



Generation Z and Cyberspace: The Challenge of Environmental Development in Indonesia

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Abstract. Environmental awareness of Generation Z is interesting to be researching for supporting sustainable development. Generation Z (GenZ) was born between 1997 – 2012, has a character that likes technology, is flexible and tolerant of cultural differences. Generation Z is globally connected and networked in virtual worlds as well. However, this generation is likes instant culture and is less sensitive to private essences because they constantly upload their lives on social media. They are in a life between cyberspace and reality. GenZ has strong motivation in these two areas of life. The population of GenZ in Indonesia, based on data from the Central Bureau of Statistics in 2020, is 27.94%. It is interesting that they participate actively in politics, but Generation Z's interest in reading is less than 11 percent. First, GenZ and its digital world or cyberspace pose new challenges in Indonesia based on 278 respondents from genZ as respondents. Second, GenZ Pandawara Group successes developing environmental awareness. This study refers to the policy directions and strategies of government in improving environmental awareness.

Keywords: Generation Z, Cyberspace, environmental awareness, regulation, environmental politics.

1 Introduction

GenZ is often also referred to as iGeneration, Gen Net, and Digital Natives. These are people born in the internet generation (born from 1995 to 2012), a generation that has enjoyed technological prosperity, after the emergence of the internet. Regarding the character of generationZ, first: they grew up with the social web, they focus on digital and technology as their identity [1] Second, Gen Z is a multitasker. This generation can often do several things at the same time. Third, have a character who likes technology, is flexible, smarter, and tolerant of cultural differences. They are also connected globally and networked in the virtual world. However, this generation likes instant culture and is less sensitive to personal essence because it constantly expresses its life on social media (Grail Research, 2011). Fourth, low interest in reading. Data obtained from Nielsen Consumer and Media View in the second quarter of 2016 stated that Gen Z's interest in reading was no more than 11 percent.[2]

Based on the Framework For The Development of Environment Statistics (FDES 2013), there are six FDES frameworks, namely: Environmental Conditions and Quality, Environmental Resources and Their Use Residuals, Extreme Events and Disaster,

Human Settlements and Environmental Health, Environmental Protection Management and Engagement. The subcomponents in point are: Environmental Governance and Regulations, Extreme Event Preparedness & Disaster Management, and Environmental Information and Awareness.

In 2022, Indonesia's Environmental Quality Index (IKLH) will increase by 0.97 points compared to the previous year. Indonesia's IKLH value from 2018 to 2022 continues to increase. Respectively the value is 65.14; 66.55; 70.27; 71.45; and this year it was 72.42 points. The increase in Indonesia's IKLH value this year was due to an increase in the value of the Water Quality Index, Air Quality Index and Sea Water Quality Index, although the Land Quality Index was the same as last year, it did not have much influence on the aggregate IKLH value.

Based on data from the National Waste Management Information System (SIPSN) of the Ministry of Environment and Forestry (KLHK), the volume of waste generation in Indonesia in 2022 will reach 19.45 million tons. This figure decreased by 37.52% from 2021 which was 31.13 million tons. Based on type, the majority of national waste generation in 2022 will be food waste with a proportion of 41.55%. Then plastic waste is in second place with a proportion of 18.55%. As much as 13.27% of waste in Indonesia in 2022 will be wood/twigs, 11.04% paper/cardboard waste, and 2.86% metal waste.

Based on 2022 EPI (Environmental Performance Index) data, Indonesia is in 164th position out of 180 countries studied. With a score of 28.2 out of 100. Indonesia is ranked 22nd out of 25 countries in the Asia Pacific Region, or 8th out of 10 ASEAN countries. This research is based on indicators: First, environmental health (air quality, water pollution, quality of waste processing and so on). Second, climate (climate change mitigation policies, greenhouse gas emissions and others). Third, ecosystem vitality (biodiversity quality, fisheries sustainability, agriculture, water data sources and so on). This is of course the task of the government, society and the private sector in protecting the environment.

Based on a study conducted by the Institute for Economic and Community Research, Faculty of Economics and Business, University of Indonesia (LPEM FEB UI) in 2021, four of the seven regions were the objects of study - namely Gorontalo Province, Cirebon City, Banjarmasin City, and Sigi Regency. There are local governments facing four main challenges, namely administrative (overlapping regulations), financial (lack of funding), political (political awareness regarding environmental issues), and technical knowledge (low knowledge regarding environmental and climate issues).

