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Identifying Minahasa and Manado Society's Environmental Awareness with Cooper's Ecological Concept

Ceisy Nita Wuntu

English Education Department, Faculty of Languages and Arts, Universitas Negeri Manado, Manado, Indonesia

email: ceisywuntu66@gmail.com

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Ceisy Nita Wuntu

ceisywuntu66@gmail.com

English Education Department, Faculty of Languages and Arts, Universitas Negeri Manado, Manado, Indonesia

Abstract: The objective of this writing is to describe how Minahasa and Manado society has shown their awareness of their ecology based on the concepts offered by James Fenimore Cooper. Although written three centuries ago, Cooper's *The Leatherstocking Tales* has shown readers how humans should treat their environment, to be ecologically safe. According to Cooper, *The Leatherstocking Tales* shows a hierarchy of love, respect, wisdom, and justice for the environment. Yet, concerning the Minahasa and Manado society's involvement with the environment, some intellectual documents, interviews, and observation of the communities it is revealed that among those in the society are not yet environmentally aware of how to take care of their environment for a sustainable life as mentioned by Cooper, even though both law and moral enforcement are among them. It has been found that among the people in the communities in their everyday life have not met the life requirements of giving priority for a healthy environment specifically about their sanitation, health, and attitude of affording their basic needs and maintaining life sustainability. Those communities are found to still give priority to individual needs, social activities, and financial needs besides still lacking environmental insights. There are four kinds of groups in the communities found in this research: 1) those who care about their environment, 2) those who are indifferent to their environment, 3) those who care about their environment but having financial limitations, and 4) those who concern but having limited knowledge and environmental insights. The communities mentioned are the people who do not have the motivation in wanting to know about what is happening in their surroundings to support the needs for a healthy global environment. This article reports how the synergy of

educational institutions and religious institutions assisted by law enforcers need to be injected with the energy of ongoing evaluation, control, and actions to generate public awareness.

Key words: Cooper's ecological concept, environmental awareness, Minahasa, and Manado Society

Abstrak: Tujuan tulisan ini adalah untuk menggambarkan bagaimana masyarakat Minahasa dan Manado menunjukkan kesadaran mereka terhadap ekologi berdasarkan konsep yang ditawarkan oleh James Fenimore Cooper. Meskipun ditulis tiga abad yang lalu, Cooper's 'The Leatherstocking Tales' telah menunjukkan kepada pembaca bagaimana manusia harus memperlakukan lingkungan mereka, agar aman secara ekologis. Menurut Cooper, 'The Leatherstocking Tales' menunjukkan hirarki cinta, rasa hormat, kebijaksanaan, dan keadilan bagi lingkungan. Melihat beberapa dokumen intelektual, wawancara, dan mengamati masyarakat terungkap bahwa masih ada diantara masyarakat Manado dan Minahasa belum sadar lingkungan tentang bagaimana menjaga lingkungan mereka untuk kehidupan yang berkelanjutan seperti yang disebutkan oleh Cooper, meskipun instrumen penegakan hukum maupun moral ada ditengah masyarakat. Ditemukan bahwa masyarakat yang dimaksud sebagian besar masyarakat dalam kehidupan sehari-harinya belum memiliki persepsi tentang kebutuhan hidup yang mengutamakan lingkungan yang sehat khususnya tentang sanitasi, kesehatan, dan sikap dalam pemenuhan kebutuhan dasar dan mempertahankan hidup yang keberlanjutan. Sebagian besar masyarakat dipahami masih mengutamakan keperluan individu, kegiatan sosial, dan kebutuhan finansial selain mereka yang masih kurang memiliki wawasan lingkungan. Ada empat macam kelompok masyarakat yang ditemukan dalam penelitian ini; kelompok yang peduli lingkungan, kelompok yang tidak peduli lingkungan, kelompok yang peduli lingkungan dalam keterbatasan finansial, dan kelompok yang peduli lingkungan dengan keterbatasan pengetahuan dan wawasan lingkungan. Sebagian besar mereka belum memiliki motivasi untuk ingin tahu tentang apa yang terjadi di sekitar mereka untuk mendukung kebutuhan lingkungan global yang sehat saat ini. Sinergi lembaga pendidikan dan lembaga keagamaan dilengkapi dengan hukum, perlu 'diinjeksi' dengan energi evaluasi, pengendalian, dan aksi yang berkesinambungan untuk membangkitkan kesadaran masyarakat.

Kata kunci : Konsep ekologi Cooper, kesadaran lingkungan, masyarakat Minahasa dan Manado

INTRODUCTION

James Fenimore Cooper, one of America's authors (1823-1841) is a visionary writer. He has written the importance of preserving the environment long before American environmental issues and law emerged in September 1964. He is concerned about human moral degradation that becomes a threat to the sustainable life on earth. This concern has been depicted in his *The Leatherstocking Tales*. The work presented his early alert to the early immigrants' activities in the very rich, fertile, and beautiful nature in the 'New World' named America, three centuries ago. Humans' attitudes, activities, and behavior in treating the majesty and the kindness of nature have annoyed him. In those Tales, Cooper has shown his ideal way to maintain a sustainable life on earth by applying the idea that all elements in this biosphere ecosystem are connected and following ecological principles. Cooper believes that an environment that is essential in preserving life safety on earth, should be treated by love, respect, wisdom, and justice that is supported by moral and law enforcement (Wuntu, 2015, p.113). His effort of keeping the environment in the sequential stories written three centuries ago, is still much relevant in answering the fresh world critical issue on the environment. This vision as well as lessons in *The Leatherstocking Tales* cures the claim that literature as a fictional and imaginative product is worthy of inspection. The environment concept modelled in Cooper's tales can be a reference for mirroring and formulating environmental awareness for human beings, who are the most responsible for preserving life's ecosystem. Cooper's environmental concept is suitable to control the environmental problem in many areas in Manado when they experienced flash flood disaster in January 2014. The disaster has caused people in that area incredible suffering.

Manado is the capital city of North Sulawesi Province. The city has a rapid development in population, economy, infrastructure, and public housing development. Yet, in January 2014, the city was struck by an extraordinary flood disaster. The cause of flooding, in general, is the decline in environmental quality caused by the increase in population in an area (Cie, Tarore & Karongkong, 2016, p. 1). The increasing number of the population in Manado has caused the increase in people's housing that enlarge nature exploitation. This exploitation has triggered the decline in environmental quality caused by the transfer of land to housing that was growing significantly (Runtunuwu, Waney, & Mandang, 2020, p. 1) As a consequence, flooding in Manado was not only caused by an increasing population, with the transfer of

land for housing, but there was also a large water debit that comes from Lake Tondano Minahasa during the rainy season..

