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The Phenomenon Of The Ecological Crisis And The Problem Of Climate Change: A Holistic-Synthetic Biocentric Perspective

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Abstract
The focus of this research is to explain about the phenomenon of the ecological crisis and the problem of climate change. Departing from international ideas, the phenomenon of humanitarian and environmental disasters have received worldwide attention since Dennis Meadows, issued a Club of Rome report in the book "The Limit of Growth: A Report for the Club of Rome's Project on The Predicament of Mankind", in 1972. The environment is getting worse day by day, human disasters are happening everywhere, there are more and more species of living things that are becoming extinct (loss of species), depletion of energy resources, a decrease in soil fertility (Land degradation) and occur climate change everywhere. General facts of environmental damage, such as illegal logging, illegal gold mining, large-scale land clearing, challenge our awareness to strive for environmental preservation and maintenance. This research aims to find a solution on how we can get out of the ecological crisis and the problem of climate change. Changing the mindset and perspective of humans about nature and creation as a whole is an effort to solve the problem of an important ecological crisis, in addition to a technical perspective by involving science and technology. This changing in perspective must bring people from anthropocentric concepts and analytical-reductionist mindsets to more biocentric concepts and synthesis-holistic mindsets.
Keywords: *Climate change; Ecological crisis; Humanitarian disasters; Natural; Technology*

1. INTRODUCTION

Departing from international ideas, the phenomenon of humanitarian and environmental disasters has received worldwide attention since Dennis Meadows, issued a Club of Rome report in the book "The Limit of Growth: A Report for the Club of Rome's Project on The Predicament of Mankind", in 1972. This book emphasizes that if the quantitative growth trend of modernization projects continues, the world will exceed its carrying capacity in a few generations and will end in disaster. Since then discussions, dialogues, seminars on the environment have been held everywhere.

What is observed in the issues surrounding the environment are the complaints, hysteria and anxiety of the masses because the earth is no longer comfortable. The environment is getting worse day by day, human disasters are happening everywhere, there are more and more species of living things that are becoming extinct (loss of species), depletion of energy resources (depletion of energy resources), a decrease in soil fertility (Land degradation) and occur climate change (Climatic change) everywhere, as noted in the Land Degradation and Society.

Through the spread of these issues, people realize that we are in an ecological crisis. General facts of environmental damage, such as illegal logging, illegal gold mining, large-scale land clearing, challenge our awareness to strive for environmental preservation and maintenance. In order to be able to go in that direction, this research must find and answer the status questions of the above theme, namely: What is the problem with this ecological crisis, which causes a humanitarian disaster? What theoretical perspectives can researchers and anthropologists use to analyze environmental damage such as climate change? And how to handle it?

According to Fritjof Capra (2003), every human being must have ecoliteracy, ecological literacy. This awareness of the importance of nature then gave birth to and incarnated in behavior that is always friendly to the environment, behavior that always maintains and cares for the environment as a habit and pattern of living behavior.

According to Baer and Singer (2014), there are at least three theoretical perspectives that have been used in anthropology to study climate change issues. These three theoretical perspectives are cultural ecology, cultural interpretation, and critical anthropological theory perspective. The culture ecology perspective, which was initiated by Julian Steward, emerged around 1950. However, in 1960, the cultural ecology perspective declined in influence, among others, because it was considered to have a simplistic and deterministic tendency in explaining adaptation. After the cultural ecology perspective receded, Andrew Vayda and Roy Rappaport popularized the human ecology perspective because it was considered more relevant in understanding human relations with their environment. In contrast to cultural ecology, which focuses on cultural adaptation, human ecology integrates an ecosystem approach framework to explain the relationship between humans and their environment. The perspective of human ecology is very popular, especially after the 1980s Andrew Vayda introduced progressive contextualization as one of his approaches.

