities, the Ciliwung River is also polluted by various industrial wastes and irresponsible garbage disposal (Mutiah, 2023). This situation, in fact, is inseparable from the mental attitude of the people who consider the River as a backyard and can be used as a public waste disposal site. People who live along the banks of rivers and streams do not seem to be aware of the importance of rivers for human life. Thus, it is important to manage Waste to reduce the amount of Waste that must be disposed of.

Based on the Law of the Republic of Indonesia No. 18 of 2008 concerning Waste Management Article 1, it states out loud that what is meant by Waste is the residue of daily human activities or can be a solid natural process. Of the various types, the one that we later recognize is called specific Waste. PP No. 27 of 2020 explains that what is meant by specific Waste is Waste that is formed due to its nature, concentration, or amount that requires special management. Specific Waste consists of: a. Waste Containing Hazardous Waste; b. Waste Containing Hazardous Waste; c. Waste arising from disasters; d. Building demolition debris, e. Building demolition debris ; f. Waste that cannot be processed technologically f. Waste that arises non-periodically. Management cannot be separated from the method chosen to carry out the management. Every place has its own way of managing Waste. The most common method is the 3M slogan in the form of reducing Waste, reusing Waste, and recycling Waste. Of course, these three activities require the participation of various parties, both the community and other elements.

The River is one of the things that cannot be separated from Indonesian society. Rivers are likened to the veins in the life of nature. The water that flows in the River is the blood that flows to all corners of the earth. With many types of aquatic life, the River is also one of the sources of life for fish, crabs, and other aquatic biota. The Ciliwung River is used as a water reservoir, an ecosystem center for nature, a place of livelihood for some families, a source of community consumption materials, a family recreation vehicle, and a location where people

find peace and relaxation. It is undeniable that the River has become one of the places to fulfill daily needs such as bathing, washing, and so on. However, one major role of rivers that we cannot forget is as a source of flood prevention. We have to accept the fact that there are still many people who litter the entire body of the River. Starting from upstream to downstream, people are constantly changing the function of the River as an estuary for the garbage piled up in their homes. Without realizing it, this then causes the River to be polluted and its function to be reduced. While in the past, rivers were praised as a provider of clear water in addition to wells, today, we can no longer enjoy that function (Nurul Hidayat, 2022).

In a research release published in 2015, researchers from the University of Georgia led by Jenna R. Jambeck (2015) ranked the countries that dumped the most plastic Waste into the ocean. Out of an estimated total of 275 million Metric Tons (MT) of plastic Waste produced from 192 countries around the world in 2010, it was estimated that between 4.8 - 12.7 million MT entered the oceans. In the study, Indonesia came in at number two behind China, with the Philippines at number three. If we pay attention, these three countries have something in common, namely that they are both developing countries in Asia, have dense urban populations, and have borders that are directly adjacent to the sea (Sekarningrum, 2017).

The people crossed by the Ciliwung River, especially those in Depok City, began to realize and build a principle that the River is not just a flow of water but the River is the center of life that affects the sustainability of the ecosystem around the River. Through this environmental communication process, the people of Depok City can convey moral values that create beautiful and sustainable river conditions. In a study conducted by Achmad Bayu Chandrabuwono (2019), it was explained that at the community level on the banks of the Martapura River, they have the principle that the River is considered a source of their livelihood, not considered as a sir flow only. This condition is inversely proportional when people are already at the urban and metropolitan levels and tend to be indifferent. Environmental communication acts as a way to overcome communication problems. Therefore, environmental communication is an effort to convey messages of environmental sustainability using communication approaches, principles, strategies, and techniques for environmental management and protection. Communication is a process of delivering messages between humans and one another (Flor, 2018).

According to Liang (Hidayaturahmi, 2023) in his study on integrating theory and practice in building the SEC (Strategic Environment Communication) pattern, with the aim of trying to enter function in campaigning messages

regarding the discussion of environmental conservation, especially watersheds based on facts or evidence. Liang concluded that the SEC model can take into account the control of norm-based human personal behavior and the message used as freedom of choice.

