



Ecological Damage in the novel of Mata dan Manusia Laut by Okky Madasari

Atikah; Retno Winarni; Nugraheni Eko Wardani

Indonesian Language Education Master Program, Sebelas Maret University of Surakarta, Indonesia

<http://dx.doi.org/10.18415/ijmmu.v8i2.2310>

Abstract

Natural problems are the main issues which is related to the human attitudes and behaviours. There is a reciprocal relationship between human and nature. Ecological damage affects the life of organisms or other biotic and abiotic elements. In literary discourse, the author could show the destruction of nature. The purpose of this study is to describe the natural problems in Okky Madasari's novel Mata dan Manusia Laut. This study used a qualitative method with a descriptive analytic working mechanism. The approach used was an ecocritical approach. The data collection technique applied was documentation. The data analysis activities consisted of data reduction, data presentation, and drawing conclusions/verification. The results showed that the natural problems contained in the novel of Mata dan Manusia Laut were natural problems and artificial or influenced by human behaviour. Non-anthropocentric problems were weather problems in Kaledupa and Masalembo, high waves caused by the gravity of the moon, tsunamis, and earthquakes. Meanwhile, the problems that were directly influenced by the attitudes and behaviours of the characters consisted of the problem of fish bombs, sea water pollution with garbage, and the death of the mother octopus. The results of this study could be used to strengthen the character and attitude of loving the environment.

Keywords: *Ecocritic; Natural Problems; Novel*

Introduction

Ecological damage is a major issue from year to year. This damage can occur naturally and can be influenced by human actions or activities. Environmental damage does not only have physical impacts on nature, but also on humans themselves. In 2015, Indonesia became the third largest CO₂ emitter in the world. The agricultural, electricity, transportation, forestry, and building sectors are the major emitters in Indonesia (Miyata, et al., 2018: 108). This certainly has relevance to the development of technology and information and it uses in various sectors. Ecological damage is a major theme that cannot be separated from the position of humans over nature.

There is a serious threatening of ecological damage caused by burning fossil fuels for the electricity industry. This process has resulted in the largest emissions, namely carbon dioxide which causes global warming. It can be seen that the intensification through agricultural technology has resulted in the exodus of the countryside to the cities, which demands labour for the newly emerging industries. The result is a

short-term public health crisis due to the conditions of the early industrial cities, and smog (Moran, 2017: 87). Ecological damage during the last three decades has increased by 50%. The damage occurred in tropical forests; drinking water sources in 40 countries; the increase in dry area on the African continent which annually accounts for 2.3 million square meters; converting the fertile land of six million hectares into desert; acid rain which threatens to destroy lakes and forests in Europe and North America; global warming caused by increasing levels of gases on the atmosphere, greenhouse gases (Daeng, 2008: 7).

Natural problems have occurred since the earth was created. The earth is not static, but dynamic which is marked by various changes. The continents move, hurricanes, earthquakes, volcanoes erupt, and dry and rainy seasons are abnormal. Like the eruptions that occurred at Mount Tambora in Sumbawa (1815), Mount Krakatau in the Sunda Strait (1883), Mount Agung in Bali (1962), and Mount Galunggung in West Java (1982) are natural events that occur without the influence of human activities (Soemarwoto, 2008: 6). Thus, ecological damage cannot only be viewed from an anthropocentrism perspective. Murty Magde Pane & Rina Patriana (2016) describe environmental problems including global warming, air pollution, water pollution, deforested forests, floods, and others. In addition, Scott Slovic (2019) found environmental problems in the form of wild land designed for housing tracts, oil problems, and species extinction. These studies describe the influence of humans on their environment either directly or indirectly. Garrard (2004: 20) describes ecocriticism as an activity to explore ways of recognizing the relationship between humans and nature. In its development, the movement explores concepts related to ecocriticism, which are divided into pollution, wilderness, disaster, housing or shelter, animals and the earth.

Humans are part of the environment. The environment is classified into biotic and abiotic environments. Biotic consists of living things outside the abiotic environment. Meanwhile, the abiotic environment is in the form of temperature, air, light, atmosphere, nutrients, minerals, water, soil, and fire (Irwan, 2019: 108-109). The environment on planet Earth can be categorized into three basic groups, namely the physical environment, the biological environment and the social environment (Borrong, 2019: 18-19). By seeing humans as an integral component of the larger ecosystem, Merchants have tried to break the dualism between humans and nature, and have challenged the notions of human superiority and independence from nature. The environmental crisis, according to him, is the result of humans being arrogant towards nature and sustainable use, without plenishment, of its resources (Merchant, 1980: 95). Natural problems cannot be separated from the paradigm of anthropocentrism and eco-centrism. In the view of anthropocentrism, nature and the earth as givers of infinite life. Humans consider themselves as a separate part of nature (Susilo in Sukmawan, 2016: 4). The eco-centrism paradigm sees humans as ecological creatures, part of nature. Ecocentrism focuses ethics on the entire ecological community, both biotic and abiotic (Keraf, 2010: 92).