According to Winarto (2010), cultural interpretive is exploring the emic views of the community related to the perceptions, values and knowledge of the local community. Cultural interpretive is a theoretical perspective that is widely used by researchers in Indonesia to examine the issue of the ecological crisis, focusing on climate change. Winarto highlighted the issue of farmers' knowledge about climate, weather and adaptation strategies as well as their response to climate change. In addition, several other authors examine the issue of the ecological crisis by emphasizing their attention to understanding and integrating local wisdom from the community in strategic policies to deal with uncertain situations resulting from climate change (Dewi & Fajarwati, 2021; Fermansah & Mamilianti, 2019; Graha & Yuliawati, 2015; Susilawati & Nursyamsi, 2014).

The systematics of this paper are as follows: It begins with a brief description of the phenomenon of the ecological crisis. After that, he explained the discourse of efforts to deal with the ecological crisis in a new perspective on nature and creation as a whole, namely from the anthropocentric concept and the analytical-reductionist mindset to a more biocentric concept and a synthesis-holistic mindset. Followed by discussing what research questions might arise when we apply the biocentric concept and synthesis-holistic mindset in the issue of climate change and the ecological crisis. Due to limited space, it is not possible to conduct a very comprehensive discussion. Nevertheless, this paper is intended to provide an overview of the biocentric concept and a holistic-synthetic mindset for those interested in examining the issue of ecological crisis.

2. METHOD

All of this writing relies on descriptive qualitative methods that produce data in the form of words and writing or verbally from people and observed behavior.[1] In this paper, a critical reading of the text is carried out with the aim of exploring what perspectives are used in anthropological studies on climate change. Especially for publishing in Indonesian, it is done by browsing articles published on the Garuda website (garuda.kemdikbud.go.id). Meanwhile, publishing in English is done by browsing the page of the Intergovernmental Panel on Climate Change (http://www.ipcc.ch).

Critical reading of the text takes the following steps: finding and collecting articles related to the discussion material from various source books, journal articles, reading, analyzing and comparing, then formulating and compiling the links between these sources in a single unit that is packaged in This writing.

3. RESULT AND DISCUSSION

3.1 Ecological Crisis Phenomenon and The Problem of Climate Change

Facts tell us that our earth is heading towards destruction, if we don't try to prevent it. We can listen to it through news about natural disasters, such as flash floods, earthquakes, landslides, abrasion, erosion, air pollution, and others that we see for ourselves every day on TV or in print media such as newspapers and magazines. Humanitarian destruction and catastrophe are everywhere. So there is a great contrast

[1] C. Hart, *Doing A Literature Review: Releasing the Social Science Research Imagination.* (London: SAGE Publications, 1998), 12.

between the earth which appears as a beautiful blue planet when viewed from the "eyes" of astronauts in outer space with the situation when we ourselves are on it.

Environmental problems are complex problems. A problem that is too broad and impossible to summarize here. Researchers only want to see about forest fires and illegal logging. Those are the environmental problems that was quite important and needs more attention. We cannot deny that humans breathe oxygen (O2) from the production of plants.[2] The forest becomes the lungs of the world, without that humans can no longer obtain pure and abundant oxygen.

Our research needs to start with the World Meteorological Organization (WMO), a special agency at the United Nations that deals with issues of meteorology (climate and weather), hydrology and geophysics. This institution was the first to raise the issue of climate change at a meeting in 1979. During the meeting, scientists discussed findings about the ozone hole in Antarctica.[3] The depletion of the ozone layer, let alone a hole, will increase the amount of ultraviolet light that enters the earth. Increased ultraviolet rays can have an impact on human health and the life of other biota. These findings prompted the member states of the United Nations (UN) to agree to make a political decision as outlined in the Vienna Convention on the Protection of the Ozone Layer in 1985. This agreement later became the basis of the Montreal protocol agreement which was completed in 1985. 1987. The Montreal Protocol on Substances that Deplete the Ozone Layer, which was effective in 1989, received support from several countries. It has been proven that in the years of application, the number of gases that contribute to the depletion of the ozone layer such as CFC (chloroflurocarbons) has drastically decreased.[4]