The existence of Ciliwung Depok Community (CDC) plays a role as an aggregator in building the sustainability of the river ecosystem; it can be defined that CDC is an association of environmental activist volunteers who care about the preservation of the function of the River and the Ciliwung Watershed (DAS), moving independently, overseeing and maintaining the natural ecosystem as a chain of life along the Ciliwung river and watershed with the specification of activities carried out either individually or in groups in order to realize the vision of the Ciliwung River which is clean from garbage and Waste, maintained borders and biodiversity and is beneficial to society and the environment. The role of CDC as an environmental communication aggregator provides many uniqueness and needs to be studied in depth in its activities and actions, especially when it becomes a communicator whose scope is in the preservation of the surrounding environment in order to create better conditions from the exposure of negative issues in the media. The development of technology has also brought about an explosion of movements, protests, and activism based on modern media, where modern media is always based on the digitization process, such as the emergence of social media. The new media allows CDC to convey a variety of complaints, build social movements, and hold those in authority accountable for the complaints conveyed by the community. So, in the research conducted, a problem formulation can be made: How is the form of environmental communication of the Ciliwung Depok Community through its Instagram media account used as a campaign process to maintain the river ecosystem in Depok? The purpose of this research, as part of the continuity with the formulation of the problem, is to analyze and find forms of environmental communication as part of efforts to deal with the preservation of river ecosystems by the Ciliwung Depok Community through Instagram social media accounts.

RESEARCH METHODE

This research uses qualitative research methods. This means that research methods with a qualitative paradigm always place researchers in conditions that can explore the subject and object of research. According to Creswell (2014) the approach with qualitative methods places researchers in conditions that can see the visualization of research directly so that they can find hidden data. Meanwhile, according to Hennink et.al (2011) the approach with qualitative

methods will try to gain knowledge and understanding of reasons, beliefs, motivations, and perceptions.

Through the use of a qualitative paradigm or approach, the research that will be conducted seeks to understand the reasons, motivations, actions, and perceptions of the CDC in carrying out its active role as one of the main actors in preserving the river environment, especially along the Ciliwung River in the Depok City area. The data presented in the research is sourced from a virtual observation process and supported by semi-structured interviews, documentation techniques as a companion technique in collecting data in the field. After completing the data collection process, the process that will be taken by the researcher is to interpret the data findings using a conceptual framework to answer the problems in the research. The exploratory and dynamic qualitative method opens researchers to explore as much data as possible, so that the results of the analysis are more subjective according to the researcher's ability to process data taken from the field.

RESULT AND DISCUSSION

The presence of technology at this time makes it easier to obtain information regularly. Media convergence gave birth to digital communication platforms such as Instagram, TikTok, YouTube, and various other platforms. Based on observations that have been made of the Ciliwung Depok Community Instagram, it shows the role of Instagram in building branding and reaching followers to take part in efforts to preserve the Ciliwung Depok River basin. This community is also active in sharing activities held in the Ciliwung Depok watershed through Instagram media with the aim of providing understanding and knowledge to the local community to pay more attention to their environmental conditions.



Figure 1.
Conservation and Education of the Ciliwung Endemic Fish Ecosystem

(Doc. Researcher)

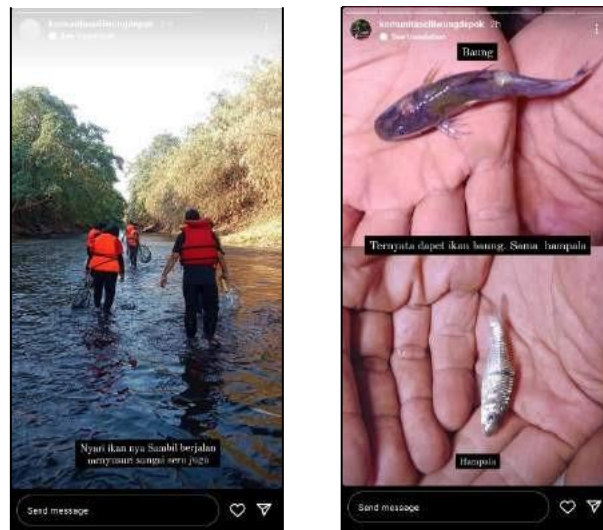


Figure 2.

Baung and Hampala, one of the Ciliwung Endemic Fishes (Doc. Researcher)



Figure 3.

