

Ecological Values of the Cirendeu Indigenous People and its Impact on Environmental Preservation

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Abstract: In Indonesia, related issues are still a serious problem. Deforestation, damage to coral reefs, water and water pollution, and plastic waste cause damage to natural ecosystems that have an impact on the lives of living things. As a result, natural disasters occur everywhere. This is caused by the lack of human awareness of the importance of protecting and preserving nature. Thus, it is important for humans to have ecological intelligence in order to be able to grow awareness and commitment in protecting, repairing and conserving nature. This research was conducted using literature studies and interviews with the aim of knowing how the implementation of ecological intelligence in the community in the Cirendeu Traditional Village in an effort to preserve the environment. From this study, it was found that the local wisdom that is still maintained and implemented by the people of Kampung Adat Cirendeu has a great influence on ethics and attitudes in behaving towards nature. Even though they are in the midst of rapid technological developments, the people of the Cirendeu Traditional Village still adhere to the noble values they believe in protecting and preserving nature so that it remains sustainable.

Keywords: Local Wisdom, Ecological Intelligence, Environmental Conservation

Introduction

Humans and the environment are two things that cannot be separated. Both of them complement each other. This is in accordance with the explanation contained in the Law of the Republic of Indonesia Number 32 of 2009 concerning the Protection and Management of the Environment, that the environment is defined as a spatial unit with all objects, forces, conditions, and living things, including humans and their behavior, which affect nature itself, the continuity of life, and the welfare of humans and other living things (RI Law No. 32 of 2009). Nonetheless, the occurrence of environmental damage in Indonesia can be categorized into two factors, namely the result of human activities and natural events themselves as explained in IPBES (the Intergovernmental Platform on Biodiversity and Ecosystem Services) data *in* 2018 relating to the environment that 680 thousand hectares of forests in Indonesia are depleted each year. Meanwhile, data compiled by the Ministry of Environment and Forestry of the Republic of Indonesia regarding river damage was recorded from 105 existing rivers, 101 of which were in polluted conditions (Indonesian Forum for the Environment, 2022). Based on this, it can be seen that issues regarding the environment in Indonesia are important issues to pay attention to. Besides that, based on a report from the Auriga Nusantara Foundation, in the last two decades the area of forest in the land of Papua has reached 663,443 hectares with the largest deforestation intended for the opening of oil palm plantations (Auriga Nusantara, 2021). This is inseparable from the existence of *extractive industry investment permits* so that the land area is mostly controlled by corporations. When the natural resources available on the mother earth are controlled and destroyed by corporations without any efforts to repair them, this will exacerbate global warming and trigger conflict (Indonesian Forum for the Environment, 2022). Data from the Indonesian Central Agency for Environmental Statistics 2021 also states that the challenge of meeting energy needs in the Industrial 4.0 era will increase in line with the increase in population.

Global issues or problems related to natural environmental problems in both developed and developing countries have become real problems that cannot be avoided. The world's population that continues to increase without being matched by the earth's ability to provide various human needs is one of the factors causing environmental damage (Pujayanti, 2012, p. 111). In addition, social and economic activities also threaten the preservation of nature. Increasing needs in various sectors of life, increasingly make people do a lot of exploitation of nature without reforestation efforts. The environmental preservation efforts that have been carried out by the central and regional governments in dealing with issues related to environmental problems in Indonesia include the Environmental Damage Recovery Activities and Pollution Control Activities carried out by the Directorate General of Pollution Control and Environmental Damage in 2021 related to the achievement of the Environmental Quality Index (Indonesian Ministry of Environment & Forestry, 2021). Then in a virtual dialogue titled " *The 7th Singapore Dialogue on Sustainable World Resources "Agroforestry for Sustainable" Climate, Conservation, and Communities in Asean*"? In 2020, Coordinating Minister for Maritime Affairs Luhut B. Panjaitan said that Indonesia is currently intensively making real efforts to preserve nature as part of its contribution to reducing the impact of climate change. Even in this virtual dialogue, the Coordinating Minister for Maritime Affairs invited the international community to support the efforts made by the Indonesian government in protecting and protecting nature in order to improve people's welfare (Bureau of Communication of the Coordinating Ministry for Maritime Investment, 2020). Based on the explanation above, the role of humans here is very important in efforts to deal with the threat of a global crisis, because natural preservation can be maintained if there is cooperation and awareness from various parties.

