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Mutual Relationship between Human and Nature on *The Secret Garden* and *Sarongge*: an Ecocritical Reading

Ignadhitya Herdiana¹, Eva Najma²^{1,2}English Department, Faculty of Humanities, Universitas Andalas, Padang, 25163, Indonesia

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CORRESPONDENCE

E-mail: evanajma@hum.unand.ac.id

A B S T R A C T

This article aims to show the mutual relationship between humans and nature that influence to heal mental and physical of human that shown on *The Secret Garden* written by Frances Hodgson Burnett and *Sarongge* by Tosca Santoso. The mutual relationship described by the two authors is also related to social events and natural conditions in the early 20th century in England and early 21st century in Indonesia. We might realize that the main function of literature is not only to entertain but also to teach us how important nature to humans. In this case, the researchers use qualitative methods and apply eco-criticism to explain how close the relationship between nature and humans in the novels. Using these English and Indonesian novels, the researchers criticize how human behavior preserves the nature that is present in both novels and compared to the reality that occurs. The findings is it reflects the mutual relationship between humans and nature that can heal mental and physical. However, it is irrelevant to the reality with the history of the environment that occurs is excessive exploitation of nature and has a negative impact on humans. Hereby builds the reader's awareness of the importance of nature for human survival, especially on mental and physical health.

INTRODUCTION

Literature is a universal expression of human beings. It brings the value of universality. However, not only to entertain the reader, but literature also portrayed the thoughts and expressions of humanity. It usually brings value, a good influence, and knowledge to the reader. Lamarque [1], in his article, mention that aesthetic characterization also has implications for how the work appears, what impact it has, what is salient in it, what merits aesthetic attention. People should realize that precious value on literary work sometimes related to reality. Frances Hodgson Burnett [2] in her novel entitled *The Secret Garden* lifts up important values

concerning the human relationship with nature and how nature becomes media of healing mental and physical of someone. Meanwhile, it will be compared to the Indonesian novel by Tosca Santoso [3] named *Sarongge*, which portrayed the relation of people with nature in Sarongge.

Nature and humans naturally shaped the mutual relationship. Humans need nature to fulfill their lives, and nature also needs humans to preserve it. The term reciprocal or mutual relations are explained in *The Ecocriticism Reader: Landmark in Literary Ecology* by Cheryll Glotfelty and Harold Fromm “The reciprocal relationship between humans and lands, considering nature not just as the stage upon which the human story is acted out, but as an actor in the drama” [4]. We agree with the concept of human and nature has a mutual relationship on earth. If humans treat nature well, then nature also gives everything that humans needed. On the contrary, if humans treat nature badly and defectively, nature can also make humans suffered.

In literature, this mutual relationship between humans and nature is captured in an English novel entitled *The Secret Garden* by France Hodgson Burnett [2] and Indonesian novel entitled *Sarongge* by Tosca Santoso [3]. Both of the novels concern and raise the problems regarding the environment in England and Indonesia. The biggest interest of the researchers to conduct the research is to find out and to compare how humans and nature have the mutual relationship to heal mental and physical of someone that appears on both novels from different backgrounds, how nature helps humans and how they treat nature. These novels are trying to convince the reader that nature and humans can contribute the universe to be the better place in the future. Wyk mentions that nature has the power to influence the lives of characters on an individual, cultural, and national level [5].

These English and Indonesian novels depict the benefiting mutual relationship between humans and nature. Nature helps human to recover the illness that they face, and human helps nature to be alive again. This action of taking care of each other can be called the mutual relationship between humans and nature. Unfortunately, what happened, , in reality, does not represent the natural condition in the novels. England in the early 20th century was faced awful environment destruction that impacts to humans, especially their healthiness. Indonesia in the early 21st century, also owns a problem with massive deforestation. However, this research also analyzes and compares the environmental conditions in the years the novels were published.

The current research focuses on the contribution to open the eyes of the reader by the authors to see the need for humans to preserve nature. The mutual relationship described in the two novels is inversely proportional to the reality. Severe damage to nature in England and Indonesia build on the writers' initiative to show the importance of natural sustainability such as nature can be beneficial to healing mental and physical of ones.

As described above, this research attempts to analyze the beneficial relationship between humans and nature by comparing it with the reality that occurs in England in the early 20th century and Indonesia in the early 21st century in the two novels with a different background.