Scientists and representatives of WMO member countries encourage the scope of the study to be expanded on climate change issues. Finally, in 1988, the countries agreed to establish a new body called IPCC (Intergovernmental Panel on Climate Change), which was supported by a number of UN member states, WMO and UNEP (United Nations Environment Program Organization). The establishment of the IPCC was instrumental in gathering scientific consensus in the world about what our current understanding of climate change is.[5]

The task of the IPCC in accordance with the mandate of UN General Meeting resolution no. 43/53 dated December 6, 1988 is to prepare a comprehensive study on climate change and periodically submit the state of knowledge on climate change and global warming; examines the social and economic impacts of climate change and a number of strategies to address these issues including preparing all the requirements related to the possibility of holding a world convention on climate change (http://www.ipcc.ch). 2013 was a long year in achieving scientific consensus on climate change. In its report, the IPCCI stated that 95% of experts in the world conclusively agreed on the human contribution as the cause of the domain of global warming that has taken place since 1950.[6]

The IPCC process resulted in a consensus of experts on what human activities contribute to anthropogenic climate change. They show a very close relationship between increasing concentrations of greenhouse gases (Greenhouse Gasses/GHGs) and increasing global temperatures.[7] The main gases that give rise to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), nitrogen oxides (N_2O), ozone and chlorofluorocarbons (CFC). The increase in greenhouse gas emissions, especially carbon dioxide (CO_2) has occurred since the early industrial revolution in Europe and North America. The scientists also found a sharp increase in carbon emissions, reaching 70% occurred precisely between 1970 and 2004. In other words, the period when the world economy grew the fastest and contributed very significantly to the increase in the concentration of greenhouse gases in the world. The increase in $_{CO2}$ emissions stems

[2] Lovins, Amory B; L. Hunter Lovins and Paul Hawken, "A Road Map for Natural Capitalism", *Harvard Business Review*, May-June 1999: 145- 158.

[3] Winarto, "Climate and Culture: Changes,"

[4] Afiff, "Antropologi dan Persoalan Perubahan Iklim: Perspektif Kritis Ekologi Politik", *Jurnal Antropologi: Isu-Isu Sosial Budaya* 24, no. 01 (2022), 109-118. https://doi.org/10.25077/jantro.v24.n1.p109-118.2022.

[5] Ibid.

[6] McGinnis, Michael Vincent, ed. *Bioregionalism* (London and New York: Routledge, 1999), 19.

[7] R. Peet & Watts M, *Liberation Ecologies: Environment, Development and Social Movements* (London: Routledge, 1996), 6.

mainly from energy use and is also the result of the contribution of rapid growth in the transportation sector (IPCC, 2007).[8]

The conclusions of these experts show a significant correlation between economic growth and climate change. Therefore, the way to deal with climate change cannot continue from looking for alternatives to overcome its causes, namely the development of science and technology and economic growth itself. This is where the question begins: How is this possible? On the one hand, the development of science and technology and the rate of economic growth is needed, on the other hand, the development of science and technology and economic growth is what actually contributes to the problem of climate change and causes an ecological crisis.[9]

Various efforts have been made, dozens of meetings have been held but finding a consensus agreed upon by this country is not easy. The pandemic does contribute to reducing carbon emissions by around 6-7% by 2020, but it does not have much effect in stopping the rate of global warming.[10] Every year the member countries of the UNFCCC or the United Nations Fremework Convention on Climate Change hold an important ritual, namely the annual meeting of the COP (Conference of the Parties). This meeting was not only attended by representatives of countries but also by representatives from civil society.[11]