Besides that, we need to maintain essential ecological processes as part of an effort to balance the ecosystem and the carrying capacity of the environment. Thus, a commitment is needed to maintain and preserve the potential wealth of natural resources and the environment. As time goes by and the times progress, humans gradually use their intelligence to understand from the simple to the

complex. Humans build various kinds of systems to support their lives to be more practical. From what was originally armed with human power, then assisted by animal power until now, development is assisted by what we call technology. This is done so that humans are more practical in doing something. If he quotes Schlick's statement (in Prasetyo, 2020, p. 32), he implies that progress in natural science must be balanced with moral progress so that the development of information technology or science and technology does not continue to lead to environmental damage. The existence of an ecological crisis related to the human view of nature will actually shape human behavior towards the environment. Based on this, the role of humans is very important especially in raising awareness and concern for nature. In an effort to overcome the problem of the ecological crisis, ecological intelligence is *needed*. Where, it is necessary to have an attitude or think critically towards environmental problems intelligently so that humans are able to place themselves as control over the environment. So, if the basic principles well implemented m aka will be able to repair all the damage that has occurred and prevent it from happening again.

Besides that, as an effort to preserve the environment, since September 25 2015 vice president Jusuf Kalla has officially endorsed the Agenda for Sustainable Development Goals or SDGs with the theme "Changing Our World: 2030 Agenda for Sustainable Development" (Sustainable Development Goals, 2017). These SDGs have various relevant goals related to nature conservation efforts, including goal no. 13, namely taking immediate action to combat climate change and its impacts. Then goal No. 14 namely conserving and sustainably utilizing sea, ocean and maritime resources for sustainable development. Lastly, there is goal No. 15 namely protecting, restoring and supporting sustainable use of terrestrial ecosystems, managing forests in a sustainable manner, combating desertification (desertification), and inhibiting and reversing soil degradation and halting the loss of biodiversity. This goes hand in hand with the data on the pillars of environmental development in an effort to achieve sustainable management of natural resources and the environment as a support for all life.

Next, ecological intelligence is widely applied by indigenous peoples with their local wisdom. Abubakar Mustafa (in Daniah, 2016, pp. 3-4) says that local

wisdom is a policy that relies on a philosophy, values, ethics and behavior that is traditionally institutionalized to be able to manage natural and human resources and their culture in a sustainable manner. As for one of the indigenous peoples who has local wisdom in efforts to manage and preserve the environment is the community in Cirendeuh Traditional Village who uses the concept or perspective of life of the Sundanese, namely *Tri Tangtu* or three provisions. In Sundanese society itself, The concept of *Tri Tangtu* is an insight, standard or guideline for behavior. Where, the concept shows the existence of continuity between humans and nature to create a sustainable environment.

As a country rich in local wisdom, Indonesian people need to equip themselves with ecological intelligence. In this case, it is hoped that the government will immediately highlight the noble values that apply to indigenous peoples to always protect nature. Responding to the problems previously described, the author seeks to provide information and increase public awareness that local wisdom values that still exist and are maintained amidst the pace of modernization can be a good example of behaving wisely towards nature. In particular, the author is interested in studying how efforts to preserve the environment in the Cirendeuh Traditional Village are summarized in the title "**Ecological Values of the Cirendeuh Indigenous People and Their Impact on Environmental Preservation**".

Methods and Research Design

Research design

In order to know the data in depth, the authors use qualitative methods. Bogdan and Taylor (in Nugrahani, 2014, p. 4) define qualitative research methods as research procedures that are able to present descriptive data in the form of speech, writing, and behavior of the people being observed. The results of qualitative research are descriptive research and prioritize analysis based on an inductive approach. Qualitative research is useful for providing an overview of the background and discussion of research results so that the research focus is in accordance with the facts that occur in the field (Rukin, 2019, p. 6).

Location and Research Subjects

Research sites

The author conducted research in the Cirendeuh Traditional Village, Leuwigajah Village, South Cimahi District, Cimahi City, West Java. Cirendeuh Traditional Village is the location chosen by the author because there are still local wisdom values of the Cirendeuh Traditional Village community which are still maintained today.

Research subject

The subjects of this study were *an elder* named Abah Emen and *a nonoman* named Kang Tri as a *tour guide* as well as the indigenous people of Cirendeuh Traditional Village. The choice of this subject was based on the consideration that Abah Emen was an elder and was respected by the people of the Cirendeuh Traditional Village. Meanwhile, Kang Tri is a traditional leader who is able to provide information related to the research topic being studied.

Research Instruments

Study of literature

According to Zed (2008, p. 3) the literature study method is a series of activities related to methods of collecting library data, reading and taking notes, and processing research materials. The literature study is carried out by the author by collecting data from articles, journals, theses, books and internet sources that are relevant to the research topic being studied.