METHOD

We conduct library research. It is very important to read intensively, with the purpose is to get a better understanding when collecting the data. This research is not only concern with the text, but also about issue that brings from the novel. So, the reading session of the text and finding the main data on the issue is the first stage of clarification. To analyze the mutual relationship

between human and nature reflected in *The Secret Garden* by Frances Hodgson Burnett and *Sarongge* by Tosca Santoso, this research uses eco-criticism. Frances Hodgson Burnett and Tosca Santoso capture the natural beauty and the harmony of humanity and nature also the impact of the goodness to human. The main focus of this research is to give the reader a new perspective of the relation between humans and nature. It also proves that the better value of nature that captures on the character's experience is the transformation from illness to wellness in *The Secret Garden* and *Sarongge*.

The proper theory and approach to analyze the relation of the environment and human is Eco-criticism. This is the study of the relationship between literature and the physical environment. The earth is becoming the centered of this approach to literary studies. Cheryl Glotfelty states eco-criticism takes as its subject the interconnections between nature and culture, specifically the cultural artifacts of language and literature [4].

Levin mentions the works of Ecocritics that can be divided into two "critical camps". Firstly, it consists of "realists" who promote the "return to nature" as a means of healing our modern and postmodern alienation. The other camp is of "social constructionists" who see that nature as "a discursive strategy" and are suspicious of "its alleged healing properties." [6]. Analyzing literature by using eco-criticism not only portrayed the appearance of nature but also learned how nature is useful to human beings. The main aim of this study is using literary work as a reminder for the reader to return to nature because nature itself has benefited us in many aspects of our life.

RESULTS AND DISCUSSION

The mutual relation between human and nature

The Secret Garden by Frances Hodgson Burnett and *Sarongge* by Tosca Santoso are the novels that represent the relationship between humans and nature and the influence of nature to humans. The interrelated relationship that described in these two novels is a form of mutual relationship which mutually beneficial to one and another. Both human and nature that depict in these novels can heal the mental and physical illness to be healthy and alive again.

Based on William Ruckert on his article entitled "Literature and Ecology, and Experiment in Ecocriticism", has argued that; "In this ecosphere, there is a reciprocal interdependence of one life process upon another, and there is a mutual interconnected development of all of the earth's systems" [7]. This means every living thing, especially humans and natures, are connected. The result of the relationship depends on the action. If the action of the relationship is bad, then the results and impacts for two will also be bad. Conversely, if the action of the relationship is good, then the result will be good too. Those illustrate that the relationship between both of them, human and nature is very close.

The focus of the mutual relationship that researchers are trying to reveal is the mutual relationship between humans and nature that can heal each other. In *The Secret Garden*, Burnett begins the story with two main characters named Mary and Colin that represented as the sick kids. Mary and Colin are two figures who had a very bad condition on their mental and physical health. Mary is known as the most disagreeable looking child and has very bad attitudes. She has a bad temper and a very thin body that looks almost sick. As described, "... everybody said she was the most disagreeable-looking child ever seen. It was true, too. She had a little thin face and a little thin body, think light hair and a sour expression" (1). Just like Mary, Colin also has a very weak condition that doesn't even have the ability to walk. He is known as a sick boy in

Misselthwaite Manor. “He looked like a boy who had been ill, but he was crying more as if he were tired and cross than as if he were in pain” (149).

But not only these two children, the secret garden found by Mary also experienced the same situation before she found it. The condition of the secret garden is very bad and arid. There are also no signs of life starting from plants and animals in it. Like Burnett described as follows:

There were neither levees nor roses on them now and Mary did not know whether they were dead or alive, but their thin gay or brown branches and sprays looked like a sort of hazy mantle spreading over everything, walls and trees, and even brown grass, where they had fallen from their fastenings and run along the ground (94).

However, the characters in *Sarongge* by Tosca Santoso also faced mental and physical illness. Karen is known as a woman who is brave and concerned to nature. Her journey to face the destroyers of nature and also the destruction of the forest made her feelings feel very sad. Karen also becomes so pessimistic about herself because of those actions.