Literary works as an author's imaginary work have a relationship with the author's life realities, be it the social environment, the physical environment, or the biological environment. This reveals that environmental damage can also be presented in a literary work, be it poetry, prose or drama. Novels or romances present many environmental problems that can be read and analysed with an ecological awareness (Endraswara, 2016: 148). The presence of literary works is a medium for cultivating ethical awareness of the environment. Prose literary works can present characters who relate to humans in terms of practicing environmental ethics. Meanwhile, figures that reflect the anthropocentrism paradigm can accommodate the causal relationship of human attitudes towards nature. This is related to the concept of man and nature which has a reciprocal relationship.

Ecocriticism is a study of the relationship between literature and the physical environment (Glofelty, C. & Fromm, 1996: xix). Literary ecocriticism arises from a desire to better understand how literature contributes to problems of nature, if possible to problem solving (Lynch, et al., 2012: 16). The novel *Mata dan Manusia Laut* was written by an author named Okky Madasari in 2019. The novel is part of a series of children's novels, such as *Mata dan Rahasia Pulau Gapi* and *Mata di Tanah Melus*. The novel *Mata dan Manusia Laut* tells an adventure that begins with news in the international media about the existence of humans who can dive without tools. The figures of Matara and their mother went to

Southeast Sulawesi, Wakatobi, especially to the Kaledupa area. In this area, there is Sama Village which is inhabited by Bajo people. Based on research, the Bajo people underwent genetic evolution, namely the spleen that is larger than ordinary humans. These humans are said to be sea people. It can be seen that there is a very close relationship between humans and nature.

Based on the background above, it is known that environmental problems are relevant problems to be studied. The damage of nature cannot be separated from humans because humans are part of nature. Literary works often provide settings or even ideas about the environment. Literary works can represent the form of environmental problems. Therefore, this research focuses on natural problems in Okky Madasari's novel *Mata dan Manusia Laut*. In-depth analysis of the ecological crisis can provide a reflection of the need for ecological awareness to face various changes. The research on children's novels can be used for giving values and characters of caring for the environment in children.

Research Method

This study uses a qualitative method with a descriptive analytic working mechanism. The review used is ecocritic. Ecocritic is a study of the relationship between humans and non-humans (Garrard, 2004: 5). The way it works is based on Endraswara's opinion (Endraswara, 2016b: 59-60), namely understanding the sciences related to the environment; observing, understanding, and having a sense of care for the environment (ecological awareness); and evaluating texts and ideas in terms of coherence and usefulness in response to environmental crises. The data in this study are words, phrases, sentences, paragraphs that contain environmental problems in the data source, namely the novel *Mata dan Manusia Laut* by Okky Madasari.

The author uses several data collection techniques, namely documentation, listening techniques, reading techniques, and note taking techniques. The author uses data analysis techniques from the Miles and Huberman model. Miles and Huberman (Sugiyono, 2016: 337) state that qualitative data analysis activities are carried out interactively and take place continuously until completion or until the data is saturated. Data analysis activities consist of data collection, data reduction, data presentation, and drawing conclusions (Milles, Matthew B. & Huberman, 2014: 33).

Results

Ecological Damage in the novel of Mata dan Manusia Laut by Okky Madasari

Ecological damage is a serious issue and its impact is felt not only by humans, but by the entire system. The environment is not only a background, the environment is classified into the biological environment, the physical environment and the social environment. Natural problems can occur in its components. The novel of *Mata dan Manusia Laut* contains a description of natural problems related to the Kaledupa sea and land ecosystems. The differences of place settings affect different ecological problems or damage. There are figures of the Sama or the Bajo tribe who live in the ocean. They make ends meet by depending on the ocean. In addition, there is a setting in the Masalembo waters with the humans who have lived there. This reflects ecological complexity. The following is an analysis of natural problems in the novel of *Mata dan Manusia Laut* by Okky Madasari.

Hot Weather in Sama Village

One of the natural problems in the novel of *Mata di Tanah Melus* is the problem of hot weather. The problems are showed in the following sentences:

Akan kamu rasakan betapa banyak matahari di atas kepalamu, menyengat, membakar, membuat kulit gosong, apalagi kulit mereka yang biasanya terkurung dalam ruangan sepanjang hari. Di dalam rumah sekalipun, matahari terasa seperti lampu yang terpasang di langit-langit. (Madasari, 2019: 13).

