

Number of Certificate: 8092/UN37.1.3/PJ.01.03/2019, 18th July 2019

The International Conference on Environment and Sustainability Issues (ICESI 2019) organized by Faculty of Social Sciences Universitas Negeri Semarang and collaboration with Universitas Negeri Surabaya - Indonesia, hereby acknowledges the participation and contribution of:

HARMANTO

(Universitas Negeri Surabaya/State University of Surabaya)
as

PRESENTER

has presented a paper entitled:

**ECOLOGICAL CITIZENSHIP: OPPORTUNITIES, PROSPECTS, AND CHALLENGES IN
INDONESIA**

Semarang, 18 - 19 July 2019

Chairman of The ICESI 2019,



Prof. Dr. Wasino, M.Hum.



Dean of Faculty of Social Sciences
Universitas Negeri Semarang,



Dr. Moh. Solehatul Mustofa, M.A.

Ecological Citizenship: Opportunities, Prospects, and Challenges in Indonesia

Harmanto¹, Oksiana Jatiningsih²
{harmanto@unesa.ac.id¹, oksianajatiningsih@unesa.ac.id²}

Universitas Negeri Surabaya, Indonesia^{1,2}

Abstract. Environmental issues can be assessed in various perspectives and writings using the perspective of citizenship. Damage and natural preservation are mostly caused by the activities of citizens in processing, maintaining and exploiting them. Therefore, the opportunity to maintain the balance of nature is highly dependent on citizens' awareness of the environment. This paper aims to analyze the opportunities, prospects, and challenges of ecological citizenship in Indonesia. Some cultural wisdom based in Indonesia is a good opportunity and prospect to develop. On the other hand, economic factors to exploit nature excessively become a challenge that must be immediately sought for alternative solutions to nature in order to create a harmonious relationship between nature and citizens.

Keywords: Ecological Citizenship, Damage to Nature, Natural Balance, Local Genius

1 Introduction

Environmental sustainability as an inseparable part in development is not only faced in the local sphere but also nationally and even in the global area. Not only faced by developing countries but also developed countries. The current environmental crisis has reached a serious stage and threatens the existence of planet earth where humans, animals and plants reside and continue their lives. Modern humans today are doing a slow but sure destruction of the environmental system that sustains his life.

Environmental damage both on a global and local scale has been getting worse. Indicators of environmental damage especially those caused by land degradation are quite obvious before our eyes and have been very often experienced such as annual floods that are getting bigger and wider, erosion and siltation (sedimentation) of rivers and lakes, landslides and others. The planned development for human welfare with its industrial machinery has resulted in global warming. Global warming occurs because there are concentrations of certain gases known as greenhouse gases that continue to grow in the air. Earth's atmosphere consists of various gases with different functions. The group of gases that keep the temperature of the earth's surface warm is known as the "greenhouse gas". Called greenhouse gases because the working system of these gases in the earth's atmosphere is similar to the way greenhouses work which functions to hold the sun's heat in it so that the temperature in the greenhouse remains warm, so the plants inside will be able to grow well because it has heat enough sun. The earth basically needs these gases to maintain life in them. Without the presence of greenhouse gases, the earth would be too cold to live in because there were no layers to isolate the sun's heat. In comparison, Mars, which has a thin atmosphere and has no greenhouse effect, has an average temperature of -320 Celsius [1].

Each greenhouse gas has a different effect of global warming. Some gases produce a more severe warming effect than CO₂. For example a methane molecule produces a heating effect 23 times that of a CO₂ molecule. NO molecules even produce a warming effect up to 300 times that of CO₂ molecules. Other gases such as chlorofluorocarbons (CFCs) have a heating effect of up to thousands of times that of CO₂. But fortunately the use of CFCs has been banned in many countries because CFCs have long been accused of causing damage to the ozone layer. [2]

The biggest contributors to global warming today are Carbon Dioxide (CO₂), methane (CH₄), Nitrogen Oxide (NO), and gases (CFC). The destruction of forests that should function as CO₂ storage also makes this situation worse because dead trees will release CO₂ stored in their tissues into the atmosphere [3].