In *Sarongge*, Santoso also presents several issues that nature can help humans to heal physically. Rena is the character that Santoso shows of the physical transformation from sickness to health again because of nature. Rena is an adopted child of Husin and Karen, because her father died of acute coughing or tuberculosis due to smoking. The illness of Rena's father made Karen be really concerned about the health of her adopted children. This is one of the points that Santoso wants to lift up in his novel; it is the danger of cigarette smoke to humans. Actually, cigarettes can cause many diseases, and one of them is cancer and it would kill one's life. Of course, the impact of the smoke of cigarette is not only felt by active smokers, but also the passive people will face the bad impact of the smoke. Karen's concern about her child's health is illustrated as follows:

Karen khawatir dengan kesehatan paru-paru anak-anak itu, mengingat mereka telah tinggal bersama abahnya yang mengidap batuk akut. Karen ingin mengecek kondisi paru-paru mereka di rumah sakit Cianjur. Penyakit ini lebih dini diketahui akan lebih baik. Kalau memang sakit, bisa diobati sebelum terlanjur menjadi parah. Kuman TBC menular lewat dahak penderita yang terpecik saat batuk, bisa juga lewat debu atau alat makan minum yang pernah dipakai penderita. Karena itu, penularan pada orang serumah, terutama dikalangan anak-anak relative tinggi. (173)

These mean that Karen as Rena and Anisa's foster parents, are very worried about the health of her children's lungs. Because as long as their father lives with a condition that has an acute cough, they live together with that condition. Karen tried to ask her children to check their lung health in the hospital because the tuberculosis is very contagious to the children. It can be seen that the author is very concerned about the primacy of health by presenting a problem that often occurs around the social environment. Cigarettes are one of the most common things in our environment because, generally, men who have grown up will use cigarettes. Even people have realized that cigarettes are not healthy for the human body. Thus, Santoso provides an overview and urges his reader that smoking is very harmful to the human body. Although Santoso dramatized his story with the death of Rena and Anisa's father, with this point, it is a decisive step that was built by the author to show his message.

Nature and Sarongge land are also cultivated similar things to the characters described by Santoso in his novel. The forest and trees around Sarongge have been cut down and used as

plantation land. The land used by Sarongge farmers has started to become unfair because it will eventually invite natural disasters such as landslide

Problems experienced by the characters in the novels such as mental and physical illness due to bad natural influences. But after they begin to interact more closely and care for one another, change indirectly to be healthier. In *The Secret Garden*, the characters such as Mary and Colin felt the transformation after they get into the secret garden. The first is Mary. After Mary moved to England with the condition of nature that was healthier than in India, it became a starting point for Mary's mental health development. Nature affects Mary's mentality as a girl who is curious about the nature around her. Especially when Mary found the secret garden, which is also in an untreated condition.

Mary's curiosity formed her enthusiasm to revive the garden. Burnett describes this little girl's desire: "She did not want it to be a quite dead garden. If it were a quite alive garden, how wonderful it would be, and what thousands or roses would grow on every side!" (95). Mary's enthusiasm for healing the secret garden also affected Mary's subconsciousness and changed her mentality and physicality to be a healthier child. At this stage, the mutual relationship between children and the nature of the secret garden has begun. With Mary's intention to heal a dead garden, it also slowly heals herself. "I can make the earth nice and soft and dig up weeds. If I have seeds and can make the flower grow, the garden won't be dead at all-it will come alive," said Mary" (102).

Not only Mary experienced the changes into a more alive and healthier child, but there was a child who was also diagnosed by a doctor that he would not be able to recover from the illness he was suffering from. It turns out that the observation from the doctor said it is not something that can be considered to be a correct reference. After Mary takes Colin to play and does something positive like farming in the secret garden makes Colin indirectly experience and feel truly extraordinary. He felt that his body had come back to life again and was gone from his illness. He recovered mentally and physically because of natural influences. As he said, "The Magic in the garden has made me stand up and know I am going to live to be a man. I am going to do a scientific experiment of trying to get some and put it in myself and make it push and draw me and make me strong" (287).

Furthermore, this mutual relationship not advantages to humans only. The secret garden is also undergoing a very significant change because of the mutual relations made by both Mary and the secret garden itself. As described by Burnett in his novel, "While the secret garden was coming alive and two children were coming alive with it" (339). She uses the choice of words that are clear in the description of the story she wrote, with the interaction of character and nature that was built Burnett became one of the factors that encouraged both to feel more alive.