Topologically, Tondano and Minahasa areas are closely related. There is a large river flowing from Lake Tondano which empties into the Manado Sea. The electricity in Manado is powered by Tanggari hydropower plant which gets huge water supplied from Tondano Lake. So, it can be said that communities who live around the lake and the river, are the most responsible for preserving the environment. Another cause related to the *banjir bandang* in Manado is the topography of the lake which is surrounded by mountains that are agricultural land for the people in Minahasa. The lake recently found shallowing (Sorey, Bisri, & Sisinggih, 2016, p. 259). Sources of income from the community around the lake originating from the lake are fish rearing activities in cages and fishing with tiger trawls which ecologically threaten the sustainability of the lake. This is evidenced by the accumulating sediment and vegetation originating from the effects of feeding fish in cages which can exacerbate siltation and threaten biota. In the lake (Watania, Poli, & Lobja, 2021, p. 105)

Another cause related to the flash flood occurrence in Manado is the topography of the lake which is surrounded by mountains. Those are the agricultural land for people in Minahasa, so the agricultural activities intensify the silting of Lake Tondano. Sources of income from the communities of Minahasa around the lake, such as Tondano Timur, Tondano Selatan, Eris, Lembean Timur, Remboken, and Kakas originated from the lake. There are some farmers' activities of finding fishes in the lake and keeping fish that threaten the ecosystem in that area. They are: 1) Feeding fishes in a cage made from slices of Bamboo where the nutrition potentially also feeds the gulma in the lake, and 2) they use the big net '*pukat harimau*' in catching fishes. Those activities ecologically threaten the sustainability of life (Watania, Poli, & Lobja, 2021, p. 105) The accumulation of sediments and vegetation originating from the effects of feeding fish in cages can exacerbate siltation of the lake, and can cause the huge of water flows to Manado.

The state of the physical environment and the way the community treated it are the indicators that raise doubts about the environmental awareness of the community. Culturally, society's activities are the embodiment of their belief and thought. The phenomenon of environmental awareness of the society is the reality that determines the viability of life and so, it needs to be scientifically formulated as evidence to evoke the societies' awareness.

Table 1:
The Consequence of Flash Flood Disaster in Manado 2014

| No | Item | Amount |
|----|--------------------------------------|--------------|
| 1 | Death of people | 18 |
| 2 | Swept away people by the flash flood | At least 20 |
| 3 | Badly damaged and razed houses | 50 |
| 4 | Swept away houses by the flash flood | 101 |
| 5 | Not badly damaged houses | About 1000 |
| 6 | Evacuated people | About 40.000 |
| 7 | Wrecked cars | About 100 |
| 8 | Affected districts | 11 |

The loss caused by the flash flood in Manado, explained about human live's serious problems. Humans' concern for the environment could have avoided harmful actions (Kirby, 2009, p.14) such as abroad damage on the ecosphere, and global warming that has a huge adverse effect on human life on earth. The terrible flash flood caused by the societies' ignorance has become an alert to study and to formulate the community's perspective for a precise action to evoke their awareness to preserve the environment.

The sharing topography of Minahasa and Manado has resulted an object of this study. The objective of the study is, therefore, to detect and formulate the attitude and behavior of those societies towards the environment, which followed the criteria adapted from Cooper's ecological hierarchy (Wuntu, 2015, p. 113). The other objective is also to prove Ruckert's theory of ecocriticism that admires the power of every idea in works of literature that challenges the real significance of literary criticism on the environment.

LITERATURE REVIEW

In the 1945 Constitution of the Republic of Indonesia, Article 28H states that a good and healthy environment is the basic right of every Indonesian citizen. Similarly, the national economic development based on the 1945 Constitution of the State, implemented with the principle of sustainable development or about environmental preservation. The diminishing quality of the environment has threatened the survival of human

life and other living creatures, so there needs to be genuine and consistent protection and environmental management by all stakeholders. The symptoms of global warming exacerbate the quality of the environment (Consideran UUD RI No.32, 2009). The concern of Indonesia on the environment in the Constitution explains that the environment has been viewed as essential. ,Yet, many countries have not prioritized the concern for sustainable life (O'Neil, Fanning, Lamb, Steinberger, 2018, p. 88).

Public perception holds the main role in ecological preservation. The research of "Investing for a More Sustainable Indonesia" in the World Bank Report in 2009 provides an overview of the public perception of environmental awareness. is the research revealed 3 categories: public, national, and local people's perceptions. This categorization as explained in the report is derived by searching through the internet and through various organizations, as well as the visits to the KLH library. Hence, in a total of 24 surveys, from 1998 to 2007, it is found that in the general profile category, the Indonesian people have not yet put the environment as an important priority, although the Indonesians have acknowledged that the river, the air, and the city have all been polluted. Actually, the report informs about the water (pollution, floods, drought), cities (cleanliness, solid waste, air quality), and forests (forest degradation, forest fires, illegal logging) concerns, where the people's efforts to evoke environmental awareness and to preserve natural resources is still limited. It is further stated that fixing a societies' environment covers a cooperation of 4 elements, they are mass media, civil society groups, legislature, and religious institutions (World Bank Report No. 50762, p. 44-47. It is unfortunate to learn that civil society groups are still more preoccupied with legitimacy and financial issues, thus, in the legislative board, environmental issues have not yet become the main issue. (World Bank Report No. 50762, p. 48).

A survey that was conducted in North Sulawesi and East Kalimantan in "Knowledge, Attitudes, and Practice (KAP) Survey Report-North Sulawesi and East Kalimantan" that was implemented by the Natural Resources Management Project (USAID) with a sample size of 2,000 respondents from 2 provinces (East Kalimantan and North Sulawesi) showed that 30% of respondents in both provinces expressed concerns about pollution (water/river) pollution, forests and land (World Bank Report No. 50762, 45). The percentage of 30 %, however, is still small, thus explains why the government has minimal attention on the environment.

The role of education in maintaining the environment is essential because humans are the key controller. For this reason, students should make an early observation to natural objects. This will avoid the students to only use their imagination to understand natural objects. (Puspandari, 2008, p. 28-30) There is another different perspective from Rusli H. Lutan, et al. (2009), who stated that education through outdoors to increase students' environmental awareness is ineffective, although the researchers agreed that early environmental awareness can prevent environmental damage.

Endang Tri Margianti proclaims that environmental awareness determines human activities. Dyah Puspandari (2008) and Lutan (2009) as well have stated about the urgency to find a texture of a deep-seated community perspective on the environment. Ideally, the perspective is obtained by a direct observation and participation on a target communities.

Maintaining health is an integral part of an ecology that also needs maintenance through the social, economic, and ecological issues. Hence, the awareness of giving attention to health is vital. One of the important aspects concerning human's health is food materials and its hygienity that are environmentally friendly. The way people choose green product materials can tell about their environmental awareness on food. The awareness can significantly affect the maintenance of environmental balance (Margianti, 2013).

Following the ecological principle that all elements in this ecosphere are interrelated (Rueckert in Glotfelty & From, 1996, p. 108), all efforts of development should serve the main priority of the ecological balance that covers the elements in the ecosphere. with humans as loftiest beings being responsible to maintain it. But when at the same time they have also to economically maintain their life (ecological exploitation should be avoided Murphy & Gouldson, 2000, p. 33).