You will feel how much sun is above your head, stinging, burning, making their skin burn, especially their skin which is usually confined in the room all day long. Even indoors, the sun feels like a lamp attached to the ceiling (Madasari, 2019: 13).

The novel fragments above contain information about natural problems in Sama Village, a village floating in the middle of the sea. The village is located in Kaledupa District, Wakatobi. They who lived in Kampung Sama are Bajo people. They are never separated from the sea because the sea is a field for them. Their way of earning a living is by using the sea, which is looking for fish in the sea that can be eaten by themselves or even sold on land. The natural problem in the novel above is hot weather. The location of Sama Village, which is in the middle of the ocean, causes them to feel that there is not only one sun. It can be categorized as a natural problem because the weather can have an impact on humans. Especially for human skin health. This problem is of course also related to the location of Sama Village which floats in the middle of the sea. These problems are included in the category of abiotic environmental problems that affected the physical environment and the biological environment.

Tidal Waves (Moon Gravity)

The Bajo tribe, especially who live in Sama Village, have a belief in the form of fishing's prohibition during the full moon. In their view, at the full moon the fish in the sea spawn and the gods descend. However, there is also a scientific picture of lunar gravitational events that cause tidal waves. This is illustrated by the following sentences:

"Gravitasi! Itu Gravitasi bulan!" seru Matara. Ia mulai menyadari mereka dalam bahaya. Matara tak pernah mendengar larangan melaut pada saat purnama tapi ia tahu, gaya tarik bulan saat purnama bisa menarik air laut hingga jadilah ombak tinggi yang berbahaya. (Madasari, 2019: 93).

"Gravity! It's the Moon's gravity! " exclaimed Matara. He began to realize they were in danger. Matara has never heard of the prohibition against going to sea during the full moon, but he knows, the attraction of the moon during the full moon can attract sea water to become dangerous high waves. (Madasari, 2019: 93).

The tides of sea water can be caused by the moon's gravity. The condition of high tide occurs twice, namely during the full moon and new moon. When the moon is full, the distance between sea water and the center of the moon becomes closer than the distance between the center of the earth and the center of the moon. This also happens when a new moon is in certain hemispheres. This event causes the moon's gravitational force to be stronger than the earth's to attract seawater. Thus, sea water becomes slightly higher towards the earth's surface. On the other hand, the condition recedes if there is no full moon and new moon.

The novel fragment above depicts the existence of the moon's gravity which causes high waves to endanger the characters of Bambulo and Matara. Tides are one of the natural phenomena seen in the sea. Tides are characterized by a vertical movement (regular and repetitive rise and fall of sea water) of all particles of sea water mass from the surface to the deepest part of the seabed. These movements are caused by the attraction or gravity between the earth and the moon, the earth and the sun, or the earth and the moon and sun. Ocean tides can also be defined as waves generated by the interaction between the earth, sun and moon. On the full moon, the resulting movements are very high tides and very high low tides (Surinati, 2007).

Based on the description of this phenomenon above, it is not possible for fishermen to go fishing during the full moon. This becomes a problem when Bambulo and Matara are in the ocean during high waves. These problems are natural, not directly related to human activities. As for the beliefs of the people of Sama Village, the bad natural conditions were caused by violating the rules of the sea god. There is a rule not to go to sea during the full moon because the fish are laying eggs and the gods are descending into the sea. However, the characters Matara and Bambulo go to the atoll during the full moon. Judging from these activities, the problems caused by the gravity of the moon are included in the category of natural disasters related to the abiotic environment.

Tsunami and Earthquake

Natural problems caused by the gravity of the moon continue until the big tsunami disaster. In the traditional view that is believed by the Sama people, the incident is still related to the violations carried out by Bambulo and Matara. This is illustrated by the following sentences:

Bambulo merasakan kakinya bergetar. Lalu ia melihat air laut di hadapannya perlahan surut, kering hingga jauh ke tengah. Nun jauh di sana, dari perbatasan langit dan laut, laut serupa gunung, bergerak cepat menuju tempatnya berdiri. (Madasari, 2019: 111).

Bambulo felt his legs shake. Then he saw the sea water in front of him slowly receding, dry until far into the middle. Far away, from the boundary of sky and sea, the sea was like a mountain, moving swiftly toward where it stood. (Madasari, 2019: 111).