As a result of global warming and increased carbon emissions by 2050 some of the existing species will be totally and eternally extinct. It is also predicted that 5-200 species are lost every day. According to the environmental map (1990), about 50% of the original tropical rainforest remains, i.e. 750-800 million hectares of the total 1.5-1.6 billion hectares. This is evidence that as a whole humanity is in crisis. This environmental crisis is not only happening globally, but also locally and has even reached a critical stage. One of the most obvious examples is forest fires and illegal logging in Kalimantan. It is said that the rate of forest fires in Indonesia ranges from 2-3 million ha. If this is true, it shows that in the 20 years since 1990 there has been a 3-fold increase in the rate of[12] *deforestation (Kartodihardjo, 2007).* It is said so because in 1990 based on the world bank report, the rate of deforestation only reached about 0.5 million hectares per year. Or FAO data: 1.3 million Ha per year. But still there is a 2-fold increase in 20 years.[13] Based on data compiled by the State Ministry for the Environment (KNLH), the island with the largest deforestation is Kalimantan, which is 362,821.0 ha per year (KNLH, 2009).[14]

Based on the evidence above, we should wake up from a sleep and move to do something. If the phenomenon of "world death" has not been able to awaken us, then we should ask our own personal existence. Deepest awareness, now and here. Awareness to get out of the "death world" zone.

Global environmental crises and disasters have become a serious, big, and very real threat in the reality of human existence today. This is not new at this time, nor is it a prediction about the future. The crisis and reality of the "death of the world" is already here and now. A complex problem that risks the existence of all living things. In other words, everything is a threat to life and we can articulate it as a problem of this era.[15]

It is time for us to have one new perspective, namely the environmental problem that demands awareness of each of us. Whether from the state government, institutions, communities, community groups, families

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[8] M. Li, T. *Land's End: Capitalist Relations on an Indigenous Fronter* (London: Duke University Press Book, 2014), 22. Graha, A. A. W. & Yuliwati. "Potret Kearifan Lokal, Perubahan Iklim dan Pengaruhnya pada Produktivitas Padi Sawah di Salatiga", *Agric* 27, no. 1 (2021), 50-59. https://doi.org/10.24246/agric.2014.v27.i1.p50-59.

[9] Afiff, "Remote Sensing as Biopower." Society for Cultural Antropology. Last modified Oktober 2, 2022. https://culanth.org/fieldsights/remote-sensing-as-biopower.

[10] Ibid

[11] Afiff, "Antropologi dan Persoalan Perubahan Iklim: Perspektif Kritis Ekologi Politik", *Jurnal Antropologi: Isu-Isu Sosial Budaya* 24, no. 01 (2022), 109-118. https://doi.org/10.25077/jantro.v24.n1.p109-118.2022.

[12] Hariadi Kartodihardjo, *Di Balik Kerusakan Hutan dan Bencana Alam: Masalah Transformasi Kebijakan Kehutanan* (Jakarta: Kehati, 2007), 49.

[13] The World Bank, *Indonesia: Enviroment and Development* (Washington D. C: World Bank Country Study, 1994), 11.

[14] Kementerian Negara Lingkungan Hidup (KNLH), *Status Lingkungan Hidup Indonesia 2008* (Jakarta: KNLH, 2009), 9.

[15] Arne Naess, *Ecology Community and Lifestyle* (Cambridge: Cambridge University Press, 1993), 56.

or even individuals. I am Indonesian. Why is it necessary? This is caused by the perspective and attitude of life, the wrong paradigm and development policies, the corrupt government system, the weakness of joint commitment and the low law enforcement. Not to mention the "political game" and the influence of modernization or westernization flooding Indonesian human existence. Then, we as humans who are aware of our existence on the verge of "world death", should reverse our perspective and attitude to life, rearrange our outlook on life and development policies, turn to hygienic industry, build a good design, orderly and beautiful, how to live a better life in a good environment, plant a strong will, ready to start real and practical action.[16]

All the disasters and damages are ironically man-made. Since the industrial revolution or since the dawn of enlightenment, even since the renaissance, human civilization has developed and science and technology has progressed rapidly.