In *Sarongge*, Santoso describes the characters also face the same transformation. The media that helps the changes in mental and physical of Karen and Rena is the nature of Sarongge. The emptiness that Karen felt because of the exhausting natural actions becomes one of the mental illnesses of Karen. She also becomes pessimistic about herself. Therefore in *Sarongge* novel, Santoso builds the perception that characters really need a place to eliminate the fatigue that Karen felt. Sarongge became the only Karen stopover after taking action to fight for nature.

On the other hand, because of Husin the reason why Karen chose Sarongge to be her place to stay, she also felt the peace that nature gave when she was in Sarongge, "Menikmati tempat-tempat indah sekitar Sarongge. Berbagi kebahagiaan yang sederhana. Alam sudah menyediakan semuanya" (35). The point is Sarongge is filled with beautiful and healthy places that can

reassure Karen and she can share her happiness with Husin. It is because nature has provided everything they need, mentally and physically.

The cecenet plant described in *Sarongge* novel is proven to be able to heal and restore the lungs of Karen's girl. Like Husin said, "Oya, jus ini memang sungguh mujarab. Anak-anak terlihat lebih segar, setelah tiap hari saya buat minuman ini. saya yakin, jus cecenet ini akan mempercepat pemulihan paru-paru Rena" (209). This means cecenet which is blended into juice makes their children fresher because Husin gives that juice to his children every day. He believes that consuming cecenet juice can restore Rena's lung disease. In this case, the nature of Sarongge which is Husin and Karen take care of has become an asset to healing on Rena's physical illness due to the extremely harmful of cigarette smoke. This shows that in the novel written by Tosca Santoso give a perspective that the author is very concerned about the situation that happens in the real world. There have been many cases of lung cancer due to cigarette smoke and the presence of *Sarongge* novel can also be medium to educate the readers with all the natural sciences that are very beneficial for humans.

This mutual relationship in *Sarongge* novel is not only benefiting the human, the nature of Sarongge is also taking care of by the characters. The two characters built by Santoso realized that protecting nature was a concern that should be done. The first relationship that was built in this novel was when Karen and Ksatria Pelangi wanted to reforest the Sarongge forest on the slopes of Mount Gede. As explained by Asep, one of Karen's friends who also served in Ksatria Pelangi, he said that: "Maksud program ini adalah menghutankan kembali areal bekas Perhutani yang sekarang Bapak-bapak jadikan kebun sayur. Tidak berarti mengusir Bapak-bapak. Tiga tahun kedepan masih boleh menanam sayur" (2). What he meant was that this program intended to reforest the former forest area, which used as a garden by the plantation area of local residents. Their efforts are a form of their love as humans to save the forest that was worth saving.

Therefore, from these two novels *The Secret Garden* and *Sarongge*, the authors would like to convey that a healthy nature can have a positive influence and become a healing medium for one's physical health. We strongly believe that with the description of these two literary works, those good mutual relations between humans and nature will be beneficial to each other, especially to humans. Nature is the only closest media that can cure all human disease. All depends on how natural conditions are; if natural or environmental conditions are not healthy, human health can also be affected. On the other hand, if natural conditions are maintained by humans to stay healthy, human health will be healthy too. It all depends on human action to nature itself.

Environmental condition in early 20th century England and early 21st century Indonesia

Both novels, *The Secret Garden* and *Sarongge* have the same issue about how the beneficial mutual relationship between the characters and nature. The fact is, what the authors raise in their novel is not really represented the natural condition in England and Indonesia in that period. England in early 20th century faced many problems related to the coal smoke that affected the health of the English society. Meanwhile, Indonesia in the early 21st century also faced natural destruction, such as massive deforestation that causes many natural disasters that harm to Indonesian society.

In the novels, the authors are trying to open the reader's perspective about how nature is essential to human life and give many good impacts, as nature can be as the media of mental and physical healing. This relationship is classified into a good mutual relationship between

humans and nature. However, the reality is not represented by what the authors bring in their novel. The massive damage and natural destruction happen in England and Indonesia in that period.

In England, during the period, the industry and the population growth are taking control of the sustainability of the environment. Industries that are fueled by coal have a large impact on nature and the health of humans, animals, and plants. Hanlon [8] claims that, "... but by the mid-19th century, coal had become the dominant power source. As the result, by the 1840's, contemporary writers such as Engels (1845) described cities blackened with thick smoke and urban slums crowded with disease and dying people" (1). The journey of history in England from the mid of 19th century until early 20th century and the story built by Burnett have a very close relation.