Kaledupa is one of the areas in Wakatobi Regency, Southeast Sulawesi Province, Indonesia. Baeda (2012) conducted research on the potential for tsunamis due to earthquakes in Sulawesi Island waters. Based on this research, the area with the greatest potential is the North Arm of Sulawesi Island, especially the North, South and East Coast of the North Arm. The tsunami disaster has occurred and claimed many victims. For example, the eruption of Anak Krakatau Mount on August 27, 1883, which was followed by the tsunami, destroyed 295 cities and villages and claimed many lives. The impact of the tsunami on the environment is influenced by the height, the tsunami period, the topography of the coastal area, population conditions, and the infrastructure in the coastal area (Naryanto, 2008).

Based on the sentences above, there is a description of natural problems in the form of earthquakes and tsunamis. This is known through Bambulo who feels vibrations, receding sea water, and rolling seawater moving quickly. The author describes a tsunami disaster when Bambulo and Matara were at the atoll. The tsunami was not only felt in the atoll, but also moved to Sama Village, to the mainland of Kaledupa. The tsunami caused Matara and Bambulo to drift to depths never reached by the two. The natural problems described relate to the abiotic environment and take the form of natural disasters. These events have a detrimental impact on the physical, biological, and social environment.

After the tsunami occurred in the atoll and Kaledupa, there was a shaking in Masalembo waters which was also felt again by the Kaledupa people. The shock was attributed to the figure of RORO, whom the Masalembo people believed were inhabitants of the ocean. The following is the data that shown natural problems in Masalembo:

Mama Lia mulai berdoa dengan suara yang terdengar lemah. Ia buka doanya dengan permohonan maaf. Permohonan maaf pada Dewa Laut, pada penguasa semesta alam, pada RORO, pada seluruh penghuni lautan. Ia memohon maaf karena telah membuat darah tumpah di lautan, karena telah mengganggu segala keseimbangan dan ketenangan kehidupan laut. Karena mereka semua telah melanggar aturan Dewa Laut. (Madasari, 2019: 182).

Mama Lia started praying in a weak voice. He opened his prayer with an apology. Apologies to the God of the Sea, to the ruler of the universe, to RORO, to all the inhabitants of the ocean. He apologized for making blood spilled in the ocean, because it had disturbed all the balance and calmness of marine life. Because they had all broken the Sea God rules. (Madasari, 2019: 182).

Mama Lia feels guilty for breaking the rules of the sea god. He apologized to the sea god, to RORO for disturbing the balance of the oceans. They believe in the god of the sea and the masters of the sea who can save them when carried by the current into the Masalembo region. Octopus blood spilled into the ocean is considered an act of breaking the rules of nature. The natural problems presented by Mama Lia are the balance of nature and the calm of the ocean. Basically, the problem referred to in the sentences above is the shock which is based on the death of the giant octopus. Thus, these problems fall into the category of abiotic environmental problems. These problems are categorized as natural disasters and can be studied based on modern science. Although the author places more emphasis on the character's belief in the rulers of the oceans, on RORO, and others.

Meteorological Factors in the Masalembo whirlpools

There have been various accidents in the Masalembo area related to sea whirlpools. The events that occur are associated with beliefs or myths that develop in the surrounding community. This is illustrated by the following sentences:

Hingga tibalah hari nahas itu. Saat kapal berlayar di Laut Jawa menuju Ujung Pandang, badai menyeretnya hingga masuk wilayah Masalembo. Kapten dan anak buahnya masih terus berupaya mengendalikan kapal, memutar haluan agar tak menentang badai. Namun tetap tak bisa mereka kendalikan. Di tengah badai, ada bagian mesin yang korslet, di bagian bawah geladak. Bagian yang korslet itu memercikan api. Awalnya kecil saja, tapi kemudian membesar, merembet ke mana-mana. Ke dek paling bawah yang penuh dengan barang, lalu sampai ke ruang penumpang. (Madasari, 2019: 147-148).

Until that fateful day came. When the ship sailed in the Java Sea towards Ujung Pandang, a storm dragged it into the Masalembo area. The captain and his men were still trying to control the ship, turning around so as not to resist the storm. But they still can't control it. In the middle of the storm, there was a part of the engine that was shorting, at the bottom of the deck. The part that is shorted sparks the fire. At first it was small, but then it got bigger, spreading everywhere. To the lowest deck filled with luggage, then to the passenger room. (Madasari, 2019: 147-148).

The fragment above describes the natural problems that exist in the oceans, namely in Masalembo waters. The captain is the person who carries the Tampomas ship, a ship bought by the Indonesian government from Japan. The sinking of the Tampomas ship in Masalembo waters was inseparable from the very busy shipping schedule. The ship is not given time to rest and have its engines checked. The Tampomas ship, which was about to sail in the Java Sea to Ujung Pandang, was finally dragged to Masalembo.