At least the world must build 20 nuclear power plants, 20 hydroelectric power plants, 3000 solar power plants and 30 coal power plants in the next 20 years so that the world population can still enjoy electricity at night. This need also means bad news for the earth itself. Of all these power plants, it is estimated that carbon emissions will increase by 97% in the next 20 years only from developing economies such as China and India. "This scenario will not only endanger the world's energy needs, but will also adversely affect the environment". [4]

The perspective of modern science and technology is basically secular, mechanistic, and reductionistic. Secular because science is no longer based on a priori principles that are accepted right by themselves but are based on sensory observation and induction methods. Mechanistic because the entire universe and also humans are primarily seen mechanically as a kind of machine that functions mechanically and can be analyzed, predicted separately apart from the whole that formed it. Reductionistic because reality in the universe, including humans, is seen as reductionistically from one aspect solely without seeing a more comprehensive and holistic relationship between various aspects. [5]

For this reason, efforts to preserve the environment that involve the community are important to do. The main cause of environmental damage is dominated by low awareness of citizens in environmental management, both personally and corporation or company. That is, the main actors of ecological destroyer also come from the behavior of citizens. This is because of the government's limited ability to protect the environment. Involve the community by developing ecological citizenship values that are carried out systematically and integrated with various elements such as government, non-governmental organizations, school students from elementary school level up to tertiary institutions, and the community.

2 Research Method

The approach used in this research is qualitative. The method used is description. The data collection technique used is Focus Group Discussion (FGD). The FGD was conducted with environmental experts from Surabaya State University, Malang State University, Bandung Indonesia University of Education, and the Environmental Non-Governmental Organization (NGO) in East Java, Indonesia. The FGD was conducted to formulate and make conclusions about the opportunities, prospects and challenges of developing ecological citizenship in Indonesia.

3 Result and Discussion

3.1 Ecological Citizenship Opportunities in Indonesia

Various cases of environmental damage that occur both in the global and national sphere, if examined, are actually rooted in human views about nature and the environment. Human behavior that is not responsible for nature is what causes environmental damage. Awareness of good environmental sustainability is starting to be realized in various countries. Damaged natural environment, climate change, global warming, uncertain climate can cause serious and large-scale disasters. Disasters caused by natural damage such as floods, landslides, forest fires, lack of water, etc. are important moments to preserve the environment. Large-scale floods and landslides that cause material and immaterial losses have implications for the awareness of the importance of wise use of forests. The same moral obligations and responsibilities to nature also apply to all ecological realities.

3.2 Prospects of Ecological Citizenship in Indonesia

In the context of ecological citizenship prospects that provide new hope in East Java-Indonesia are (1) environmental education in schools, (2) citizen awareness of ecological sustainability, (3) emergence of farmers in big cities, (4) awareness of the use of natural pesticides, (5) enforce strict rules. The purpose of environmental education in schools is to foster students to have understanding, awareness of attitudes and behaviors that respect nature and the environment in a rational and responsible manner. Strategies that can be taken by integrating into subjects for all levels and types of education, both formal and non-formal education.

Citizens awareness based on biosentrism bases morality on the nobleness of life whether on humans or on other living things. Biocentrism claims that humans have moral values and are valuable precisely because life in humans is valued in itself. This also applies to every life in nature. That is, the same principle applies to everything that lives and which gives and guarantees life for living things. Land, or earth is thus of moral value and must be treated morally because it gives so much life. [6] Thus, morals are no longer limited and narrowly understood only apply to the human community. Morality applies to all biotic communities including human communities and other living creatures. [7], [8] Ecological citizenship based on harmonious behavior between humans and the environment becomes an important part in realizing the balance of humans with nature.

Urban farmers in big cities or Specht [9] mention urban agriculture by utilizing small land to grow flowers and vegetables can reduce carbon emissions and improve people's welfare. Likewise with the awareness of the use of natural pesticides which are widely used by farmers. This is because using synthetic chemical pesticides can cause resistance to pests (resistant). In addition, the price is also expensive, and can damage the environment, both the soil and the water around it, so that organisms that ban plants are also killed. These organic pesticides are better known as natural or vegetable pesticides, which are pesticides whose ingredients all come from plants. Natural pesticides do not damage the environment because natural pesticides are environmentally friendly. Organic pesticides also do not kill livestock or humans because of their biodegradability so that they are not harmful to other living things.

From the side of the government must conduct supervision, implementation, and enforcement of legal instruments governing the environment. The government does not only give severe punishment to environmental destruction or pollute the environment but the most important thing is prevention. Efforts to prevent damage to nature would be better than giving penalties

for violations. For example, forest fires in Kalimantan and Sumatra, would be better prevented systematically. The trick is to anticipate that people and companies do not burn forests to open new agricultural land, but rather by using methods that do not cause natural damage. For perpetrators of forest fires must be punished to the maximum extent in accordance with applicable law. Consistent law enforcement for people who burn forests without exception becomes the main requirement in developing attitudes and behaviors to always maintain the harmony of nature.