2 THEORETICAL DEVELOPMENT

2.1 Environmental

The definition of the environment is: the unity of space with all objects, forces, conditions and living creatures including humans and their behavior that influence nature itself, the continuity of life and welfare of humans and other living creatures (Indonesian Ministry of the Environment)

Environmentalism is a social and environmental movement that addresses environmental problems through advocacy, legislative education and activism [3] The three basic pillars of sustainable development are: social inclusion, environmental sustainability and economic prosperity

Michael Watts argues that, "Political ecology is the complex relations between nature and society through a careful analysis of what one might call the forms of access and control over resources and their implications for environmental health and sustainable livelihoods." [4] Environmental Politics is a way of understanding the complex relationship between nature and society with the analysis of so-called forms of access and control over resources and their implications for environmental health and sustainable living.

2.2 Environmental Ethics

Environmental ethics are the values of balance in human life with interaction and interdependence with the environment which consists of abiotic, biotic and cultural aspects. [5] In environmental ethics, there is an ecocentrism perspective. Almost all moral philosophers who hold an ecocentrism view see environmental ethics as a philosophical discipline that talks about the moral relationship between humans and the environment or the universe, and how humans should behave towards the environment. So, what is the focus of environmental ethics according to this view is how humans act or how humans should behave towards nature and what moral values underlie that behavior. Environmental ethics then also includes non-human creatures into human moral concerns. In other words, even though they are not moral agents, non-human creatures deserve human moral attention because they are seen as moral subjects [6]

Further concluded that discussing environmental ethics means discussing our behavior towards nature. Apart from that, environmental ethics also discusses the relationships between the creatures that inhabit this world [7]. Included in the discussion are political and economic attitudes and decisions that have a significant impact on nature[8].

Environmental Ethics Ecocentrism is a term for ethics that emphasizes the interconnectedness of all organisms and inorganisms in the ecosystem [9]. Each individual in the ecosystem is believed to be mutually related to each other. Planet Earth according to this ethical view is a kind of integral factory, a whole organism that needs each other, supports each other and needs each other. So the life-death process must occur and become part of the ecosystem's life system.

3 The Data

This data was obtained from women and men aged 17-25 years (genZ) in Indonesia, with a total of 279 informants. From this data, we can find out how much GenZ cares about the environment, where they get information about the environment, what efforts they have made to protect the environment and how concerned they are with the

government's efforts to increase GenZ's awareness of caring for the environment. The following data was obtained:

Table 1. GenZ and Enviromental

<i>Number</i>	<i>Questions</i>	<i>Percent (%)</i>
1.	Are you someone who is environmentally conscious ?	90,4% Yes
2.	Throwing out swears to be precise.	85,3%
3.	Plant plants around your residence.	26,5%
4.	Save energy.	52,9%
5.	Don't burn rubbish.	29,4%
6.	Use products that can be recycled.	20,6%
7.	Striving to reduce waste.	55,9%
8.	Create content to care for the environment on social media.	14,7%
9.	Remind each other's family/friends to protect the environment.	64,7%

From the 279 Generation Z respondents in Indonesia aged 17-25 years who live in cities, villages and on the coast, it can be: 90.4% admit that they care about the environment around them, meaning that even though Genz is known as a digital native generation who is busy working in cyberspace, but they still show awareness of the environment in the real world.

Table 2. GenZ And Enviromental Informatian

<i>Questions</i>	<i>Answer</i>
Where do you get information related to the environment?	Internet (85,3%), Lecturer (26,5%), Family (23,5%), friends (20,6%), books (11,8%)
Have you ever watched environmental content on the internet?	Yes (84,9%) Never (15,1%)
What social media are you used to know environment information?	Instagram (73,5%) TikTok (47,1%) YouTube (20,6%) Twitter (8,8%) facebook (8,8%)
What is your reason for watching this content?	Interesting (55,9%) Easy to understand (41,2%) Because it's viral or trending (35,3%) Algorithm (26,5%) I Don't know (5,9%) Following friends (2,5%)
Have you ever accessed the Ministry of Environment's social media?	Yes (58,8%) Never (41,2%)
The reason why you not access the environment ministry's social media?	I Don't know (40%) Never thought about it (30%) Not attractive (30%)