Mochammad (2017) conducted research in the Masalembo area. In the Masalembo area there are frequent accidents so that it is considered a mysterious area. However, this can be explained naturally. These factors are meteorological factors, namely weather which consists of wind, rain, clouds, water humidity and air temperature. Around December-February there is the influence of West Monsoon and Arlindo ocean currents from the northern hemisphere. As for July-September due to the influence of Arlondo, ocean currents from the southern hemisphere. The Masalembo area is a confluence between currents from the Java Sea, Bali Strait, Flores Sea, and the Makassar Strait because of that the Masalembo area is called the *Indonesian Bermuda Triangle*.

Several accidents occurred, such as the accident experienced by Tampomas 1. Furthermore, Tampomas-II sank on January 27, 1981 in Masalembo Waters, the Roro Ship (Ferry) Sanopati Nusantara

which also sank in Masalembo on December 29, 2006, Adam Air plane was lost in the waters Masalembo on January 1, 2007, July 19 2007, there was an accident tragedy of KM *Mutiara Indah* which sank in Masalembo, on July 27 2007 there was also an accident in the form of the sinking of KM *Fajar Mas* in Masalembo, KM *Sumber Awal* sank in Masalembo waters on August 16, 2007, the ship cargo on July 8, 2008 sank in Masalembo, January 11, 2009 KM *Teratai Prima* sank in Masalembo waters, and on May 19, 2017 KMP *Mutiara Sentosa-I* experienced a fire in Masalembo.

In this case, the author explains that in the Masalembo waters, the currents are so high that the Tampomas ship cannot be controlled. This is, in line with the explanation of the studies on Masalembo. The research shows that the Masalembo region has very strong currents. In the community itself Masalembo is famous for its mythical stories. Based on the explanation above, natural problems are related to abiotic elements. The disaster is understood to have occurred due to poor natural conditions. However, the description of the characters who want to continue sailing without paying attention to the condition of the ship, is a wrong action and has an effect on the sinking of the Tampomas ship. Apart from the weather factor, there are also technical factors.

Problems in Masalembo related to whirlpools are also illustrated in the following sentences:

Semakin mereka menjauh dari pusat kota Masalembo, semakin terdengar suara yang menderu-deru. Entah angin, entah air. Akhirnya sumber suara itu benar-benar tampak di hadapan mereka. Sebuah pusaran yang bergerak begitu cepat, tanpa henti, siap memelintir dan melumat apa pun yang masuk ke dalamnya (Madasari, 2019: 196).

The farther they got from downtown Masalembo, the more the roaring sound could be heard. Whether it's the wind or the water. Finally, the source of the sound appeared before them. A whirlpool that moves so fast, without stopping, ready to twist and pulverize whatever enters it (Madasari, 2019: 196).

Matara and Bambulo who wanted to return to Kaledupa had to enter the whirlpool. A very fast-moving whirlpool. The center is said to always carry victims, such as shipwrecks and lost planes. The events that occur in Masalembo waters are often associated with mystical events. This is because the accident occurred in the same place. The author himself describes that under the Ocean there are the lives of Masalembo people, such as Mama Lia, the captain, Sam, and others who chose to live there. They are people who have an accident who believe in the god of the sea, believe in the existence of children of the sea god.

In the novel of *Mata dan Laut Manusia*, there is a description of natural problems caused by meteorological factors in the form of weather, wind, rain, clouds, air temperature and humidity are the reasons for the many accidents. The author describes the problem from the point of view of the story that developed in the surrounding community and scientific explanation. Therefore, by reading this novel brings readers to recognize the life of the Bajo or Bajau Tribe which cannot be separated from the ocean. Readers are also invited to observe natural events that occur. There is a scientific explanation that can be understood by readers. The problems in Masalembo waters relate to the concept of natural disasters that are not related or influenced by human activities.

Fish Bomb

Ecological damage is often associated with anthropocentrism views. In this case, humans have certain roles and influences that cause natural problems. This condition is illustrated by the following sentences:

Tampaklah semacam pupuk atau tepung atau serbuk berwarna putih. Itulah bom ikan. Lebih tepatnya bahan pembuat bom ikan. Bisa juga untuk membuat bom-bom lain yang bukan hanya untuk ikan. Itu

sesungguhnya yang paling berbahaya karena bisa melukai bahkan membunuh manusia. (Madasari, 2019: 217-218).