3.3 The Challenge of Ecological Citizenship in Indonesia

The main challenges in developing ecological awareness for citizens include (1) strong anthropocentrism paradigm, (2) inadequate level of education and environmental insights, (3) level of community welfare, (4) consistency in implementing the law. Anthropocentrism paradigm or understanding which views that nature is a separate part of humans and that humans are the center of natural systems have a major role in the occurrence of environmental damage. On the other hand, environmental damage is triggered by human error in understanding the environment. The view that says that humans as the center of the universe, while nature is only as a means of satisfying their interests is a disproportionate mind that can encourage the emergence of an attitude of excessive exploitation of the environment [10]. Mistaken perspective like that, will place humans free to do anything to nature to meet all their needs.

This perspective has given rise to exploitative behavior and is not responsible for the preservation of natural resources and the environment. Besides that, materialism, capitalism and pragmatism in science and technology have also helped accelerate and worsen environmental damage both globally and locally. For this reason, the paradigm of biosentrism in viewing nature needs to be developed. The biosentrism paradigm was developed to achieve goals (1) the principle of respect for nature, (2) the principle of responsibility, (3) the principle of cosmic solidarity, (4) the principle of compassion and care for nature, (5) the principle of no harm, (6) the principle of simple living in harmony with nature, (7) the principle of justice, (8) the principle of democracy, (9) the principle of moral integrity [7].

The level of education and insight into the importance of protecting the environment make a significant contribution to environmental damage. The results of the FGD with NGOs showed that the low awareness of the community was the dominant factor causing environmental damage. But on the other hand the people who live in the forest area become a supporting factor for the success of the preservation of the forest environment. The biggest challenge is how the community can be more prosperous by utilizing nature. This is consistent with the results of Karim's research [10] that people who live in forest areas are a supporting factor for the success of the preservation of the forest environment, this is for several reasons; First, rural communities living in forest areas can at all times monitor the environment from destructive efforts by irresponsible parties. Second, social solidarity among members of the community, becomes its own strength in protecting the environmental area from outside interference. Third, the social institutional structure, such as the Forest Village Community Institution which continues to receive guidance from Perum Perhutani, has made the community more responsive to various possible disturbances that threaten environmental sustainability.

4 Conclusion

The earth basically needs these gases to maintain life in them. Without the presence of greenhouse gases, the earth would be too cold to live in because there were no layers to isolate

the sun's heat. Some cultural wisdom based in Indonesia is a good opportunity and prospect to develop. On the other hand, economic factors to exploit nature excessively become a challenge that must be immediately sought for alternative solutions to nature in order to create a harmonious relationship between nature and citizens.

Acknowledgment

Thank you to the Dean Faculty of Social Sciences and Law, State University of Surabaya for the cost of research activities in 2019.

References

- [1] H. and Nasution, "Spatial Planning in the Context of Efforts to Improve the Efficiency of Land Use in Supporting Sustainable Development," *Semin. Penataan Ruang tanggal 8 – 10 Oktober 1990*, 1990.
- [2] Mulyanto, *Environmental Sciences*. Yogyakarta: Graha Ilmu, 2007.
- [3] S. Huston, *The Common Vision of the World's Religion*. Translasi Inyik Ridwan M. Yogyakarta: IRCiSoD, 2001.
- [4] P. A. Naisbitt John, *Megatrends 2000 (Ten new directions for the 1990's)*. New York: Avon Book, 1990.
- [5] F. M. Suseno, *Philosophy as a Critical Science*. Yogyakarta: Kanisius, 1995.
- [6] E. Budihardjo, *Systems Approach in Regional Development Spatial Planning to Improve National Resilience*. Yogyakarta: UGM Press, 1995.
- [7] S. Keraf, *Environmental Ethics*. Jakarta: Kompas, 2006.
- [8] A. P. Budiarti, "Pelebagaan Sistem Kepartaian di Bawah Sistem Demokrasi Indonesia (1998-sekarang)," *J. Penelit. Polit.*, vol. 12, no. 1, 2015.
- [9] K. Specht *et al.*, "Urban agriculture of the future: an overview of sustainability aspects of food production in and on buildings," *Agric. Human Values*, vol. 31, no. 1, pp. 33–51, 2014.
- [10] A. Karim, "Developing Awareness Conserving the Environment Based on Religious Humanis," *J. Penelit. Pendidik. Islam*, vol. 12, no. 2, pp. 309–330, 2017.