In many places there was an explosion in population, massive urbanization towards industrial cities, modernization in the political, social and economic fields, as well as the increasing needs of modern human life.[17] To meet these needs, nature is the main land used. So there was a merciless exploration and exploitation of the earth and modern humans. Against the merciless exploration and exploitation of nature Robbins writes:

"It is very concerning about the various power relations that affect the use of natural resources, that contribute to environmental degradation, that encourage exploitation of nature, including those that affect environmental recovery. In other words, the various social, political, economic structures that include control over nature and labor. The political ecology approach is very concerned with who benefits from changes in tenure or natural resources and is prepared to get what from whom associated with these changes. One of the premises that is often used in the perspective of political ecology is the economic interaction between people and between them and objects and with various systems of non-human entities that influence in shaping various social and cultural relationships.[18]

Starting from those above, on the surface, to the inside or the bottom of the earth. The pace of modernization turns out to have negative impacts and influences, namely an ecological crisis, and materials or elements that are harmful to humans themselves. However, modern humans are not aware of and do not care about the impact and influence. This is because humans, with their modernization, have been shackled to a mentality (enlightenment mentality) with anthropocentrism and domination. This mentality often leads modern humans to understand development in a narrow way and only understand it as an increase in quantity. This inaccurate understanding further sharpens the ambivalence of science and technology, so that the impact and negative aspects are stronger.

3.2 Enlightenment Mentality

This mentality is the deepest legacy of the modern age in mankind. The modern age is a new milestone in human history. Listening from "Beyond the Enlightenment Mentality" in Mary Evelyn and John A. Grin, that physically this new era is marked by scientific discoveries, advances in Science and Technology and the growth of scientific institutions and more deeply this new era inherits a new era. mentality that became the spiritual basis of the modernity movement. In this mentality there is an understanding of anthropocentrism and the concept *of analytical-reductionist thinking.*

The concept of anthropocentrism and the concept of analytical-reductionist thinking are not only experienced by people living on the European continent, America alone, but the impact is also experienced by Indonesian people. This mentality in addition to contributing greatly to the progress of human civilization, also brings its dark side. The dark side is that this mentality is also the main cause of the ecological crisis we are experiencing today.[19] This is because this mentality contains an anthropocentrism that creates a very strong human domination over other creations.

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[16] Sonny, "Fritjof Capra Tentang Melek Ekologi Menuju Masyarakat Berkelanjutan", *Diskursus* 12, no. 1 (2013), 54-81. https://doi.org/10.36383/diskursus.v12i1.118 .

[17]Ibid.

[18] Robbins, P. *Political Ecology* (Malden, Oxford: Wiley-Blackwell, 2012), 22.

[19] Carpenter, C. *Power in Conservation: Environmental Antropology Beyond Political Ecology* (London: Flamengo, 2020), 43.

The concept of anthropocentrism sees that humans are the highest creatures on this earth. So that what must be considered is human life, while other creations become secondary and must "serve" human interests. Then everything will be of value if it is useful for human interests. It was this concept that paved the way for human domination over nature and the rest of creation. Regarding the concept of anthropocentrism, Paulson & Gezon wrote:

"The scope of the study in this ecological perspective is related to social movements both at the local level and those with a wider religious scope. Various civil society organizations carry out advocacy activities to stop state policies and corporate practices that cause environmental damage. By developing actor-oriented studies, it can help us not get caught up in understanding dichotomies such as social movements with the community against corporations and the government. This view is naive and simplistic. It is necessary to be open to the possibility of complex nuances in the ongoing relationship between the parties, which are not easily and simply delineated in a dichotomous manner. In examining social movements, it is also necessary to pay attention to the effects of the networks formed among actors who are geographically diverse, local, national, international, including analyzing the effects of the counter-discourses that they generate to support their activities. In this case concepts such as network, assembly or articulation are sometimes used".[20]

This power or domination over nature and other creations is the basis for the ambition to conquer and control the earth and everything in it for the benefit of humans, the interests of the actors. So that there is no doubt that there will be merciless exploitation of the earth and its contents.