Interview Data

Interviews were conducted to support data obtained from literature studies regarding local wisdom in the Cirendeuh Traditional Village community and its implementation in environmental conservation efforts. This interview was conducted with *elders* and *nonoman* from the Cirendeuh Traditional Village.

Data Analysis and Interpretation Techniques

In an effort to process qualitative data, the authors use data interpretation with descriptive analysis which is a form of elaboration of research data to test generalizations based on a sample. This descriptive analysis was carried out to analyze the data set by way of describing or describing the existing data without intending to conclude in general or general (Sugiyono, 2004, p. 169).

Results and Discussion

Indonesia is one of the largest archipelagic countries in the world with a total archipelago of 17,449 islands consisting of large and small islands, with a total area of around 7.81 million km². Of this total area, 3.25 million km² is ocean and 2.55 million km² is the Exclusive Economic Zone (EEZ), while only 2.01 million km² is land (Pratama, 2020). The location of Indonesia itself is between the continents of Asia and the continent of Australia, and between the Indian and Pacific oceans. As a plural country, Indonesia has various cultures, customs, languages, races and religions. Besides the diversity of ethnic groups, Indonesia also has local wisdom, traditional wisdom, and culture which contain ethical and moral values, as well as norms that prioritize environmental functions. Local wisdom itself, according to Triani Widyanti (2015, p. 163), epistemologically consists of two words, namely wisdom (*wisdom*) which means wisdom and local (*local*) which means local. *Local wisdom* is understood as local ideas, values, views that are wise, full of wisdom, of good value, embedded and recognized by members of the community. Local wisdom can also be referred to as a human effort by using his mind to act or behave towards an object or phenomenon that occurs in a certain space or within a local scope so that local wisdom can be called *local wisdom, local knowledge, or local genius*.

The emergence of local wisdom in a group of people is the result of *trial* and *error* from various kinds of empirical and non-empirical knowledge. Where local wisdom is reflected in the habits of life of the people who are an integral part of their lives and become the hallmark of a community group. Local

wisdom can be found in the form of proverbs, songs, advice, pictures, grammar used, and ancient books that are collected in their daily activities. For example, Tana 'ulen in Kalimantan, Awig-Awig in Bali and West Lombok, Bau Nyale in West Nusa Tenggara, Seba in Banten, and so on (Hasbullah, 2012, p. 4). One area that still adheres to and maintains local wisdom is the Cirendeu Traditional Village, which is located in Leuwigajah Village, South Cimahi District . Cirendeu Traditional Village has been established since 1918 with a structure in its customary institutions, namely *Elders* who are caretakers of the Cirendeu traditional village, *Ais Pangampih* who are representatives of elders and provide information regarding language and traditional symbols, and *Ais Paytren* who are community relations officers. The name Cirendeu itself comes from the name "rendeu tree" because previously in this village there was a large population of rendeu trees which were used for herbal medicine (Ramadhan, 2017, p. 3).

This traditional village, which has an area of 64 hectares for agriculture and 4 hectares for settlements, is still consistent in carrying out the teachings of belief and continues to preserve the cultural customs that have been passed down from their ancestors. The people of the Cirendeu traditional village also have local wisdom that supports environmental preservation efforts by still adhering to the principle "*Sundanese Kudu Ngindung ka Kapan, Mibapa ka Jaman*" where the meaning of this principle is "*Ngindung ka Kapan*" means that the Cirendeu indigenous people have their own ways and characteristics -respectively. Then "*Mibapa ka Jaman*" which means that traditional village people do not fight against the changing times and keep abreast of these changing times (Cirendeu Traditional Village, 2011). This can be seen from the use of technology such as television, communication tools in the form of *mobile phones* , lighting and so on. However, according to another Sundanese proverb which says "*Batur culture is in mumule, individual culture is in pohokeun*" (Administrator, 2019). The people of Cirendeu Traditional Village still maintain their culture and customs until now and are supervised by the customary leader.

The Cirendeu indigenous people have a concept that has always been remembered for a long time, known as *Tri Tangtu* or the three provisions that

become a reference in behaving, both towards themselves, towards nature and provisions in state life. These three provisions include:

1. *Tri tangtu dina salira* or body, means guidelines or guidance concerning the human person as an individual, social and Godly being. All three need to be harmonized in order to create a perfect human body.
2. *Tri tangtu di buwana* , means insights or guidelines that regulate relating to the arrangement of the living environment or nature which is then divided into three aspects namely *leuweung ban*, *leuweung cover* and *leuweung claim* or *baladahan* .
3. *Tri tangtu di nagara* , namely legal norms or guidelines that govern the lives of individuals and groups in one region or country (Saavedra, H., 2016).