Looks like some kind of fertilizer or flour or white powder. That's the fish bomb. More precisely the material for making fish bombs. It can also be used to make other bombs that are not just for fish. That is actually the most dangerous because it can injure and even kill humans. (Madasari, 2019: 217-218).

The merchant ship that saved Matara and Bambulo was apparently carrying materials for making fish bombs. Bombs are tools that can damage ecosystems. Not only fish are affected, but also marine resources and environment. The bombing act is illegal. Risnawati (2016) explained that the deviant behavior of illegal fishing in Taka Bonerate, Selayar Island Regency resulted in the destruction of the coral reef ecosystem. The use of fish bombs can have fatal consequences, especially in coral reef ecosystems. Fish bombs can also harm to the lives of other species. Damage to marine ecosystems can disrupt other natural balances, both biotic and abiotic.

Sea Water Pollution

Not only related to fish bombs, there are also problems with sea water pollution caused by bad human habits. Descriptions of human attitudes and activities that cause damage to nature can be found in the following sentences:

Di kampung ini, laut juga seperti tempat sampah. Orang-orang membuang begitu saja bungkus makanan ke air. Plastik mengapung di mana-mana, mulai dari bungkus sampo sampai bungkus sabun, dari kotak minuman susu sampai bungkus rokok. Memang tak semua sampah itu dari orang Sama. Banyak juga sampah yang dibawa arus dari tempat jauh (Madasari, 2019: 23-24).

In this village, the sea is also like a trash can. People just throw food wrappers into the water. Plastic floats everywhere, from shampoo wrappers to soap wrappers, from milk drink boxes to cigarette packs. Indeed, not all the trash is from the same people. There is also a lot of rubbish carried by the flow from far away (Madasari, 2019: 23-24).

The data above describes the lives of the same people. Among these descriptions are environmental problems, namely sea water contaminated by garbage dumped into the sea. The garbage is in the form of shampoo, soap, milk drink boxes, cigarette packs, and others. However, the act of disposing of garbage was not only done by the people of Sama Village. A lot of garbage is carried by the current so that the garbage floats around Sama Village. Such conditions not only damage sea water, but also affect or cause ecological damage to marine animals, such as fish, coral reefs, turtles, and others.

Based on the press release of the Ministry of Marine Affairs and Fisheries Number SP39/ SI. 07/III./2017, there is an environmental problem in the form of large amounts of rubbish on the beach, around the houses of the Bajo people, in North Molu Village, South Wangi-wangi District, Wakatobi Regency. The conditions described have the impression of a slum environment and unfit for habitation. Hiwari, et al. (2019) conducted research on microplastic waste at sea level around Kupang and Rote, East Nusa Tenggara Province. Microplastics are pollutants that can contaminate marine life.

Environmental damage, especially aquatic systems, can be sharpened by the presence of various chemical substances in waste, both organic and non-organic. One of them is that it can cause a population explosion of algae and bacteria. This population explosion can result in depletion of oxygen supplies causing other damage. In this case, it is illustrated that there is a link in the chain between the impact of waste on the environments and humans (Borrong, 2019: 126). Based on this explanation, the disposal of plastic waste into the sea is an act of polluting the marine ecosystem which has an impact on the life of marine animals. Humans can also feel the impact because the fish caught by fishermen are consumed by humans.

The Death of the Giant Octopus

One of the conflicts that develop in the novel of *Mata and Laut Manusia* is the conflict between humans and animals, such as Bambulo and Jack's group who have an argument with a giant octopus. This is illustrated by the following sentences:

Sementara darah semakin deras mengalir dari tubuh si Gurita, hingga menggenangi lautan wilayah itu, semuanya berwarna merah. Jack dan kawan-kawannya berhasil dilumpuhkan.

Namun nyawa si Gurita terlanjur melayang. Tepat pada tarikan napas terakhirnya, si Gurita mengerang keras dan panjang (Madasari, 2019: 169-170).

While the blood flowed more and more profusely from the octopus's body, to inundate the sea of the region, everything was red. Jack and his friends were successfully paralyzed.

But the octopus's life had already been lost. Right at his last breath, the Octopus groaned loud and long (Madasari, 2019: 169-170).

The angry octopus in the novel of *Mata dan Laut Manusia* is inseparable from the incident at the atoll when Bambulo speared a parrot fish. The octopus felt that Bambulo's departure to the atoll was the cause of the tsunami which caused the octopus to lose its eggs. The angry octopus always tries to catch Bambulo and Matara. Arriving at Masalembo, the octopus is held captive by Jack's group who has an evil temper. The octopus carried Matara in one of its arms so that Bambulo and the Masalembo people continued to try to save Matara.