Water Ph Measurement and Conservation Media for Ciliwung Endemic Fishes (Doc. Researcher)

The activities carried out by the CDC with the TechnoNatura Madrasah include activities such as fishing by going down the Ciliwung River. Activities carried out in the form of education related to the Ciliwung River ecosystem that stretches in the Depok City area, indirectly educational activities like this represent that environmental conservation can be done starting with loving and recognizing the biodiversity that lives in the Ciliwung River ecosystem. Looking at the activities carried out by the Ciliwung Depok Community can help preserve

the Ciliwung Depok River through education that is easy for the community to interpret. It is not only residents of Depok who can preserve and get education related to the preservation of the Ciliwung River but also all people who have an interest in the Depok Ciliwung River. Based on research conducted by Alberto Arenas (2006), "Environmental Sustainability" explains that the development of literacy and education about the environment must continue to be stimulated by providing opportunities for students and environmental activists to develop a sense of concern for nature through experiential activities (real experience) that make the environment the main focus. This opinion can strengthen the results and findings of the research that experiential activities can provide opportunities for humans to improve themselves in loving their environment (nature), especially those carried out by the Ciliwung Depok Community above.

Instagram social media in the current era has provided a way of communicating and interacting from face-to-face to digital, which allows many ways for environmental communities to provide messages to audiences regarding increasingly problematic environmental issues. There are several environmental communication strategies that have been adopted by ENGOs Western in order to achieve their goals, including, tactical lobbying, multilevel campaigning, formation of coalitions and networking. Collaboration ENGOs and Media in digital era is a mutually beneficial and well-defined relationship, entered into by two or more organisations to achieve common goals. (Saifudin, 2016)

In Europe, environmental communities (Environmental Non- Government Organizations/ENGOs) are able to play a vital role in solving problems related to the environment from various issues; they are able to do this because they are supported by the media in conveying environmental communication, especially in today's digital era, able to take advantage of this to become the main weapon in realizing the importance of protecting the environment for the preservation of living things. Based on this opinion, the researcher has an assumption that the CDC collaborates with the media, especially the digital communication platform Instagram, influenced by several aspects, such as: Ciliwung Depok Community uses Instagram as a medium for disseminating real-time information because Instagram media is able to spread information and awareness about environmental issues quickly and widely. This includes information about conservation activities, local and global environmental challenges, and environmental campaigns and initiatives. In addition, it is a vehicle for providing education and increasing public awareness regarding the importance of environmental conservation and sustainable practices. Through Instagram media, CDC opens up opportunities to raise funds (Solidarity and Charity) from

all netizens (the public) because Instagram is an effective tool for environmental organizations and communities to reach a wider audience in a short time. Through Instagram, Ciliwung Depok Community is able to advocate and lobby policymakers and companies. This makes it easier to mobilize public support for green initiatives and policies and monitor and receive real-time reports of activities that negatively impact the environment. It allows individuals and groups to share evidence and gain support for unintended (corrective) actions. The use of Instagram as a digital communication platform for the Ciliwung Depok Community (CDC) will continue to grow, along with technological advances and changes in the dynamics of virtual society. Nasrullah (2015) revealed that social media (Instagram) allows users (CDC) to continue to represent community identity, communicate, collaborate, and interact between users so as to build social ties online. Thus, Instagram as a digital communication platform is an essential tool in efforts to preserve the environment and sustainable development, especially the ecosystem of the Ciliwung River, one of the longest rivers in Jakarta-Bogor-Depok-Bekasi (Jabodebek).

The Truth and Untruth of the Community Utilizing Digital-Based Media

Utilizing digital-based media by CDC focuses on the internal or specific interests of the community's own goals regarding its role and existence in cyberspace related to digital environmental conservation campaigns for netizens.