The Ministry of the Environment has spread information regarding awareness of environmental care on social media, such as Twitter (256k followers, 22k posts), Instagram (406k followers & 4k posts), YouTube (35.2k subscribers & 1k videos), even TikTok (2k followers & 34.6k likes). However, based on research results, it was found that only 58.8% of GenZ had accessed social media from the Ministry of Environment and Environment. For those who have never visited KLH's social media because: lack of interest, not curiosity, never thought about checking it, KLH is not targeting GenZ as a target for environmental awareness. The surprising result is that GenZ gets information about awareness and concern regarding the environment through video content posted by influencers on various social media platforms: such as Instagram (73.5%), TikTok (47%), YouTube (20.6%), the rest are Twitter (8.8%) and Facebook (8.8%). And as many as 70% get information related to the environment through video content posted by the Pandawara Group.

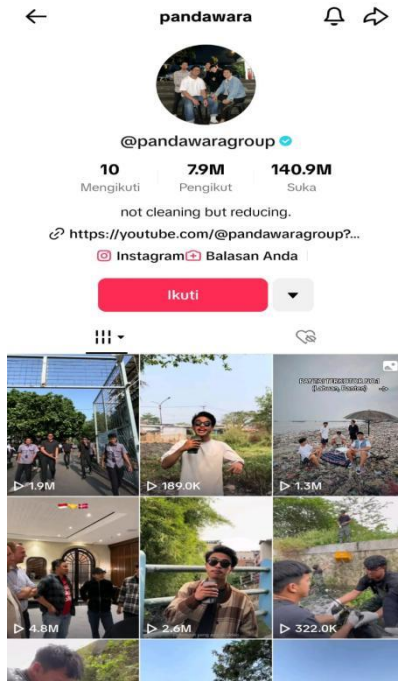
3.1 Pandawara Group

Consisting of five young people from Bandung, who have the initiative to clean up rivers, ditches, septic tanks and even along the coast. This activity started from the anxiety of those who had always experienced floods since childhood, which caused moral and material losses. So they were moved to find a solution to the flood, by cleaning the environment where they lived. How to clean: first by conducting a survey: looking at the depth of the location (river), the amount of rubbish and the surrounding conditions. Second, carry out cleaning in stages, starting from the edge to the river. Third, after the waste is collected in trash bags, it is then transported to the TPS (Temporary Waste Disposal Site).

In 2022, they will be able to clean 78 rivers, with a total of 4,511 trashbags. They spread this environmental care movement on social media, such as TikTok and Instagram. With the aim of having a positive impact on society, especially the younger generation. So that young people from other regions in Indonesia are also moving to do this, such as in Yogyakarta, Surabaya and even Aceh. In the beginning they used only their personal funds and energy. Until 2023, they will receive cooperation assistance with the government (BUMN, Ministry of Environment, West Java Province), and even receive sponsorship from well-known brands in Indonesia.

3.2 Solution

Fig. 1. Pandawara Group’s TikTok



According to GenZ, 81.6% agreed that Pandawara's actions were very good and 91.8% agreed that the videos they posted could influence GenZ's awareness of the environment. Their reasons for watching the video were because it was interesting (55.9%), easy to understand (41.2%), because it was viral/trending (35.3%). Recommendations and suggestions from GenZ that the government can make to increase awareness of environmental concerns can be through: creating more interesting social media content, involving the younger generation more in environmental activities, education from an early age to care about the environment can even be included in the education curriculum Indonesia.

4 CONCLUSION

This research proves that Gen Z Indonesia, which carries out a lot of activities in cyberspace, also has an awareness of caring for the environment. They get more information related to the environment in cyberspace, such as from social media influencers (such as the Pandawara group) which also has a good influence in increasing their awareness of environmental concerns. According to them, the government (Ministry of the Environment) has not succeeded in attracting GenZ's awareness of the environment. They recommend that the government: create more interesting social media content, involve the younger generation more in environmental activities, provide education

from an early age to care about the environment and even be included in the Indonesian education curriculum.

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