The environmental awareness from Cooper's perspective is derived from the Christian teachings of love and compassion toward living creatures that foster their love for life as the source of life itself. The concept in Cooper's works in *The Leatherstocking Tales* is in the form of a hierarchy that starts with love emerging from compassion respect, wisdom and justice, and fairness in action (Wuntu, 2015, p. 113). Environmental issues can be overcome by morals and politics (Garrard, 2004, p. 3). The institutions that can maintain community morals are readily available with educational institutions, and religion, as well as with existing legal instruments. Environmental problems in

general as faced by the people in city of Manado explains about the urgency of all elements; the legislative, executive, and all people in Manado to work hand in hand in preventing the devastation from humans' carelessness as on sanitation, deforestation, changing land function, the management of agricultural systems, and fishery system. Here, the environmental devastation in its connection to the communities' respect for the environment, by evaluating from Cooper's ecological concept of environment formulating the communities' environmental awareness.

METHOD

This writing focuses on the attitudes and behavior of the societies toward their everyday sanitation, health, life needs, and sustainable life. These are considered fundamental because they are an integral part of the communities' awareness to the future and sustainable living including the disasters caused by their attitudes and behavior towards the environment.

This is an ethnographical study that concerns mainly on the everyday life of the societies observed. The method applied in this research is a qualitative-descriptive method. The data has been collected through participatory observation method. In that understanding, the instrument is the researcher herself, where she is part of the society.

This ecological research referring to Cooper's ecological concept understood from work of literature as called 'energy stored' by William Ruckert. Ruckert questions about how reader, teacher and writer about literature can function creatively in biosphere, finishing biospheric purgation, redemption from human intrusions, and health. The energy pathway should be available and maintained cooperatively to release the store energy that is active, alive, and generative, not an inert one. It can be a model for communities building and ecosystem. The principle of interconnection of ecology, allows ecological vision to penetrate the economic, social, political, technological, etc. and the problem as the effect of human cultural behaviour is not national but global and planetary (Rueckert in Glotfelty & Fromn, 1996, p. 108-114). This research of applying work of literature for revealing communities' awareness can potentially give a direct contribution for the policy makers in designing programs and enactments for maintaining ecological balance and controlling human cultural behaviour. Evaluating and identifying ecological awareness of people in Minahasa and Manado is based on the perspective of Cooper's ecological hierarchy of love followed by respect, wisdom, and justice that are

guarded by the legal instruments and moral tools. This of Cooper's concept of ecology is understood from his question on American society's appreciation to the flora, fauna, and the Indians in America's abundance in the eighteenth to mid-nineteenth centuries (Wuntu, 2015, p.113).

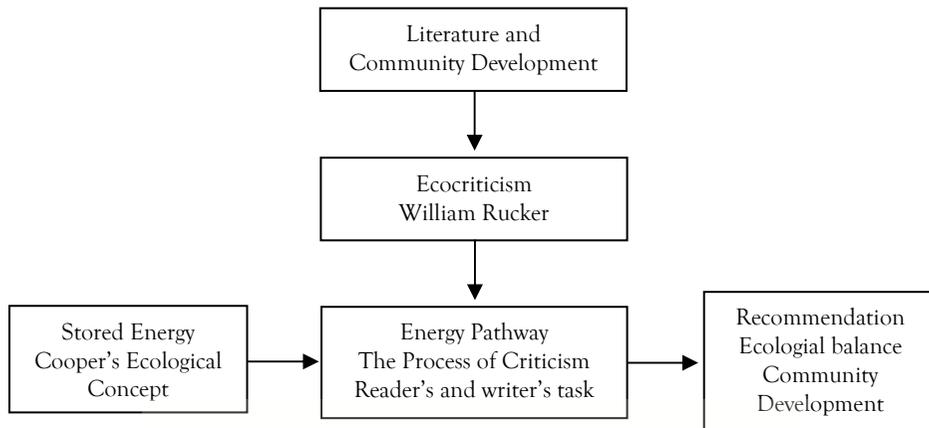


Figure 1:
Research Process

Thus, in using the observation and interview data, the process of analysis and interpretation go through the following steps: 1) Formulating items/questionnaire to be observed and interviewed in each of the aspects of Cooper's ecological concepts, 2) Verifying the items/questionnaire, 3) Collecting data, 4) Coding data, 5) Interpreting data, 6) Drawing Conclusion

RESULTS

A. Geographical and Social Setting

Minahasa is located on a peninsula in the northern part of the island of Sulawesi. The area which became one of the Dutch fortifications in the 17th to 20th centuries has an area of 40 thousand km² with a population of 4.5 million people. It has a population whose majority is Austronesian. The majority of religion in this area is Christian and Muslim. This area is surrounded by volcanoes such as Mount Soputan, Kalabat, Lokon, Dua Sudara, and Mahawu. Having been surrounded by volcanoes, the area becomes a fertile area that is rich in minerals. This area is bordered by Gorontalo in the west, the Philippines in the north, and in the east and south

is bordered by Maluku island. Minahasa region was divided administratively into the main Minahasa or Minahasa, North Minahasa, Tomohon City, Bitung City, Manado City, South Minahasa, and Southeast Minahasa. People of Minahasa consist of 8 sub-ethnics. They are people from Toulour, Tonsea, Tountemboan, Tounsawang, Tombulu, Pasan Ratahan, Ponosakan Belang and Bantik sub ethnic. The source of income for the people are from agricultural activities. They often have land which cultivated cloves, nutmeg, coconut/copra, vanilla, coffee, white ginger, red ginger, and cashew nuts, in addition to fishery.

The people are culturally egalitarian that covers the spirit of '*maesa-esaan*' (unity), '*masawa-sawangan*' (please help), '*matombo-buttonan*' (mutual support)', and '*maaru-aruan*' (inviting each other). These spirits mostly appear in the economic activities of the Minahasa community such as *mapalus*, mutual cooperation, *maendo*, *pa'anda/arisan*, *pakasan/walak*. These cultural characteristics of the Minahasa people formulated that they are people who support each other in mutuality. Thus, activities carried out by these people are often more successful when done in groups rather than by individuals.

There is a popular cultural concept in Minahasa community. i.e. the '*Si tou timou tumou-tou*' (egalitarian spirit) that has been coined by Sam Ratulangi. It has become a local wisdom that can lead the community to success, prosperity and various other benefits. It is this kind of egalitarian spirit that has become the foundation for the people's unity. Minahasa cultural value is used mostly in Manado.

Manado city is much smaller than Minahasa. The population in 2015's data is 474,034 people. Protestant Christianity is also the major religion with as much as 61.08% followed by Muslims for 27.53%, Catholicism 7.77%, Buddhism 3.05%, Hinduism 0.48%, and Confucianism 0.10%. Manado City has 11 sub-districts and 78 urban villages, with an area of 157 km².