From the explanation of the three provisions that become the guideline for the life of the Sundanese people above, the concept used by the Cirendeu Traditional Village community in an effort to preserve the environment is *Tri tangtu di buwana* which is divided into three parts, namely:

1. *Leuweung Larangan* (Forbidden Forest), where this forest is used as a special natural water storage for the Cirendeu indigenous people and as a place for animals to live in it, so it is not permissible to cut down trees in it. Not just anyone can enter this forest area, for fear that it will damage the forest environment.
2. *Leuweung Tutupan* (Reforestation or Reserve Forest), this forest functions as a reforestation effort, so that if the community has used the trees, they must be replanted. This forest has an area of 2 to 3 hectares.
3. *Leuweung Baladahan* (Agriculture Forest), this forest is used as agricultural land and plantations for the Cirendeu indigenous people. The land is usually planted with cassava, cassava, tubers, corn and peanuts

Each part of the *leweung* has its own function and purpose. The concept of *Leuweung Larangan* or forbidden forest which for most people is considered sacred and often associated with mystical matters has its own function and role, namely as a forest area where trees cannot be cut down because it is a source of water storage for the Cirendeuh Traditional Village community as well as a place for animals to live (Nuritsa, 2015, p. 7). This shows that the concept used by the Cirendeuh Traditional Village community aims to preserve nature and the environment which can prevent natural disasters such as floods, landslides, droughts and so on. Then *Leweung Tutupan* (reforestation forest), is a forest used for reforestation or reforestation efforts. This means that even though the people there are allowed to take the available resources, replanting is necessary back so that the preservation and balance of nature continues to occur. Finally, there is the concept of *Leuweung Baladahan* or agricultural forest which is used as a place or activity for the people of the Cirendeuh Traditional Village in gardening.

Furthermore, humans are creatures that always depend on nature. The fact is that everything that humans need to fulfill their lives is available in nature. The dependence of humans on nature is related to ecological elements. Literally, ecology is a science that studies the mutual relations between living things and the natural surroundings (Anggara, 2018, p. 2). When viewed from a socio-historical perspective, ecology as the science of mutual relations between living things and their environment begins with a local understanding that adheres to the principle of balance and harmony between components that exist in nature, in the sense that the process of managing nature is still in a simple form (Effendi, Salsabila & Malik., 2018, p. 76). For example, in the myth of the forbidden forest in indigenous peoples, there are usually taboos or restrictions based on local customary values. The existence of this forbidden forest is a form of local wisdom which was indeed mandated by the ancestors of the Indonesian nation to continue to protect nature so that it remains sustainable. However, if we look at the current reality which is supported by technological developments, these local wisdom values are starting to fade. The real evidence is the exploitation of nature, forests are depleted, many disasters such as floods, landslides and so on

are the result of human greed. That is what then becomes homework on how to make nature get its value back.

Humans as living beings who have intelligence need to respect and respect other living things as part of the human community of life. In this community, humans certainly interact with the elements of the physical environment that form an ecological system called an ecosystem. Tansley (in Effendi, Salsabila & Malik., 2018, p. 76) says that an ecosystem is a combination of living things and their environment as a concept, system and unit in which there is structure and function of each. Natural resources that exist on this earth have ecological functions as well as economic functions that are managed to meet human needs. According to Goleman (2009), the intelligence in humans that contributes the most to success is emotional intelligence or Emotional Quotient (EQ), which is as much as 80%, namely the human ability to motivate oneself, organize emotions, thoughts, and actions in responding to the universe. In order to be able to act wisely towards nature, ecological intelligence is needed which needs to be translated into real behavior by considering ecological capacity, and creates a loyal friend attitude between humans and nature.

Jung (2010) defines ecological intelligence as deep empathy and concern for the surrounding environment, as well as a critical way of thinking about what is happening in the surrounding environment. Meanwhile Supriatna (2016, p. 24), states that ecological intelligence in individuals is based on knowledge, awareness and life skills in harmony with natural preservation. Ecologically intelligent people are people who are able to understand that their every action or behavior does not only have an impact on themselves and others, but also on nature. As stated by Gadoti, the concept of ecopedagogy is not just a theory, but a form of understanding that needs to be implemented as an effort to protect and preserve nature in everyday life. Humans who are objects as well as actors of education are placed parallel to nature. That is, between humans and nature have a relationship and influence each other between one another. Human life depends on nature. The nature in question is like water, air, land, and energy. Some of the available natural resources are renewable and some are not. So that

humans here have an important role to be able to maintain the balance and preservation of nature where they live and depend on it.