The technology developed is also interested in this conquest and control effort. The basis of all this is the concept of analytical-reductionist thinking which sees nature as a static, lifeless machine that can be controlled at will by humans.

This mentality brings changes in values in people's lives. Humans only prioritize and deify material quantitative values. In short, this mentality also develops concepts or understandings that are less precise or wrong about development.

3.3 The wrong concept of "Development"

The concept of anthropocentrism also influences a narrow understanding of 'development'. 'Development' is only seen in terms of material and is only interpreted as an increase in quantity. This has a huge negative impact. The development of a nation is measured based on the level of productivity. So 'development' is reduced to mere hoarding of wealth, consumerism, materialism and deep discontent. In other words, 'development' is only understood as the addition of material values.

Based on the orientation of adding material values, 'development' is always directed to the exploitation of natural and human resources. Everything is just to pursue *"having"*, without thinking about *"being"*.[21] We can guess that the reduction in the meaning of 'development' has become the deep cause of the current ecological crisis. Because, in the name of business development, exploitation of natural resources is permitted, even legitimized.

Exploitation of natural resources requires adequate science and technology. Therefore, the progress of science and technology is also a factor that supports the ecological crisis in the world in general and Indonesia in particular. Science and technology which was originally seen as a human achievement, is ambivalent, not only bringing benefits and conveniences, but also negative impacts and influences.

3.4 Ambivalence of Science and Technology

In the two issues of the ecological crisis above, the role of Science and Technology has been mentioned a little. "Science" here, especially natural science and "technology" is understood as the application of natural science that allows us to master and utilize the forces of nature.

Initially, the development of science and technology was considered as progress. People only see new possibilities that are wide open to humans for everything. The human view is so optimistic-positivist. But such a view now seems rather naive. Because, in addition to having an impact on extraordinary progress,

[20] Paulson, S. & Gezon, L. L., "Locating the Political in Political in Political Ecology: An Introduction", *Human Organization* 62, no. 3 (2003), 205-217. https://doi.org/10.17730/humo.62.3.e5xcjnd6y8v09n6b.p205-217.

[21] Paulson & Gezon, *Political Ecology Across Spaces, Scales, and Social Froups* (New Brunswich: Rutgers Unicersity Press, 2005), 25.

there are also many new problems and difficulties. The new problems and difficulties that arise are related to moral or ethical issues, especially problems of human life and the environment.[22] Almost all science and technology that goes along with economic growth has an impact on environmental damage. Advances in Science and Technology – Science and technology is ambivalent.

In the situation of our time, the development of science and technology seems to be a process that takes place by itself, independent of humans. This fact is surprising, because all science and technology is nothing more than an extension of the human hand, only acts and functions as an instrumental.

Martin Heidegger (1889-1976), firmly stated that: "What was created by man to rule this world, now dominates man". The progress became something that seemed inevitable, became uncontrollable. Science and technology oppress and exploit humans. By being oppressed and exploited and controlled by science and technology, humans cannot control the negative impacts and influences of science and technology, and even enlarge them. Thus, science and technology is increasingly focused and has a tendency to exploit natural resources, conquest and control the mother earth.

The three problems of the ecological crisis, precisely the three causes of the ecological crisis above, make us aware that the problem is so complex and serious. Therefore, the problem of this ecological crisis must be handled adequately and become a joint task that must be prioritized by the people of the world and Indonesian people today.

3.5 Ecological Crisis Handling Efforts

Ecological crisis problems that cause humanitarian disasters such as flash floods, earthquakes, landslides, global warming, crop failure, erosion, abrasion, air pollution, and others as we see in Kompas, Monday (21/04/2025). The problem of this complex and severe ecological crisis covers many aspects of human life. As Paul Hawken puts it:

will inevitably change their entire agenda and business strategy in such a way as to reduce the utilization of natural resources as efficiently as possible by maximizing the use of raw materials from nature to reduce wasted waste in order to reduce production costs and to keep product prices competitive. Industry still operates by the rules of..., using more and more (natural) resources to enable fewer people to be more productive. The consequence: massive waste from both natural and human resources.[23]

This is one of the main causes of the current global environmental crisis and disaster. This requires the involvement of all of us to take part in the responsibility to take care of Mother Earth.