Table 2:
Number of Districts, Sub-Districts, Villages, and Areas

| Regency | Total Number of District, Sub-District Village, and Total Area | | | |
|---------|--|------------------------|--------------------|-------------------------------|
| | Number of District s | Number of Subdistricts | Number of Villages | Total Area (Km ²) |

| | 2016 | 2016 | 2016 | 2016 |
|----------------|------|------|------|-------|
| Minahasa | 25 | 104 | 166 | 1115 |
| Manado city | 11 | 78 | 9 | 157 |
| North Sulawesi | 171 | 367 | 1471 | 13852 |

Source of data: Central Bureau of Statistics of North Sulawesi Province

Minahasa area with 1115 km² is acknowledged by the Indonesian government as the largest city in North Sulawesi with 166 villages, 104 sub-districts and 25 sub-districts, although its width is less than Bolaang Mongondow, North Bolaang Mongondow, South Minahasa, and Talaud Islands. Meanwhile, Manado City only has 11 sub-districts, 78 sub-districts and 9 villages and has an area of 157 km².

Table 3:
Owning Highest Diploma

| Regency | Owning Highest Diploma | | | | | | | |
|----------------|--------------------------------------|-------|-----------------------------------|-------|------------------------------------|-------|------------------------------------|-------|
| | Don't have Elementary School Diploma | | Elementary School Diploma/Paket A | | Junior High School Diploma/Paket B | | Senior High School Diploma/Paket C | |
| | 2016 | 2017 | 2016 | 2017 | 2016 | 2017 | 2016 | 2017 |
| Minahasa | 16.31 | 15.03 | 19.95 | 21.03 | 16.34 | 18.42 | 38.44 | 35.67 |
| Manado | 6.19 | 8.52 | 16.01 | 14.12 | 15.55 | 17.17 | 49.08 | 44.21 |
| North Sulawesi | 15.22 | 15.3 | 25.15 | 22.2 | 16.26 | 20.61 | 34.45 | 32.16 |

Source of data: Central Bureau of Statistics of North Sulawesi Province

Compared to the area of Manado, Minahasa is much wider than Manado. From this data, it can be understood that the district of Minahasa has plenty of lands to be controlled as well as managed socially, culturally, and ecologically. Good management and control, however, are only possible when assisted by education. Education opens people's insight and knowledge about the environment (Pinto, 2015, p. 163) so that damage and disaster caused by poor environmental management can be avoided. This becomes the reason why the government's attention on education in the two regions is important to be the object of this research. The increasing trend of the educational quality of the two communities provides a positive sign to the communities'

understanding and so it is assumed their environmental awareness is also positive.

Table 4:
Home Ownership (Percent)

| Regency | Home Ownership (Percent) | | | | | | | | | |
|----------------|--------------------------|-------|--------------|-------|-----------|-------|--------------------|------|-------|------|
| | Private House | | Rent A House | | Free Rent | | Official Residence | | Total | |
| | 2016 | 2017 | 2016 | 2017 | 2016 | 2017 | 2016 | 2017 | 2016 | 2017 |
| Minahasa | 78.48 | 71.62 | 1.29 | 5.02 | 19.34 | 22.79 | 0.89 | 0.57 | 100 | 100 |
| Manado | 57.92 | 56.62 | 15.21 | 21.59 | 24.35 | 19.12 | 2.52 | 2.67 | 100 | 100 |
| North Sulawesi | 79.77 | 76.79 | 4.85 | 7.02 | 14.15 | 15.09 | 1.23 | 1.1 | 100 | 100 |

Source of data: Central Bureau of Statistics of North Sulawesi Province

This data regarding homeownership is assumed to be identical to the financial capacity of the community. The concern in this data is about families who rent houses and families who live in private houses. Minahasa district in 2016 had 30.63% of families recorded as having no place to live, while in 2017 the percentage was 27.81 who do not have their place to live. This means there is a positive trend about the willingness of the communities to be better by having their own homes

Table 5:
Human Development Index

| Regency | Human Development Index | | | | | | | |
|-------------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Bolaang Mongondow | 62.75 | 63.16 | 63.78 | 64.16 | 64.53 | 65.03 | 65.73 | 66.08 |
| Minahasa | 70.38 | 70.82 | 71.43 | 71.94 | 72.76 | 73.59 | 74.37 | 74.59 |
| Manado | 74.47 | 75.47 | 76.15 | 76.56 | 77.27 | 77.32 | 77.59 | 78.05 |
| North Sulawesi | 67.83 | 68.31 | 69.04 | 69.49 | 69.96 | 70.39 | 71.05 | 71.66 |

Source of data: Central Bureau of Statistics of North Sulawesi Province

The human development index is another important part to be linked in discussing the communities' concern for the environment for the sustainability of life. The data shows that the index of Minahasa 70.38-74.59%

in 2010-2017 is a good number that shows participation in environmental conservation efforts in Minahasa. The number is the same as in Manado city that reached 74.47%-78.05 in 2010-2017. This explains the other potency of the communities in preserving ecological balance.

Table 6:
Number of Poor Population by Regency/City (thousand people)

| Regency | Number of Poor Population by Regency/City (thousand people) | | |
|----------|--|-------|-------|
| | 2015 | 2016 | 2017 |
| Minahasa | 28.88 | 27.64 | 26.34 |
| Manado | 23.96 | 22.41 | 23.39 |

Source of data: Central Bureau of Statistics of North Sulawesi Province

In tables 5 and 6 above there is a comparison to see the percentage of poor people in Minahasa regency and Manado city. Approximately 27.64 thousand of poor people in Minahasa and 23.39 in Manado City are assumed to have the potency to increase the exploitation for the reason of low income and the potency to the less concern on sanitation, health, and sustainable life (Giddings, Hopwood, & O'Brien, 2002, p. 187)

Table 7:
Main Activities (2017)

| Regency | Main Activities by Regency 2017 | | | |
|----------|---------------------------------|----------------------------|--------------|-------------------|
| | Labour Force | Not belong to Labour Force | Unemployment | Open Unemployment |
| Minahasa | 158.180 | 101.848 | 147.253 | 10.927 |
| Manado | 194.713 | 135.152 | 176.510 | 18.203 |

Source of data: Central Bureau of Statistics of North Sulawesi Province

The potency of humans' activities to damage the environment in Minahasa district is about 10,927 people and in Manado city 18,203 people. This number is potentially related to those people who do not have permanent work, an illegal logging, illegal practice on fishery, changing land use function, etc. (Perrings, 1998, p. 503).

B. Minahasa and Manado Communities' Perception on Environment

Global sustainability can be controlled by humans' roles in every activity, such as their responsibility to maintaining ecological balance (Ramani, Ramanujan, Bernstein, Zhao, Shuterland, & Carol, 2010, p.1) In connection to the humans' responsibility, the analysis here concerns the communities in Minahasa and Manado's ecological awareness. Public awareness on sanitation, health, and nutrition, the dichotomy between economy and sustainable life determines humans' life on earth (O'Neil, Fanning, Lamb, Steinberger, 2018, p. 88). Good sanitation, nutrition, and health can substantially lower morbidity and can save many people, and also can improve the life quality of the people. The improved sanitation can significantly help increase not only health but on social, and economy activities (Mara, Lane, Scott & Trouba, 2010). WHO argues that "Environmental health comprises human physical health, biological health, social, and psycho-social health. It potentially maintains adversely the health of present and future generations" (1993, p. 3). This warns and controls as well about the standard quality of all people in the world.