However, when Matara is released, the octopus catches Jack and his friends who captivate him and Bambulo. The captain took an action until finally the octopus' arms released its grip. When the humans were released, Jack and his friends actually participated in injuring the octopus, they cut off the octopus's arm until the octopus was in pain. This action keeps blood flowing from the head, arms, and eyes. This condition causes the octopus to die. The death of octopus eggs is a big problem for the parent octopus. The death of the mother octopus is also a big problem for the oceans polluted by octopus blood. Actions taken by humans have damaged a part of nature. This problem is related to the criticism made by Garrard, namely the animals.

Discussion

The novel of *Mata dan Manusia Laut* is part of a series of children's novels by Okky Madasari which describes the issue of the environmental crisis from a traditional perspective and modern science. The findings showed that natural problems are the main theme of the children's novel. The description of the Bajo tribe and its relationship with nature at the same time shows the role of nature in humans. Environmental damage has a direct impact on humans. As well as damage caused by tsunamis, earthquakes, sea water pollution, fish bombs, and others. This is, in line with a study conducted by Sungkowati (2016) which shows that in the novel of *Lemah Tanjung* contains a description of environmental problems, namely an indication of the difficulty of finding fireflies which is related to the difficulty of finding clean water sources. This also relates to the conversion of urban forest functions into luxury housing. The setting in the novel is in Malang City. Ecological damage can be felt by humans in a reciprocal form.

Apriliadi & Anwar (2010) in their research also explain the existence of natural problems in the novel of *Luka Perempuan Asap* by Nafi'ah Al-Ma'rab. This problem is caused by the conversion of forest functions to oil palm plantations. The conversion of forests to oil palm plantations has resulted in reduced groundwater content, dead plants around the oil palm, global warming, forest fires, smog, respiratory problems and death. Sultoni (2020) conducted research on the poetry anthology *Air Mata Manggar* by Arif Hidayat which revealed ecological criticism in the form of criticism of the problem of forest

conversion, environmental pollution, and climate change. Hardiningtyas (2016) found natural problems in the form of environmental conflicts in Bali caused by tourism factors that erode agricultural land from anthology poem of *Dongeng dari Utara* by Made Adnyana Ole. These problems relate to land due to development and tourism as a form of modernity. In this case, there is a land use dispute.

The novel of *Mata dan Manusia Laut* presents a character who is involved in acts of destroying nature, such as the case of a cargo ship carrying materials for making fish bombs. Not only Ladasi figures and others who carry goods, officers also have the responsibility because they have escaped the fishing bomb carrier. Such conditions are certainly related to non-compliance with ecological principles related to the concept of ecopolitics. Agreeing with this, Clark (2010) in his research showed that the environmental crisis can be linked to the domination of political life. The problem raised is climate change. Climate change could mark the closure of environmental politics. Climate change itself is an abiotic problem that can also affect human life.

The studies above explained that the ecological damage caused by human behavior. Human actions towards nature have a major influence on natural conditions, be it the biological, physical or social environment. The novel of *Mata and Manusia Laut* describes natural problems that are non-anthropocentrism and anthropocentrism. The differences of problems between the novels studied by previous researchers is influenced by difference times and place settings. The author takes Kaledupa as a background, especially where the Sama people live in the middle of the sea so that the problems described are related to sea conditions and their potential damage.

Conclusion

Based on the research results, the novel of *Mata and Manusia Laut* contains natural problems that are natural and artificial or influenced by human behaviours. Problems that are not influenced by human activity are weather problems in Kaledupa and Masalembo, high waves caused by the gravity of the moon, tsunamis, and earthquakes. The problems that are influenced by the attitudes and behaviours of human figures are the problem of fish bombs, sea water pollution with garbage, and the death of the mother octopus. By knowing the results of this research, it is hoped that it will contribute to the cultivation of the character of loving the environment by readers, especially children, because the novel of *Mata and Manusia Laut* is one of the parts of the children's novel series.