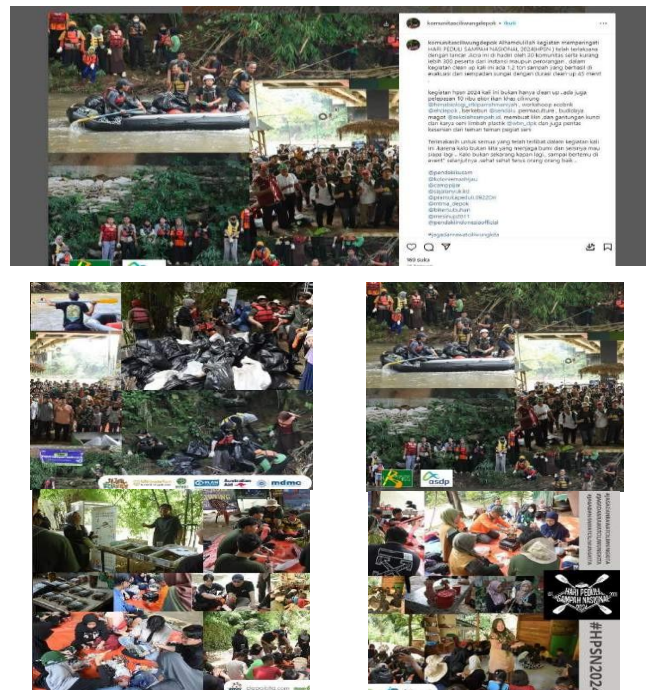


Figure 4.
CDC provides information on Instagram regarding its activities in commemorating World Waste Day. (Doc. Researcher)

Measuring the correctness or incorrectness of the community utilizing the social media platform (Instagram) can be seen from the motives carried out by the CDC itself. Hamzah B.Uno (2021) argues that motives are influenced by self-concept realization, which means that motives can be formed due to factors of encouragement and preferences that are aligned with a condition; in this case, CDC focuses on being a community that moves to provide education and environmental conservation campaigns. According to him, motives themselves are divided into two types, namely intrinsic motives and extrinsic motives. Where intrinsic motives are encouragement that arises not from outside but from within the individual itself, referring to the needs within. Meanwhile, extrinsic motives are impulses that arise from outside themselves, like the environment that is faced every day.

CDC is an independent organization that has nothing to do with favoritism, its role as a vehicle for conservation and environmental advocacy can be felt by everyone, especially the existence of technology and digital communication platforms such as Instagram opens up wide opportunities in establishing positive cooperation in protecting the environment. (Interview result with resource person from CDC)

CDC's position as an Agent of Change in the Digital Ecosystem is quite successful because the formation of community identity on its Instagram social media is able to bring real changes to the lives of young people, as evidenced by the number of young people who are interested in taking part in environmental conservation efforts, especially the waters of the Ciliwung river in Depok. In addition, CDC's efforts also attracted sympathy and attention from other communities and schools, so that CDC could establish a collaboration with educational institutions, indicating that CDC succeeded in building awareness and literacy of school-age communities to care about the sustainability of environmental ecosystems.

CONCLUSION

Ciliwung Depok Community (CDC) uses Instagram to build community branding and reach out to its followers to increase awareness and participation in conserving the Ciliwung River in Depok. They utilize this platform to share their conservation and environmental education activities with the community. Based on observations made using virtual observation techniques on CDC's Instagram, Instagram plays a vital role as an environmental communication platform by disseminating information and inviting the public to get involved in efforts to conserve the Ciliwung River basin in Depok.

CDC conducts various educational activities about the Ciliwung River ecosystem. One of these activities is a collaboration with Madrasah TechnoNatura, where they invite participants to look for fish by going down the river and, in the end, provide education on the conservation of endemic ciliwung fish so that they remain sustainable and survive. Thus, the activities carried out by the CDC helped the community understand the importance of maintaining the cleanliness and sustainability of the river and invited them to participate in conservation efforts and care for the environment, especially the Ciliwung River ecosystem.

The open nature of Instagram, which can be accessed by netizens in a short span of time, is an opportunity for CDC to communicate environmental issues with audiences (followers and non-followers). As a result, CDC can reach a wider audience and raise financial support for their projects and campaigns. CDC can strengthen the community, allowing them to share knowledge experiences and support each other in their conservation, advocacy, and lobbying efforts towards policy makers and companies (industries) around the Ciliwung River ecosystem. The community uses the Instagram platform to create a more private or exclusive space and recognize members for their achievements. Although CDC has successfully utilized social media to build community identity and engage many young people in environmental conservation efforts, there are areas for improvement in the consistency of publications on Instagram. But overall, CDC is able to communicate environmental issues well using Instagram's digital communication platform. By continuing to improve the consistency and strategy of publications in the form of Instagram content, CDC will gradually become more effective in spreading messages and achieving its conservation goals, especially maintaining, caring for, and preserving the Ciliwung River ecosystem.

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