Understanding Minahasa and Manado communities' perception of the environment as sanitation, nutrition, and health are directly related to the flood disaster in Tondano City, and the flood in Manado. The analogy is on the people's attention to environment on a small scale. Minahasa regency consists of several communities. The communities are the object of this research. They are a community in Tondano, Tondano Pante (Iembean mountains), people on the coast of Tondano lake as the people of Touliang Oki, Ranomerut, Tandengan, Eris, Watumea, Telun, Tasuka, Kaweng, Kakas, Remboken, Urongo, Peleloan, Tounsaru and communities on the banks of the Tondano river. Manado is the capital city of North Sulawesi. It consists of several communities in 11 districts they are districts of Malalayang, Sario, Wanea, Wenang, Tikala, Singkil, Paal Dua, Mapanget, Tuminting, Bunaken, and Bunaken Kepulauan. The responsibility for the 2014 flash flood disaster should be to most of the people who live in the communities as a result of public housing, spreading of wastes, carelessness on sanitation, carelessness on fishing, and carelessness about agricultural activities.

C. The Awareness on Sanitation, Hygienist, and Nutrition

The habit of eating healthy food is a lifestyle that describes the behavior of loving the environment, thinking and acting conditionally towards sustainable living (Cavaliere, De Marchi, Banterle, 2018, p.: 141) The

communities' awareness of their environment can be seen from the extent to which they maintain their sanitation, health and their attitude of treating their environment. Minahasa and Manado communities are observed to have a fair quality of self-hygiene concept. This evidence is understood from their way of how they clean themselves. When they clean their bodies or when they take a bath, they will do well. They acknowledge that it is done to remove the dirt clung to their body. It is done to obtain good health and to avoid fatigue after working daily. Referring to the application of the ecological concept of loving to the environment is analogized to the love of Cooper's main character Natty Bumppo to a helpless creature, a helpless bird that is shot, and almost dies. As what natty says "that kiver the ground here, looking up with their eyes on me, as if they only wanted tounge to say their "But I will go to the hut with my own game, for I wouldn't touch one of the harmless things thoughts" (LS, *The Pioneers*, 250). This of Natty's love to the dying bird has become an analogy of loving to all people and other creatures, even of self loving. Personal hygiene means also a love to the self as part of environment. People in Minahasa and Manado has given priority to self-cleaning before doing various activities. This is evidence from those who works everyday. These groups of people have a higher concern to care for themselves of the demand that they should be clean when they are in their workplace. Unfortunately, the frequency and regularity in giving priority to self-cleaning is not followed by non-workers. When one was asked the reason why they haven't taken a bath, one of the answers is there is still other things to do that will make one dirty again. Taking a bath or cleaning the body is an activity that will be done only when they will have activities outside like having a meeting or going to bed. It is rare to find those who do the cleaning routine with the motivation to maintain personal hygiene.

Among the communities, there are those who thinks that taking a bath is only for having freshness and relaxation, and to sleep well. According to Cooper's philosophy, loving the environment is including loving body's hygiene as first priority. The love of self-cleaning reflects the love of hygiene and health. Regularly washing hands is also one way to maintaining one's hygiene and health. When one was asked why she didn't wash her hands before eating, she answered "I just washed it in the bathroom". Or when a farmer is asked why the hands were not washed, he said that "It is really rare to have dangerous virus here". The answers show that there is enough knowledge about hygiene, but people do not prioritize it as a regularity.

The other part is about sanitation. This is about the cleanliness of the environment in the houses, yards, villages, districts, and regency. Clean living is an important factor in sustaining life, in addition to personal hygiene that supports the health of every human being to survive and can do good for one's own life and neighbors. This means that the garbage must be discharged well rather than carelessly blocking the course of water, resulting in flooding. Unfortunately, Manado people often threw their garbage carelessly in the Tondano riverbed and has damaged the marine biota, especially in the bay of Manado and the protected marine parks of Bunaken.

Observing people's concern for cleanliness in their smallest neighborhood, it is found that the people perceive it as a priority. They know the right time to do it. When there will be guests or there will be a worship ritual in their homes, they make cleaning becomes priority. One indicator of love for environmental hygiene is regularity. Unfortunately, this is not the case for most people for priority is the first consideration. When one finds the house or the yard is not properly cleaned, the people are always easy welcoming a visitor. The extroverted, sociable, joyful, and open-minded culture of the Minahasa and Manado communities help the people much in maintaining social relationship.

Health is the most basic thing in a person's life. How and to what extent the Minahasa and Manado people are watching or fighting for their health is the focus of discussion in this section. Having observed the daily life of Minahasa and Manado communities, it was found that there are still some people who lived a life of concern walk and live like a continuous 'train' smoking, where both men and women have the unhealthy hobby of smoking a cigarette. When they were asked why they do so, the answer was because it was for fun, or to be seen masculine, brave, and up to date. Though smoking is considered a destructive activity for the body, and used up a lot of money, they still chose to do it.

Concerning healthy food, some people do not care of eating noodles and eggs for their regular diet, Although, they knew that there is a healthy food criteria of '*empat sehat lima sempurna*', many people would prefer to eat tasty food for prestige rather than have nutritious healthy food for the sake of health. From the questionnaire distributed, 40 % of the people said that they will prepare food based on what is mostly liked by the people they will entertain as guests in their party. These people believed that food can represents one's social status.

The other aspect that shows the society's low awareness on the environment is about the inactivity. The people tend to be inactive in cleaning their environment. From 100 respondents, in which most of them are students, 45 % explicitly answered that it is a matter of priority. As many as 20 % say that they were too busy to clean their environments. Most of them realized about the requirements of a healthy environment including healthy food. As many as 40 % of the young people consider more about the taste of the food but not the healthy ingredients of the food. Also, as many as 50 % chose to do social activities outside rather than cleaning houses, bathrooms, kitchens, and yards. Unfortunately, as many as 80 % of the students as respondents have no idea about global healthy environment. This information can bring into the understanding that most people would also have no information about global warming. The inactivity to clean the environment can also mean low respect for environment. As many as 60% of the people say that they do not feel of cleaning their environment as a priority.