Thus, the use of local wisdom of indigenous peoples in terms of inheriting ecological values is very important. The community and the younger generation especially need to be equipped with ecological literacy in order to form the character of caring for the surrounding environment as capital for their skills in dealing with existing environmental problems. Management that is carried out in earnest starting from the awareness in each individual of the importance of the environment will bring up what is called ecological awareness in the form of actions to protect and preserve the environment (Meidawaty, 2019, p. 3). In fact, Fritjof Capra also stated that deep environmental concern recognizes the fundamental dependency that individuals and communities absolutely depend on the natural environment (Capra, 2002, p. 6). In this case, ecological literacy can be built through the local wisdom culture that is owned by certain communities. As is the case in the Cirendeu Traditional Village community.

Armed with principles and adages that have been passed down from generation to generation, there are many ecological values that are applied by the people in the Cirendeu Traditional Village. Basically, indigenous peoples in any area highly uphold the preservation of nature and the environment. How nature, which lives side by side with humans, provides everything that is needed. Thus, humans must also do good to nature. Another local wisdom-based ecological intelligence that can be found in the Cirendeu Traditional Village is how the people there are able to use cassava as food. which has become a tradition of indigenous peoples from generation to generation. Cirendeu Traditional Village is known for its processed cassava, namely *rasi*. This unique eating habit is motivated by history and also the philosophy of life of the Cirendeu people, namely " *Teu Nyawah from Boga Pare, Teu Boga Pare from Boga Beas. Teu Boga Beas As long as he can, Teu Nyangu As long as Dahar. Teu Dahar Origin Strong* ". With this philosophy, the people of Cirendeu Traditional Village are able to optimize their potential and existing resources so that efforts arise in managing the spatial scope of their area. With cassava plantations currently reaching 12-15 hectares, the majority of the population's livelihood is farming

cassava and tubers. Not only cassava is cultivated, but also taro, sweet potato, corn and others are also cultivated as other alternative food ingredients. The Cirendeudeu community is able to cultivate cassava as a superior commodity while still maintaining the agricultural pattern practiced by their former *elders* , namely the plot system and not using a one-season cropping system. The plot system determines different planting time levels, so the harvest time will also be different. That way, the Cirendeudeu Traditional Village has never experienced a shortage of cassava supplies (Hanna, 2019).

Based on the people's motto of life, namely "*Accuracy, effort, tidying one another's life*", the people of Cirendeudeu Traditional Village always strive to preserve the natural surroundings from ignorant human behavior. The motto of life is not just the relationship between humans and humans anymore, but the relationship between humans and other living things, both plants and animals. The explanation above is one of the concepts of local wisdom based on ecological values that is exemplary for the people of Indonesia. Bearing in mind that the issue of natural destruction is increasingly prevalent nowadays due to the lack of human concern for nature.

Discussion and Recommendations

The Cirendeudeu Traditional Village, which is located in Cimahi City, is one of the villages that can be used as an example in efforts to preserve the environment. In the current era of modernization, indigenous peoples there still adhere to the concept of *Tri Tangtu* or three provisions that guide behavior, both towards themselves, other people and nature. The values of local wisdom continue to be planted for the preservation of nature. With local wisdom that has been passed down from generation to generation by their ancestors, it has a great value on how humans are wise towards nature that gives them life. The people in Cirendeudeu Traditional Village have ecological intelligence which can be seen from their life habits to always protect nature and its contents. Through the spatial concept of well-managed forests, the people there always replant so that the function of the forest is maintained. Besides that, the tradition of eating cassava as an alternative staple food is also one of the local wisdoms in an effort

to improve food welfare and food security for the people of Cirendeuh Traditional Village.

Thus, the ancestors of the Indonesian nation had high ecological intelligence. Then, it is at this time that we, as the next generation of the nation, need to continue this for the survival of our children and grandchildren in the future so that they are not affected by human greed. Give them the opportunity to see the beauty of Indonesian paradise by increasing awareness of the importance of the environment. The local wisdom that exists in the Cirendeuh Traditional Village community is a manifestation of a sustainable lifestyle that needs to be used as an example in protecting and preserving nature. How is it necessary for humans to live in harmony with nature which has provided various human needs. In this case, the government needs to highlight local wisdom values to be implemented in people's lives by increasing ecological literacy.

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