References

- Apriliadi & Anwar (2010). "Alih Fungsi Hutan Sumatera dalam Novel Luka Perempuan Asap Karya Nafi'ah Al-Ma'rab." *Jurnal Pendidikan Bahasa Dan Sastra Indonesia*, 4(1), 8–13.
- Baeda. (2012). "Kajian Potensi Tsunami Akibat Gempa Bumi Bawah Laut di Perairan Pulau Sulawesi." *Jurnal Teoretis Dan Terapan Bidang Rekayasa Sipil*, 19, 75–82.
- Borrong. (2019). *Etika Bumi Baru: Akses Etika dalam Pengelolaan Lingkungan Hidup*. Gunung Mulia.
- Clark, T. (2010). "Some Climate Change Ironies: Deconstruction, Environmental Politics and the Closure of Ecocriticism." *Edinburgh University Press*, 32(1), 131–149. doi: 10.3366/E0305149810000684
- Daeng, H. J. (2008). *Manusia, Kebudayaan, dan Lingkungan: Tinjauan Antropologis(III)*. Pustaka Pelajar.
- Endraswara, S. (2016a). *Ekokritik Sastra: Konsep, Teori, dan Terapan*. Morfalingua.
- Endraswara, S. (2016b). *Metodologi Penelitian Ekologi Sastra: Konsep, Langkah, dan Penerapan*. CAPS (Center for Academic Publishing Service).
- Garrard, G. (2004). *Ecocritism*. Routledge.

- Glofelty, C. & Fromm, H. E. (1996). *The Ecocriticism Reader: Landmarks in Literary Ecology*. University of Georgia Press.
- Hardiningtyas. (2016). "Masalah Tanah dan Krisis Lingkungan di Bali dalam Antologi Puisi Dongeng Dari Utara Karya Made Adnyana Ole." *Atavisme*, 19(1), 45–59.
- Hiwari, et al. (2019). "Kondisi Sampah Mikroplastik di Permukaan Air Laut Sekitar Kupang dan Rote, Provinsi Nusa Tenggara Timur." *Pros Sem Nas Masy Biodiv Indon*, 5(2), 165–171.
- Irwan, Z.D. (2019). *Prinsip-Prinsip Ekologi: Ekosistem, Lingkungan, dan Pelestariannya*. PT Bumi Aksara.
- Keraf, S. A. (2010). *Etika Lingkungan Hidup*. PT Kompas Media Nusantara.
- Lynch, Tom, Cheryll Glotfelty, & K. A. (2012). *The Bioregional Imagination: Literature, Ecology, and Place*. The University of Georgia Press.
- Madasari, O. (2019). *Mata dan Manusia Laut*. Gramedia.
- Merchant, C. (1980). *The Death of Nature: Women, Ecology, and The Scientific Revolution*. Haper & Row.
- Milles, Matthew B. & Hubberan, M. A. (2014). *Qualitative Data Analysis A Method Sourcebook Third Edition*. Sage Publication.
- Miyata, dkk. (2018). *Environmental and Natural Disaster Resilience of Indonesia*. Springer.
- Mochammad Chaeran Harcici. (2017). Misteri Segitiga "Masalembu" merupakan Segitiga Bermuda di Wilayah Indonesia. *Jurnal Saintek Maritim*, XVI(2), 122–131.
- Moran, E. F. (2017). *People and Nature: An Introduction to Human Ecological Relations*. John Wiley & Sons, Inc.
- Murty Magde Pane & Rina Patriana. (2016). "The Significance of Environmental Contents in Character Education for Quality of Life". *Procedia - Social and Behavioral Sciences*, 222, 244–252.
- Naryanto. (2008). "Analisis Potensi Kegempaan dan Tsunami di Kawasan Pantai Barat Lampung Kaitannya dengan Mitigasi dan Penataan Kawasan." *Jurnal Sains Dan Teknologi Indonesia*, 10(2), 71–77.
- Risnawati. (2016). "Perilaku Menyimpang Ilegal Fishing." *Jurnal Equilibrium Pendidikan Sosiologi*, 10(2), 71–77.
- Scott Slovic. (2019). "Savouring What Remains of the World's Wildness: John Muir, Tree-Climbing, and Experiential, Outdoor Education." *Journal of Literary Studies*, 35(4), 108–122. doi: 10.1080/02564718.2019.1690812
- Soemarwoto, O. (2008). *Ekologi, Lngkungan Hidup dan Pembangunan* (10th ed.). Djambatan.
- Sugiyono. (2016). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Sukmawan, S. (2016). *Ekokritik Sastra*. UB Press.
- Sultoni, A. (2020). "Kritik Ekologis dalam Buku Puisi Air Mata Manggar karya Arif Hidayat: Kajian Ekologi Sastra." *Jurnal Pendidikan Bahasa Dan Sastra Indonesia*, 5(1), 6–10.
- Sungkowati, Y. (2016). "Persoalan Lingkungan dalam Novel Lemah Tanjung Karya Ratna Indraswari Ibrahim." *Widyaparwa*, 44(2), 61–72.
- Surinati, D. (2007). "Pasang Surut dan Energinya". *Oseana*, XXXII(1), 15–22.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).