The people in Minahasa and Manado are religious. They are mostly Christians. Natty Bumppo in *The Pioneer* (1823), Deerslayer in *Deerslayer* (1841), Hawkeye in *The Last of The Mohicans* (1826), Pathfinder in *The Pathfinder* (1840), and *The Prairie* (1827) is fully compassionate to the animals he meets. Different from most of the immigrants depicted in *The Leatherstocking Tales* they kill other humans. The practical ways shown by Natty Bumppo to love each other is in line with the teaching of Christianity. Thus, it is expected that religious people would avoid environmental destruction. Fortunately, the church associations in Minahasa and Manado, such as PGI and GMIM (has the theme "God lifts us from the great ocean" and the sub-theme "In solidarity with our fellow Nation's children we continue to practice Pancasila values to overcome poverty, injustice, radicalism, and environmental destruction" (gmim.or.id/visi-misi-gmim) is in line with Cooper's concept above. In the questionnaire given, almost 100% answered that they would give help to others. when allowed to have advantages such as wealth. The religiousness also gave around 70% of the people who responded that the earliest activity to start their daily activities is a prayer.

10. Berdoa. God is my priority.

Figure 2:
Praying to God is 1st priority

These ideals and good intentions are capital to achieve complete environmental awareness. Unfortunately, the data obtained from the respondents is disappointing because there are only approximately 20% who admit to having environmental consciousness.

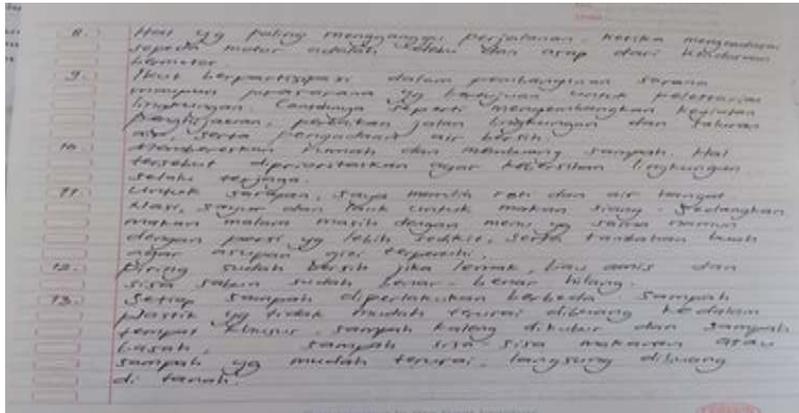


Figure 3:
Answers from respondent A

The answers from the respondents above, describes about their good knowledge of the dangers that threaten the environment. They are also aware of the threats to their health are as pollution, unhealthy food due to poor nutrition, chemical wastes, unhealthy houses, non-biodegradable plastics, and others.

D. The Awareness on the Dichotomy of Economy and Sustainable Life

In one of the questions given, it was asked about the considerations made when buying woods or when to do business about ligneous furniture or even houses.



Figure 4:
Respondent's immediate buying

The direct answer, "langsung membeli" shows that people usually buy with no explanation. This, unfortunately, signifies that people do not care about the continual availability of wood or timber. Wood is from trees. When trees are cut down without thinking of replacing or replanting, there will be an

extinction and further loss of trees that function to hold or store water. This would result in drought, landslide or even flash flood that eventually make humans suffer. Wild and careless logging can seriously threaten ecologic stability of decreasing evapotranspiration efficiency and can lead to global surface warming and threaten biodiversity (Davin, de Noblet-Ducoudre, 2010, p. 97; Hansen & Treue, 2008, p. 573).

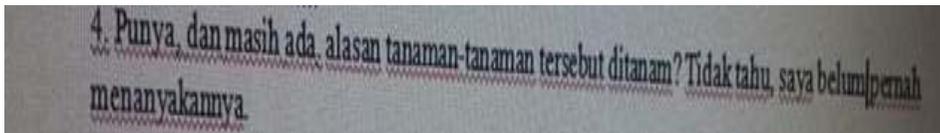


Figure 5:
Respondent's less concern on environment

This answer shows about the less concern to preserve environment. this respondent doesn't care about whatever plant that is growing surround him, in contrast with the answers given by the respondent below that shows his concerns, and his adequate knowledge on the benefit of preserving environment . In item 4 the garden field is intended to grow plants that are used for everyday needs. This can describe a way of thinking that prioritizes the sustainable environment.

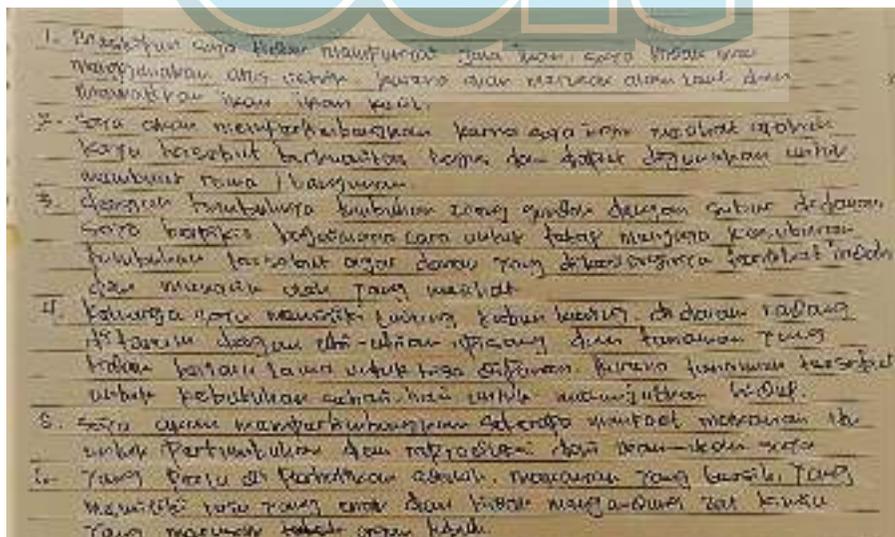


Figure 6:
Respondent's ecological awareness

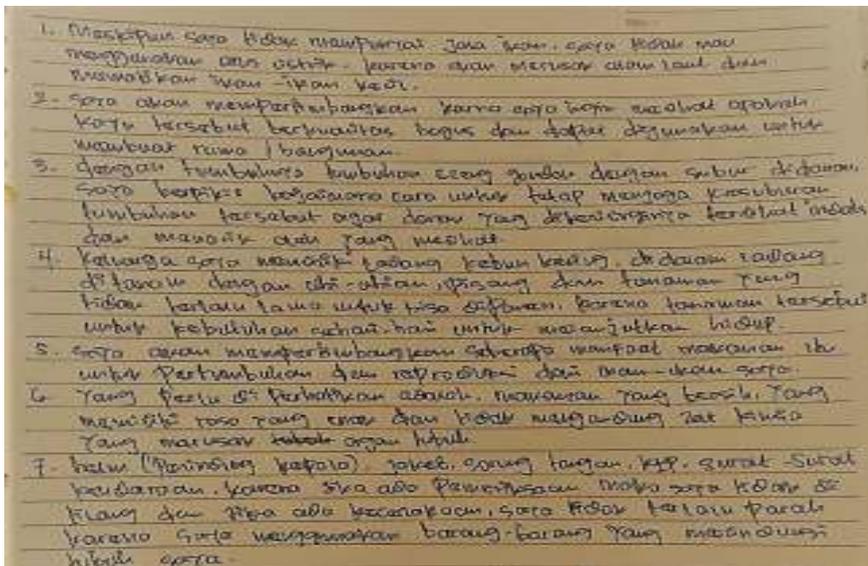


Figure 7:
Respondent's concern on health

E. Community that Cares for the Environment in Financial Limitations

This group of people care about the environment although with a financial limit as shown in the response below. Here, the respondents are very good at answering questions in the sense that the answers given provide a good response to their concern for the environment except when asked about the types of trees planted in cultivated fields. They plant and grow trees not for the purpose to protect the land from erosion but for financial benefits.