In this context, the industrial revolution had a major influence on nature changes and also the climates in England. This issue is what drives Burnett to criticize the bad natural conditions in her novel. This environmental change also affected the surrounding ecosystem and living things. Hughes [9] mentions that, "... where rain falling through smoky air brought down pollution and deposited it on tree and bushes, killing lichens and other organisms" (133). The result of factory waste not only disrupts the air ecosystem but also effect to the water. Toxic sewage released by industrial is certainly creating water pollutions. "The mixture of organic sewage and industrial chemical killed virtually all the fish and sea mammals" (135). So far there have been many losses that have resulted in an imbalance of the ecosystem in England in the early 20th century.

In relation to human exploitation of nature in the early 20th century, Burnett in her novel, criticizes English society who did over-exploitation of nature. Through this issue, humans and nature faced the bad impact of natural destruction, such as health issues. We also discovered extreme natural phenomena in the early 20th century in England. Recorded in Sanderson and Economou [9] that natural disasters called heat waves in England were detected. In 1911, temperature data on the heatwave in England were available in Cambridge and Eastbourne. Sanderson described the heat waves as "a period of consecutive days with unusually warm temperatures, have a diverse range of impacts on society" (1). The relationship between climate change and the change of extreme weather is also the main factor of heat waves. With the world is getting warmer and heat waves will be more frequent. More than 20 times heat waves occurred during the twentieth century. The writer suspected that the revolution of the industry also has the responsibility to these extreme natural phenomena. Because many people also died for this heatwave, they cannot survive with the long hot days during the heat waves. Based on Sanderson's article heatwaves also affected to the river ecosystem and made the river temperatures are raised during the heat waves. Sanderson and friends also found that "lower river and lake levels during heat waves can lead to algal blooms, causing mass mortality of fish and birds and posing a serious health threat to both animals and humans" (1).

Very drastic environmental changes in England during the industrial revolution from the 19th century to the 20th century caused damage to nature. Many animals and plants die, air pollution, and also sewage from the uncontrolled industry affected natural destructions. But more dangerous is these environmental changes are affected something bigger, it is the climate change which created the extreme phenomena of nature, heat waves. Humans also become one who feels the bad effects of nature damage, which cause the death of human life.

In *Sarongge* novel by Tosca Santoso, the concern of Karen, Husin, and Ksatria Pelangi to the Sarongge forest is a form of forest protection that decreases every year. We believe that Tosca

Santoso tried to imitate the true incidence of forest destruction in Indonesia in the early 21st century into a novel. His effort to save the destroyed forest is illustrated by his characters, such as Husin and Karen, who have the ambition to reforest the forest that has been destroyed in Indonesia's forest. The time setting described in the novel actually also depicts the state of Indonesia's forest, which was very serious around 2008-2012. Based on FWI or Forest Watch Indonesia [10] in their book entitled *Potret Keadaan Hutan Indonesia Periode 2009-2013*, from the interpretation of satellite in Indonesia showed that, "Analisis FWI berdasarkan hasil penafsiran Citra Satelit di Indonesia menunjukkan bahwa deforestasi pada periode 2009-2013 diperkirakan masih mencapai kurang lebih 4,50 juta hektare atau sekitar 1,13 juta hektare per tahun", which means that deforestation in the period of 2009 until 2013 is very worrying for Indonesia's forest wealth, with an estimated 4,50 million hectares or around 1,13 million hectares per year (22). This indicates that the less number of forests in the past five years and the imbalance between maintaining the natural resources and their use. The forest is cut down on a large scale to be taken out of natural resources, and the land is used as a settlement and also as plantation, etc. More than half of Indonesia's forest areas are allocated for timber production based on selective logging systems, but many companies violate this selective logging system.

The act of natural destruction in Indonesia at this time not only destroying nature itself but also will have a major impact on the Indonesian people. The loss of forests and deforestation on a large scale will affect the weather and can even cause natural disasters. It will have an impact on the balance of nature, weather, and biodiversity in this world.