Handling it requires an interdisciplinary approach – more realistically, multidisciplinary. So it is an integral handling effort. However, in essence, all these integral efforts are in two horizons, namely through modern Science and Technology itself and more fundamentally by changing human perspectives so far about nature and creation as a whole.

3.6 Ecological Design

In ecological design, the thing that needs to be considered is a change in mindset and behavior when we are dealing with the environment. With a change in mindset and behavior, we can design together the whole of life by learning and respecting nature.

One example of the application of building design. By utilizing the natural wealth of any building can be designed in such a way to take advantage of the generosity of nature in the form of sunlight and wind to save energy consumption. Its concrete form, windows and roofs are designed in such a way that during the day all sunlight is allowed to enter the rooms and rooms in the building so that lighting is not needed. At the same time, the breeze is allowed to blow so that no air conditioning is needed. Other examples of this ecological design by extension include the design of public transportation that is environmentally friendly and energy efficient, the design of a beautiful city or community, a place of recreation and a place of pilgrimage that relies on natural charm.[24] These examples can be extended based on our levels of awareness of the importance of the environment.

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[22] Keraf, A. Sonny. *Etika Lingkungan*. Jakarta: Penerbit Buku Kompas, 2002, yang kemudian direvisi dan diterbitkan ulang dengan judul *Etika Lingkungan Hidup*. (Jakarta: Penerbit Buku Kompas, 2010), 22.

[23] Paul Hawken, "Natural Capitalism." *Mother Jones Magazine,* March/April 11, 1997.

[24] Sonny, "Fritjof Capra Tentang Melek Ekologi Menuju Masyarakat Berkelanjutan", *Diskursus* 12, no. 1 (2013), 54-81. https://doi.org/10.36383/diskursus.v12i1.118 .

Furthermore, A. Sonny Often in his writings About Ecological Literacy Towards a Sustainable Society writes that:

"Our economic design must also be changed in such a way by relying on almost all of the fulfillment of our needs from what nature provides in our respective places. The need for food, housing construction, kitchen and household utensils, clothing needs, as well as all energy, social and transportation facilities and infrastructure can be designed entirely by relying on everything provided by nature in their respective places. Take concrete examples of building materials, kitchen utensils made from local materials from wood, bamboo, rattan or whatever is available in their respective places."[25]

Thus, almost all food and clothing are cultivated and taken from local nature, thereby reducing the increase in CO2 emissions, mainly from the use of energy sourced from households.

3.7 Science and Technology Intervention

The ecological crisis is mainly caused by human activities that move science and technology to dominate nature excessively.[26] Therefore, intervention or involvement of science and technology is also needed to deal with ecological crisis problems in a professional manner according to the field of expertise, by utilizing the laws that apply in that field.

In the research, efforts are made to research ecological systems, in particular the requirements for the preservation of the ecological balance, including the effects of human intervention; research to find new energy sources, even new foods or their substitutes and research on recycling models.[27]

For example, research by the Royal Commission on Pollution on air pollution, agriculture, nuclear power, water pollution due to mercury waste and oil spills at sea. Experiments in waste recycling and cultivating existing resources, such as "car shredder" machines that process all metals and plastics from discarded vehicles for reuse; an incinerator that does not pollute the air, but instead produces steam energy for lighting and heating, as quoted from John Stott in Global Issues.[28]

In the Law, a kind of environmental management law is made that regulates the fair use of Natural Resources, both for all and for nature itself. In the UK for example, there is "The Clean Air Act", which is a law to keep the air clean.