4. Ya ada. Lahan itu ditanami cengkeh, kelapa dan padi. Karena tanaman itu menguntungkan.

Figure 8:
Respondent's land as economic purpose (a)

The choice of plant species is intended more for economic interests as understood from figure 7, and 8. and those that can provide benefits such as cloves and coconuts. The responses were given by the respondents to give priority to financial gain. The fields are planted with commodities that can provide economic benefits. Item 5 also explains the priority given to economic reasons. From the data obtained, it is explained that there are 65% give

priority to the environment for financial benefits, and at the same time, they also understand about the personal and environmental safety .

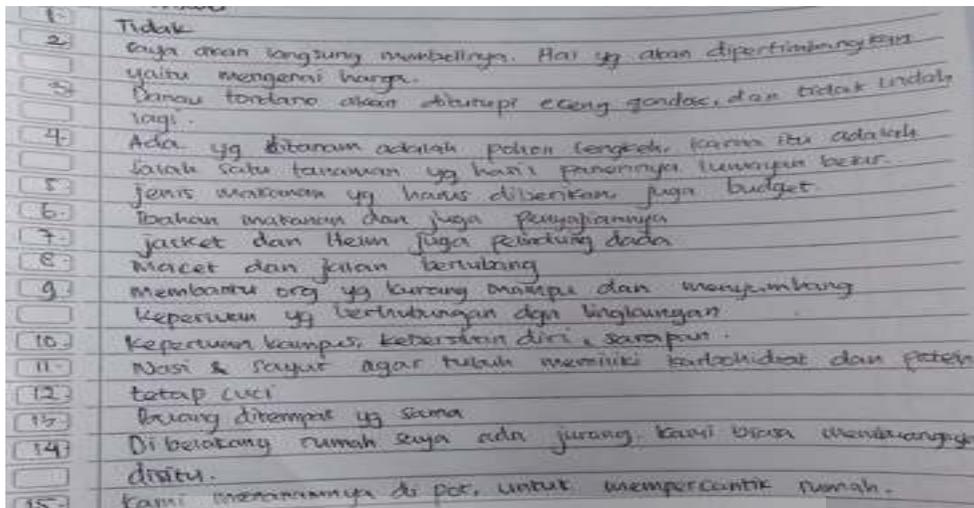


Figure 9:
Respondent's land as economic purpose (b)

the main concern of respondents is on point 2,3,4 that focus on economic benefits, while the other respondents also care to the environment as informed in point 9.

F. Concerned Society with Limited Knowledge and Environmental Insight

The responses given by the respondents below show their concern for environmental damage. When fish are caught using electric current or storm, one respondent (see Figure 9) realizes that the coral reefs will die as well as other small fish will also die.

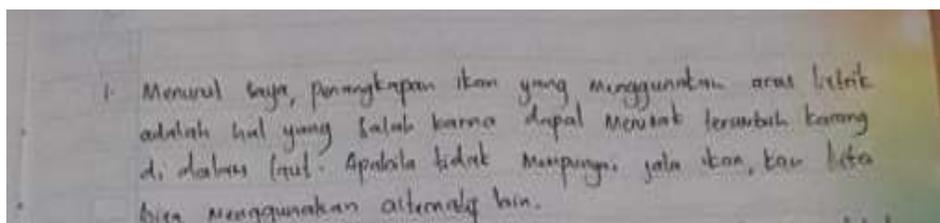


Figure 10:
Respondent's limited knowledge on environment (a)

1. Iya
2. Ada, saya akan memperimbangan kualitasnya
3. Dalam beberapa tahun kedepan, jika eceng gondok terus dibiarkan maka danau akan tertutup. Oleh karena itu, harus ada tindak lanjut dari pemerintah.
4. Ya, ada padi, kacang, miju. Ditanam utk membentu kelangsungan hidup.
5. Ramah lingkungan dan sehat
6. Kebersihan, keindahan, kenikmatan
7. Helm, jaket hujan
8. Angin kencang
9. Saya akan melakukan hal-hal yang dilakukan orang biasa pada umumnya
10. Bersihkan diri/mandi ganti pakaian lalu sarapan. Hal ini harus dilakukan karena kalau t mandi pasti bau asam dan tidak semangat kerja,dan juga kalau tidak sarapan kita akan le karena perut kita kosong
- 11.nasi ikan sayur,saya tidak mempertimbangkannya
- 12.tidak kotor dan tidak berminyak
- 13.tidak saya langsung membakar sampahnya kalau suda penuh di tempat sampah saya
- 14.saya membakar sampahnya
- 15.saya hanya menanam bunga di halaman saya dan ada juga di tanam dalam pot. Saya menanam bunga untuk menghlias rumah saya.

Figure 11:
Respondent's limited knowledge on environment (b)

The above respondents (see Figure 10) have the intention and attitude to give respect to the environment, but the answers obtained are not detailed which describes the lack of knowledge or information they might have. For example, in point 2 above it is only explained that the respondent will consider the quality, but it is not clear what quality. If the respondent has environmental awareness and has good knowledge about the environment, his good intentions and attitudes are to pay attention to the environment, he will also describe his analysis or considerations regarding the presence of trees around which illustrates his concern for the scarcity of existing trees. Unfortunately, the respondent as seen in Figure 9 and 10, only said he was concerned with some kind of unknown quality. In item 5 it is clear about his attitude and intentions for a good environment because he wrote down, "he prefers the a healthy environment ". And at the moment when he knew that he needs the commodities for life sustainability or for economic purpose, he should also describe about the kinds, quality, and reason why particular plants should be grown.

The data from the respondents when they are asked about their awareness of the things they should prepare to protect their health and their comfort in doing a trip using motorcycle. The data explains the respondents' less knowledge and insight about the dangers of pollution when he only states information about the importance of documents such as SIM and STNK, and does not say anything about pollution. Likewise with the description of the respondents below in point 9 he does not elaborate on the importance of the

mask he must use to protect himself from pollution, he only lists the helmet and chest protector as the most important things to be paid attention to.