We also discovered the bad conditions of Indonesia's nature in the early 21st century and caused some very severe natural disasters. Recorded the natural disasters of landslides and flash floods occurred on Monday, October 4, 2010, in the Wasior, West Papua Province, which caused many casualties and damaged facilities and pre-facilities in the city. There were more than 150 people killed and more than 150 others missing [11]. Landslides and floods such as those that happened in 2010 were natural disasters that occurred due to deforestation and utilization of forest slopes in the hills and mountains that were used as plantations. Djadja also mentions in his article about the cause of this natural disaster, he said that, "penyebab terjadinya gerakan tanah antara lain, curah hujan yang tinggi dan berlangsung lama; batumannya yang terkekarkan dan mudah hancur, tahan pelapukan yang tipis dan bersifat pasir, sehingga gembur dan kemiringan lereng yang terjal menyebabkan material mudah bergerak"(20). It means that with high and long-lasting rainfall and the rock are easily destroyed, the steep slope causes the material to move easily. It is what makes landslides and floods easy to occur, illegal logging or deforestation, and inappropriate agricultural practice.

The mutual relationship and what happens, in reality, are not represented by the authors becomes a form of contradiction to reality and the novel. The authors in their novels both provide examples of good and healthy mutual relationships for the mental and physical human being. But what happens to reality is the opposite of what is given in the novel. Natural damage may cause many adverse effects such as human health that can cause death to people. This mutual relationship is called a bad or unprofitable mutual relationship. Natural disasters occur due to arbitrary human treatment of nature and also do not take care of nature. The results of mutual relationships are created with how humans treat nature. If humans can care for nature, then the results will be good too, as happened in the novel *The Secret Garden* and *Sarongge*, nature that is cared for can be a media for mental and physical healing of the characters described by Frances Hodgson Burnett and Tosca Santoso.

CONCLUSION

It can be concluded that Frances Hodgson Burnett and Tosca Santoso in their novels, represent a mutually beneficial relationship between humans and nature on one's mental and physical health. Some characters experience mental and physical transformation to be healthier by their interactions with the natural environment, and so do with nature. Nature becomes alive again because of the actions of the characters by caring for nature depicted in the novel. Then these two novels reflect the contradiction of the reality of natural conditions in England in the early 20th century and in Indonesia in the early 21st century, which suffered massive natural damage. We trust that human life depends on how human actions to nature and the environment.

REFERENCES

- [1] P. Lamarque. (2008). *Aesthetic and Literature: a Problematic Relation?. philosophical Studies*. United Kingdom: White Rose Research Online, (pg.6)
- [2] F. H. Burnett. (1990). *The Secret Garden*. New York: Harper Collins Publisher.
- [3] T. Santoso . (2012). *Sarongge*. Jakarta: Dian Rakyat.
- [4] C. Glotfelty, and H. Fromm. (1996). *The Ecocriticism Reader; Landmarks in Literary Ecology*. Athens: University of Georgia Press, (pg. xxi)
- [5] Wyk, Karl van. (2012). "Different Natures: An ecocritical Analysis of Selected Films by Terrence Malick, Werner Herzog and Sean Penn". Johannesburg: University of the Witwatersrand, (pg. 17)
- [6] J. Levin. (2012). "Beyond Nature? Recent Work in Ecocriticism"(Review-Essay), 43.1 (2002): 171-186. JSTOR. Web. (pg. 175)
- [7] W. Rueckert. (1996). *Literature and Ecology: An Experiment in Ecocriticism*. Athens: University of Georgia Press, (pg.112)
- [8] W. W. Hanlon. (2016). "Coal Smoke and the Cost of the Industrial Revolution". Los Angeles : UCLA and NBER, (pg.1)
- [9] J. D. Hughes. (2009). *An Environmental History of the World 2nd Edition*. New York: Routledge, (pg.135)
- [10] M. G. Sanderson, and T. Economou. (2017). "Historical Trends and Variability in Heat Waves in the United Kingdom". United Kingdom: MPDI. (pg. 1)
- [11] Forest Watch Indonesia. (2014). *Potret Keadaan Hutan Indonesia Periode 2009-2013*. Bogor (hal. 22)
- [12] S. Djadja, and A. Supriatna, (2010). "Potret Bencana Banjir Bandang di Wasior". *Bulletin Vulkanologi dan Bencana Geologi*, Volume 5 Nomor 3, (pg: 14-22)