Also, efforts to suppress "earning economic profit through ecological loss". Some countries have imposed high taxes on products that come from natural sources that are only disposable or that cause environmental disturbances in the production process. From the consumer side, high prices are also set for goods that contribute to ecological damage.[29]

Efforts through science and technology are certainly to restore disturbances to the ecological balance in addition to prevention. This effort is more on technical handling. In order to continue and develop, we need a mindset, perspective or perspective that does not see nature and other creations as mere objects, but rather as partners in human life.

3.8 A New Perspective on Nature and Creation as a Whole

The change in human mindset and perspective on nature and creation as a whole is an effort to overcome the problem of an important ecological crisis, in addition to technical views by involving science and technology.[30] Without the transformation of a new perspective, that is, if humans stick to the concept of anthropocentrism and an analytical-reductionist perspective, it will not be possible to maintain a consistent ecological awareness and attitude.

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[25]Ibid.

[26] Sayem, Md. Abu. "Building Eco-Theological and Bio-Centric Approach to Environmental Ethics: John B. Cobb's Perspective". *Religió: Jurnal Studi Agama-agama* 11, no. 1 (2021), 23–43. https://doi.org/10.15642/religio.v11i1.1681.

[27] Winarto, "Climate and Culture: Changes, lessons, and challenges", *Wacana* 12, no. 2 (2010), 369-385. https://doi.org/10.17510/wjhi.v12i2.122.p369-5385.

[28] Dismas Kwirinus, Pius Pandor & Petrus Yuniarto. "Technology as a Means of Human Liberation in the Perspective of Herbert Marcuse", International Journal of Indonesian Philosophy & Theology, Vol. 5, No. 2, (2024), 72-80. DOI: 10.47043/ijipth.v5i2.73https://aafki-afti.org/ijipth.

[29] Ibid.

[30]Keraf, *Etika Lingkungan*. Jakarta: Penerbit Buku Kompas, 2002, yang kemudian direvisi dan diterbitkan ulang dengan judul *Etika Lingkungan Hidup*. (Jakarta: Penerbit Buku Kompas, 2010), 34.

With this consequent ecological awareness and attitude, this ecological crisis, which is mostly caused by human activities, can be minimized and efforts to deal with it can be developed. This change in perspective must bring people from anthropocentric concepts and analytical-reductionist mindsets to more biocentric concepts and synthesis-holistic mindsets.

With this new perspective nature and other creations are seen as human partners in life. Humans see themselves as part of the physical organism of the universe. Humans can only thrive in the entire cosmos, which demands a relationship with the non-human world.[31]

Departing from consciousness in this kind of perspective, man realizes that he is with other creatures in a situation of interdependence. In this situation, there is an interaction and relation of all "existing", from the elementary particles to the most complex life. It is hoped that by talking about awareness and perspectives in human interactions and relations with their environment, we can start moving to save mother earth from an ecological crisis.

4. CONCLUSION

The fact that awareness of the importance of the human environment is a long process. Therefore, this awareness needs to be fostered by developing ecological education, awareness of a more biocentric concept and a synthesis-holistic mindset. The direction to be developed in ecological education is to raise awareness of subjects who have long been asleep in the zone of establishment to the zone of struggle full of risks about the importance of respecting and learning about nature. Nature stores invaluable energy and wealth for life. This natural capital is also arranged in such a way that it will contain the charm of incomparable admiration.

The subject's awareness of this natural charm needs to be supported by carrying out a joint movement to preserve the environment. This joint movement is a partnership movement. This partnership movement is a form of our shared responsibility for environmental sustainability. By carrying out this movement, we will all be called ecological humans, namely humans who are close to nature, understand nature and maintain or care for nature because we realize that humans live from nature and are in the midst of nature, not mastering nature. Therefore, in the spirit of partnership, we go hand in hand to preserve the environment. Remember that our earth can meet the needs of everyone's life, but cannot meet the needs of greedy and greedy people.

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