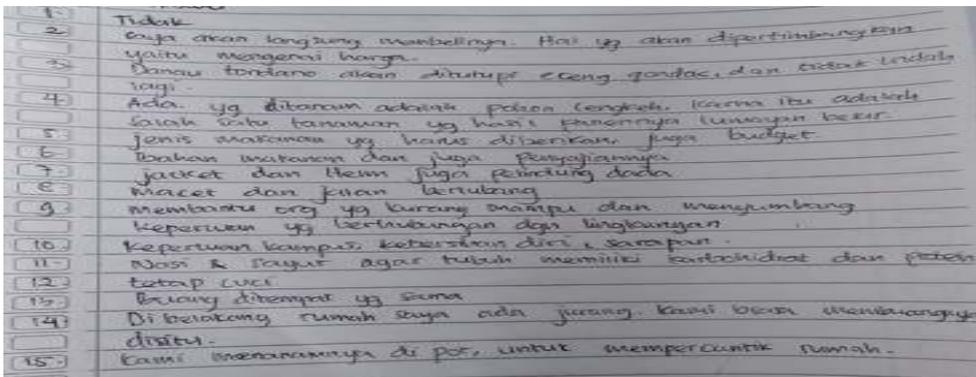


Figure 12:
Respondent's limited knowledge about body safeguard

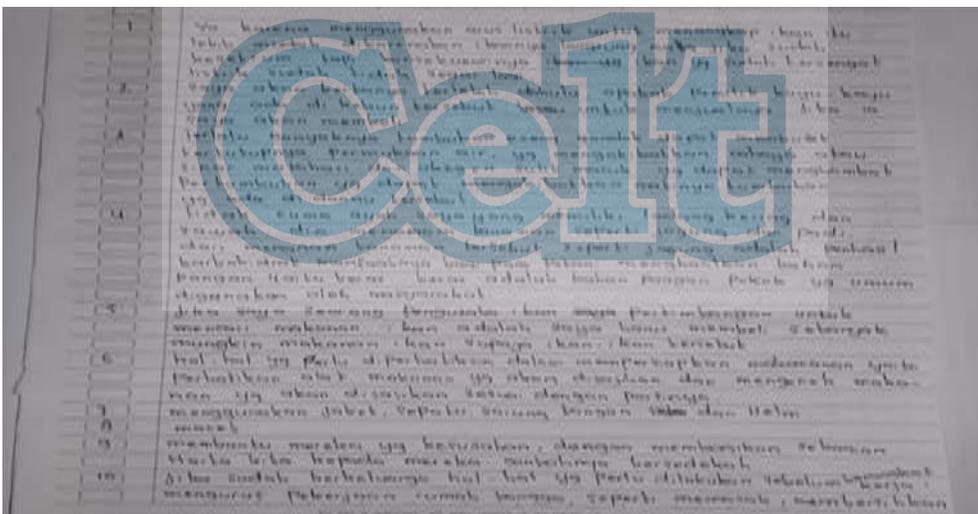


Figure 12:
Respondent's limited knowledge about the danger of pollution

The respondent above also has the same case where he is aware of important things he will do but has limited knowledge and information, for example, he is not aware of the pollution when he only mentions about only preparing raincoat for his trip using motorcycle. He doesn't mention about preparing a mask for the dangers of pollution in his description. Instead, when he writes down, "for the trip by motorcycle, I will prepare everything that can protect me from rain" he didn't describe that he also needs a mask to protect him

from the danger of pollution that is carcinogenic and that also can give negative effect on his lungs, and also can cause his blood oxygen deficiency.



Figure 13:
Respondent's limited knowledge about healthy food

The respondent above also illustrates that he has good attitudes and intentions towards the environment when he mentions God's name and prays in points 9 and 10, but in other items such as point 12 regarding the importance of removing the smell of soap in washing dishes, he does not pay any attention to chemical danger that is possibly contaminates dishes, and moreover he doesn't know kinds of healthy food. These respondents have shown their good attitudes and intentions towards their environment but having limited knowledge and insight so they cannot give the maximum attention to their environment.

G. The Community, Law Enforcement, and Moral Convention

The government has provided legal and regulatory tools to protect the environment such as Law no. 32 of 2009 and other rules as local regulation in more detail. The law enforcement is available but it is seemingly not yet effective in guarding the entire environment, particularly in making people aware of their living environment that should be maintained, even also maintaining their health. Among the communities are still found throwing garbage everywhere. When one is asked why he does that, he answers that "nobody sees and controls it". While the other argues that "we are in the forest, nobody sees us". Among them are the children in elementary and of junior high school who even often throw garbage carelessly so that the streets become the place of waste paper, plastics, mineral water bottles, plastics

packaging of children snacks, etc. The actions of these school children can explain the absence of the role of teachers and parents in educating and instilling the values of environmental love. It is unfortunate that the teachers fail to become the spearhead of the government, who should have strengthened and cultivated environmental awareness of these school children.

The roles of the 'goalkeeper' is essential to control the communities' awareness on life sustainability. Unfortunately, there are still those in the communities of Minahasa and Manado that still consider keeping environmental health as "the next priority". The scattered garbages have not been made a serious problem by the particular societies. There are those in the communities' members who are not yet aware of the most important environmental principles regarding the relationship of each environmental element that is closely intertwined with one another. This needs a serious concern of the responsible institutions. Indifferent practice will not provide an excellent service, the vulnerable environment will make sure of the environment instability, and so can constantly proceed to environmental destruction. This signifies the lack of understanding of the attachment of all elements of the environment. There is a need for environmental education and campaigns on hygiene, health, and environmental preservation to realize a 'sustainable life'.

Within religious institutions, the Minahasa Evangelical Church (*Gereja Masehi Injili Minahasa*) and Indonesian Churches Association (*Persatuan Gereja-gereja Indonesia*) have tried to accommodate the importance of preserving environment for a sustainable life by making their members follow the Minahasa Church theme "God lift us from the great ocean" and the Sub theme "In solidarity with all Indonesian people we constantly practice Pancasila values in tackling poverty, injustice, radicalism, and environmental destruction". However, this attempt has not yet completely evoke the spirit of environmental awareness of the Minahasa and Manado people.

CONCLUSION

James Fenimore Cooper's ecological hierarchy of "love, respect, wisdom, and justice" teaches people to be aware of their environment. The case of the 2014 flash flood experienced by the Minahasa and Manado people should be

a turning point to pay close attention on environment preservation, unfortunately, there are those who are still indifferent of taking care their environment. This research finds that there are four kinds of groups in the communities found. First, is a group of those who care about their environment. Second, is a group of those who are indifferent to their environment. Third, is a group of people who cares their environment in their financial limitations, and fourth is the group of those who concern with their environment, but have limited knowledge and environmental insight.

Using a questionnaire, which questions about the evaluating elements as the communities' love, respect that are understood from how they have treated their environment. it is found that there are about 60 % that have no ideas about the global environment and those who are indifferent including those with their idleness found in the communities. It is also found that 65 % of those who are trapped between pursuing financial income and preserving life. This explains a serious problem for their powerless of having apathetic behavior towards caring the environment. For this reason, there is a need of a synergy of educational institutions and religious institutions assisted by law that needs to be encouraged for an ongoing evaluation, control, and actions to generate public awareness. Environmental education is also needed at every level of education to intensify and socialize the cultivation of an individual's environmental awareness.

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